

APPENDIX 2

NARRATIVE

2. Project Description

Baystate Health, Inc. (“Baystate Health” or the “Applicant”), with a principal place of business at 759 Chestnut Street, Springfield, MA 01199, is filing a Notice of Determination of Need (“Application”) with the Massachusetts Department of Public Health (“Department”) to acquire a computed tomography (“CT”) unit for operation by Baystate Radiology and Imaging (“BRI”) at Baystate Health and Wellness Center - Longmeadow (“Baystate Longmeadow”), located at 21 Dwight Road, Longmeadow, MA 01106. This CT unit will be the first CT unit at this location.

Baystate Health is a not-for-profit, integrated healthcare system serving over 800,000 people throughout western New England. Baystate Health is comprised of Baystate Medical Center, an academic medical center, and three (3) community hospitals – Baystate Noble Hospital, Baystate Franklin Medical Center, and Baystate Wing Hospital. Baystate Health also includes a network of more than 80 medical practices, including BRI and the physicians at Baystate Longmeadow. BRI provides a full spectrum of inpatient and outpatient radiology services for adults and children. BRI performs more than 360,000 imaging exams each year.

In recent years, Baystate Health has experienced a significant increase in the need for CT in order to provide health care providers with accurate diagnostic capabilities. Timely access to CT imaging allows patients to begin treatment before health status worsens without adversely impacting outcomes and cost of care. However, as the need for CT grows, wait times for appointments have also increased for the Patient Panel. Currently, BRI offers mammography and X-ray at Baystate Longmeadow. Other services at Baystate Longmeadow include primary care, pulmonary, cardiology, endocrinology, gastroenterology, neurology, and oncology. Through the Proposed Project, Baystate Health seeks to shift some of the high CT volume from Baystate Medical Center’s outpatient satellite (“Satellite”) to Baystate Longmeadow. CT utilization at the Satellite is currently approaching 100% resulting in longer wait times. As further described in the Application, the Proposed Project will provide an improved patient experience through the convenience of Baystate Longmeadow and will in turn drive better patient outcomes through timely access to care in an office setting with lower costs. Therefore, the Proposed Project will meet the needs of the Applicant’s Patient Panel by expanding access to high-quality imaging in the community.

Additionally, the Proposed Project is consistent with Massachusetts’ goals for cost containment. Timely and convenient access to diagnosis allows for treatment to begin sooner before the patient requires more costly care due to advanced disease. Moreover, the CT unit at Baystate Longmeadow will be reimbursed at a lower rate than CT performed at a hospital or hospital satellite. This will lead to significant cost savings for patients and insurers. Accordingly, the Proposed Project will contribute to the Commonwealth’s goal of containing the rate of growth of total medical expenses (“TME”) and total healthcare expenditures (“THCE”).

In summary, the Proposed Project will meet an identified need for the Applicant’s Patient Panel. Approval of the Applicant’s request for a CT unit at Baystate Longmeadow will increase CT capacity, improve access to CT imaging, and as a result, improve health outcomes, enhance patient experience, and promote cost containment. Accordingly, the Proposed Project meets the Determination of Need factors of review.

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

F1.a.i Patient Panel

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

A. Baystate Health

The Applicant is a non-profit, integrated health care delivery system serving over 800,000 patients through a network of hospitals, physician practices, and community clinics in Western Massachusetts. Its member hospitals include Baystate Medical Center, Baystate Franklin Medical Center, Baystate Wing Hospital and Baystate Noble Hospital (collectively known as “BH Hospitals”). Baystate Health also includes a network of more than 80 medical practices, including BRI; Health New England, a health insurance provider; home care and hospice services; and, comprehensive regional and laboratory diagnostic services.

Table 1: Baystate Health Patient Panel¹

Demographic Measure	FY22 Count	FY22 Percent of Total	FY23 Count	FY23 Percent of Total	FY24 Count	FY24 Percent of Total
Total	318,763	100%	340,223	100%	345,225	100%
Age: 0 to 18	57,206	17.95%	61,867	18.18%	61,500	17.81%
Age: 19 to 45	90,900	28.52%	96,341	28.32%	96,535	27.96%
Age: 46 to 64	87,684	27.51%	91,175	26.80%	90,233	26.14%
Age: 65+	82,973	26.03%	90,840	26.70%	96,957	28.09%
Gender: Female	185,347	58.15%	197,829	58.15%	201,043	58.24%
Gender: Male	133,416	41.85%	142,378	41.85%	144,182	41.76%
Gender: Unknown	<11 ²	0.00%	16	0.00%	<11	0.00%
Race/Ethnicity: American Indian or Alaska Native	303	0.10%	316	0.09%	321	0.09%
Race/Ethnicity: Asian	4,307	1.35%	4,479	1.32%	4,733	1.37%
Race/Ethnicity: Black or African American	22,659	7.11%	23,709	6.97%	25,166	7.29%
Race/Ethnicity: Hispanic	66,659	20.91%	70,391	20.69%	60,666	17.57%
Race/Ethnicity: Native Hawaiian or Other Pacific Islander	219	0.07%	292	0.09%	466	0.13%
Race/Ethnicity: Other	0	0.00%	261	0.08%	364	0.11%
Race/Ethnicity: Refuse to Answer	807	0.25%	1,099	0.32%	1,528	0.44%
Race/Ethnicity: Unknown	12,826	4.02%	12,708	3.74%	13,074	3.79%
Race/Ethnicity: White	210,983	66.19%	226,968	66.71%	238,907	69.20%

¹ For purposes of the Applicant and the Hospital's Patient Panel, the fiscal year is defined as October 1 through September 30.

² To protect patient confidentiality, categories with less than 11 individuals have been moved to another category to maintain an accurate total patient count.

Age: The age breakdown of Baystate Health’s Patient Panel remained relatively consistent between 2022 and 2024, with relatively equal percentages of patients in the 19 to 45, 46-54 and 65+ age cohorts.

Gender: Baystate Health’s Patient Panel is approximately 41.8% male and 58.2% female. These percentages are largely unchanged between 2022 and 2024.

Race and Ethnicity: Data reported between FY22 through FY24 indicate the majority of Baystate Health’s patients self-identified as White (69.20%). Patients also self-identified as Hispanic (17.57%), Black or African American (7.29%), Unknown (3.79%) and Asian (1.37%). Less than 1% self-identified as American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Other, or refused to answer. These percentages were largely unchanged between 2022 and 2024.

Payer Mix: More than half of all Baystate Health patients are covered by a Medicare product, including 32% covered by Medicare Fee for Service (“FFS”) and 23% covered by a Managed Medicare product. Commercial insurance coverage accounts for approximately 28% of all Baystate Health patients.

Table 2: Baystate Health Payer Mix³

Payer	FY2022	FY2023	FY2024
Payer: Commercial PPO/Indemnity	18.4%	17.6%	17.1%
Payer: Commercial HMO/POS	10.4%	10.6%	10.6%
Payer: MassHealth	10.1%	9.5%	8.2%
Payer: Managed Medicaid	3.0%	2.5%	1.5%
Payer: Managed Medicare	19.0%	21.3%	23.0%
Payer: Medicare FFS	32.7%	32.3%	32.8%
Payer: All Other	6.2%	6.2%	6.8%

Table 3: Baystate Radiology and Imaging

Payer	FY2021	FY2022	FY2023 ⁴
Payer: Commercial	55.4%	56.3%	56.8%
Payer: MassHealth	2.4%	2.0%	1.5%
Payer: Managed Medicaid	5.1%	5.1%	6.4%
Payer: Managed Medicare	9.2%	9.7%	9.7%
Payer: Medicare FFS	21.6%	20.8%	19.7%
Payer: All Other	6.2%	5.9%	5.8%

³ Does not include BRI. Please see Table 3.

⁴ Due to the data breach at Change Healthcare in February 2024, payer mix for the full fiscal year is not available. Based on the months available, payer mix is consistent with prior years.

B. Baystate Medical Center – Outpatient CT

Baystate Medical Center (the “Hospital”) is Baystate Health’s lead hospital in its system serving Western Massachusetts. The Hospital is a 780-bed teaching hospital and a training site for the University of Massachusetts Medical School. The Hospital is the community's major referral hospital, providing the highest level of care for conditions including, but not limited to, cancer, acute and cardiovascular illness, behavioral health, nervous system illness and pediatric care. In addition, the Hospital provides outpatient services including CT. Annually, the Hospital performs over 10,000 outpatient scans at its satellite located at 3300 Main Street, Springfield, MA 01199 (the “Satellite”).

Table 4: Satellite Outpatient CT Patient Demographics

Demographic Measure	FY22 Count	FY22 Percent of Total	FY23 Count	FY23 Percent of Total	FY24 Count	FY24 Percent of Total
Total	6,252	100%	6,949	100%	7,136	100%
Age: 0 to 18	<11	0.2%	<11	0.1%	12	0.17%
Age: 19 to 45	558	8.8%	575	8.2%	566	7.93%
Age: 46 to 64	2,334	37.3%	2,927	42.1%	2,840	39.80%
Age: 65+	3,360	53.7%	3,447	49.6%	3,718	52.10%
Gender: Female	3,211	51.4%	3,685	53.0%	3,835	53.74%
Gender: Male	3,041	48.6%	3,264	47.0%	3,301	46.26%
Race/Ethnicity: American Indian or Alaska Native	<11	0.0%	<11	0.0%	<11	0.07%
Race/Ethnicity: Asian	72	1.2%	70	1.0%	70	0.98%
Race/Ethnicity: Black or African American	519	8.3%	519	7.5%	579	8.11%
Race/Ethnicity: Hispanic	1,268	20.3%	1,361	19.6%	1,099	15.40%
Race/Ethnicity: Native Hawaiian/ Other Pacific Islander	14	0.2%	17	0.2%	<11	0.07%
Race/Ethnicity: Refuse to Answer	16	0.3%	14	0.2%	24	0.34%
Race/Ethnicity: Unknown	49	0.8%	79	1.1%	170	2.38%
Race/Ethnicity: White	4,314	69.0%	4,889	70.4%	5,184	72.65%

As illustrated in the table above, the Satellite’s outpatient CT Patient Population is fairly similar to Baystate Health’s Patient Panel with some notable differences. Like the Baystate Health Patient Panel, the majority of outpatient CT patients are female, with 53% of the patients identifying as female and 47% as male. Outpatient CT patients also skewed significantly older than the Applicant’s Patient Panel, with more than 90% of patients in the 46+ range, including more than half of all patients over the age of 65. More than 70% of patients self-identified as White. Lastly, outpatient CT patients were slightly more likely to identify as Black or African American (roughly 8%, compared to 7% for Baystate Health).

As illustrated in the table below, the majority of outpatient CT patients are from Springfield and the adjacent communities. Nearby communities also include Longmeadow, East Longmeadow, and Wilbraham.

Table 5: Top 20 Zip Codes

FY22 Zip Code	FY22 Town	FY23 Zip Code	FY23 Town	FY24 Zip Code	FY24 Town
01020	Chicopee	01020	Chicopee	01020	Chicopee
01089	W. Springfield	01089	W. Springfield	01089	W. Springfield
01109	Springfield	01109	Springfield	01109	Springfield
01104	Springfield	01104	Springfield	01104	Springfield
01108	Springfield	01108	Springfield	01108	Springfield
01013	Chicopee	01013	Chicopee	01013	Chicopee
01001	Agawam	01056	Ludlow	01056	Ludlow
01056	Ludlow	01001	Agawam	01001	Agawam
01028	E. Longmeadow	01028	E. Longmeadow	01040	Holyoke
01040	Holyoke	01040	Holyoke	01028	E. Longmeadow
01075	South Hadley	01118	Springfield	01118	Springfield
01118	Springfield	01075	South Hadley	01075	South Hadley
01105	Springfield	01105	Springfield	01119	Springfield
01030	Feeding Hills	01119	Springfield	01107	Springfield
01119	Springfield	01107	Springfield	01106	Longmeadow
01107	Springfield	01030	Feeding Hills	01105	Springfield
01095	Wilbraham	01106	Longmeadow	01030	Feeding Hills
01106	Longmeadow	01095	Wilbraham	01095	Wilbraham
01085	Westfield	01085	Westfield	01129	Springfield
01033	Granby	01129	Springfield	01085	Westfield

F1.a.ii

Need by Patient Panel

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

Through this application, Baystate Health is requesting approval to acquire a CT unit to operate at Baystate Longmeadow. Adding CT services at Baystate Longmeadow will create timely and convenient access to high-quality imaging in an appropriate care setting for the Applicant’s Patient Panel. As reflected in the data below, the Proposed Project is needed to address current and projected need for diagnostic CT imaging, including for age-related conditions that are diagnosed and evaluated with CT. Existing and growing capacity constraints at Baystate’s other outpatient CT locations limit Baystate Health’s ability to not only provide timely access to CT for all patients, but its

ability to offer the full-spectrum of CT services in the community, such as low-dose CT (“LDCT”) lung cancer screening. In addition, by offering CT at Baystate Longmeadow, patients will be able to receive imaging in the same location as their other health care providers. Lastly, with an already high demand for CT imaging due to a Patient Panel with a large geriatric population, demand for CT imaging will only continue to grow as the Applicant’s Patient Panel ages. Therefore, additional access to CT is needed. Through the Proposed Project, Baystate will provide its Patient Panel with timely access to high-quality CT in an office-based setting.

A. *Historical Utilization*

Patients who require CT have limited options in the Springfield area and are often seen at the Hospital’s Satellite. However, due to the growing need for CT by the Patient Panel, the CT service at the Satellite is nearing capacity. The CT service at the Satellite operated at 94% capacity in FY2024, well above ideal utilization between 75% and 85%. The table below illustrates historical CT utilization at the Satellite.

Table 6: Satellite Outpatient CT Volume

Metric	FY2021	FY2022	FY2023	FY2024
CT volume	8,263	8,531	9,651	10,036
Year over year change	- -	3.24%	13.13%	3.99%
Utilization Capacity	78%	80%	91%	94%

Patients must also wait longer to be seen. The current wait time for a CT appointment at the Satellite is ten (10) days.⁵ Generally, the CT should be performed as soon as possible after the order is received, but in most cases, a wait time of three to four days is recommended. The following table illustrates the increasing patient need for CT at the Satellite. Wait times for CT will continue to grow without additional capacity with the community, creating unnecessary delays in diagnosis and corresponding treatment.

B. *Improved Access and Patient Experience*

Baystate Longmeadow currently provides the community with a compliment of health care services in a convenient, centralized location including primary care, pulmonology, cardiology, gastroenterology, and neurology services. However, despite the range of specialties and services available, imaging services at this location are limited to x-ray and mammography. The Proposed Project will allow Baystate Health to provide its Patient Panel with an additional, more convenient location for CT that will improve timely access and expand the services available at Baystate Longmeadow meeting an identified need of the Patient Panel as further described below.

First, the Proposed Project will alleviate the significant capacity constraints impacting care and service delivery at the Satellite. By shifting patients to Baystate Longmeadow, utilization at both sites should be about 75%-80%. Moreover, wait times are expected to decrease for patients at the Satellite to three to four days. Wait times are expected to be similar at Baystate Longmeadow. Decreased wait times for the Patient Panel are critical for providing high quality care as it allows for treatment planning to begin sooner.

Next, while the CT service at Baystate Longmeadow will provide much-needed additional capacity within the service area, it will also provide patients with a convenient location in close proximity to many of their current providers. As noted earlier, Baystate Longmeadow offers care in a number of specialties, many of which use CT as a diagnostic tool. Not only will patients be able to receive CT somewhere they are familiar with, but the community will enjoy the improved geographic access afforded by Baystate Longmeadow compared to the Satellite. Moreover, the CT service at Baystate Longmeadow will be reimbursed at a significantly lower rate than existing hospital-based alternatives.

⁵ As of September 13, 2024, using third available appointment.

As further discussed in section F1.a.iii, patients and insurers will realize significant cost savings by having their CT performed at Baystate Longmeadow, improving the likelihood that patients will follow through in obtaining a CT.

Furthermore, the Proposed Project will expand access to contrast CT in the communities south of Springfield. Up to 50% of all CT scans performed by BRI use contrast, making this a vital service capability. Baystate Longmeadow will also be able to improve the availability of diagnostic imaging for patients of Baystate Surgical Oncology & Breast Specialists. For example, the Proposed Project will allow breast cancer patients to receive CT in the same building as their oncologist to assess without the added stress of traveling to Springfield⁶.

In addition, the Proposed Project will allow Baystate Longmeadow to support Baystate Health’s mission to increase lung cancer awareness and expand its low-dose CT lung cancer screening program. Early identification can lead to treatment when disease can be more easily treated at lower costs than advanced disease, ultimately improving health outcomes. By providing more convenient access to CT in the community, Baystate anticipates more people will comply with lung cancer screening recommendations and referrals. The table below details historic low-dose CT lung cancer screening at the Satellite and BRI’s Northampton location.

Table 7: Current Low-Dose Lung Cancer Screening Volume

Location	FY2021	FY2022	FY2023	FY2024
Satellite	1,862	1,995	2,448	2354
BRI Northampton	338	371	479	569

C. Projected Growth and Future Demand

Based on historical volume and population projections, Baystate Health expects demand for CT to continue to grow in tandem with the Longmeadow area’s population growth and aging. The Springfield/Longmeadow area’s population is projected to increase by 4.5% from 2020 to 2040.⁷ In particular, the population aged 65 and older is expected to grow by 34% from 2020 to 2040.⁸ As the community ages, Baystate patients will present with higher acuity conditions and will more frequently require advanced diagnostic imaging, including CT. The most common reasons for CT that are associated with older patients are evaluating and diagnosing osteoporosis and planning joint replacement surgeries. Given the aging population, the need for CT to prevent and address age-related conditions is expected increase in the Applicant’s Longmeadow service area.

As discussed earlier, the Proposed Project will allow approximately 15% of CT volume from the Satellite to be shifted initially to Baystate Longmeadow. This shift in volume will significantly reduce capacity constraints at the Satellite, in turn reducing wait times. The shifting volume is expected to comprise 50% of utilization at Baystate Longmeadow, allowing 50% of utilization to be dedicated to new need in the community, including low dose lung cancer screening, pulmonary, abdominal CT, and orthopedics, among other conditions. Table 8 below illustrates CT projections at Baystate Longmeadow.

⁶ CT is commonly used to assess whether breast cancer has spread into the chest or stomach. [https://www.cancer.org/cancer/types/breast-cancer/understanding-a-breast-cancer-diagnosis/tests-to-find-out-if-breast-cancer-has-spread.html#:~:text=Computed%20tomography%20\(CT\)%20scan,-A%20CT%20scan&text=This%20test%20is%20most%20often,like%20the%20lungs%20or%20liver.](https://www.cancer.org/cancer/types/breast-cancer/understanding-a-breast-cancer-diagnosis/tests-to-find-out-if-breast-cancer-has-spread.html#:~:text=Computed%20tomography%20(CT)%20scan,-A%20CT%20scan&text=This%20test%20is%20most%20often,like%20the%20lungs%20or%20liver.)

⁷ UMass Donahue Institute MassDOT Vintage 2018 Population Projections, *Massachusetts Population Projections*, September 2018, <http://www.pep.donahue-institute.org/>.

⁸ *Id.*

Table 8: Projected CT Volume at Baystate Longmeadow

Metric	2026	2027	2028	2029	2030
Shift from the Satellite	1,512	1,663	1,830	1,921	2,017
New CT Volume	1,616	1,777	1,955	2,052	2,155
- Low Dose Lung Cancer Screening Volume	104	114	125	131	138
- Pulmonary, non LDCT	529	582	640	672	706
- Abdomen/pelvis	529	582	640	672	706
- Orthopedics	151	166	183	192	202
- Head	151	166	183	192	202
- Other	151	166	183	192	202
Total CT Volume	3,128	3,440	3,784	3,973	4,172
Year over year change	n/a	10%	10%	5%	5%
Utilization	75%	77%	79%	80%	81%

In conclusion, a CT unit at Baystate Longmeadow is needed to provide timely access to imaging care in the community, in turn improving health outcomes for the Patient Panel. Through the Proposed Project, the Applicant will improve local access to high-quality imaging services for the Patient Panel.

F1.a.iii Competition

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

The Proposed Project will compete on the basis of price, total medical expenses, provider costs, and other recognized measures of health care spending because of its minimal cost to implement and operate while providing access to high-quality CT in the community. Moreover, reimbursement costs for CT at Baystate Longmeadow will be lower than current outpatient alternatives in the community, further contributing to lower health care cost.

First, the Proposed Project will quickly and efficiently expand CT access for the Patient Panel with minimal capital costs, including minimal construction needed. Baystate Longmeadow is able to expand into adjacent space with minimal renovation to ensure the space meets all facility guidelines. The total cost of this construction is \$251,339. Moreover, by renovating available space to accommodate the new service, existing services will not be interrupted, and the Applicant is able to avoid any disruption to patient scheduling.

Further, average commercial reimbursement for CT at BRI's Northampton location is \$291.97. This represents just 53% of the average commercial reimbursement for CT at the Satellite. This is a significant savings to commercial payers as well as patients through reduced out of pocket costs such as co-insurance. Furthermore, a number of national insurance providers have implemented site-of-care review processes for diagnostic imaging tests performed at hospital facilities.⁹ A CT scan performed at an outpatient clinic such as Baystate Longmeadow may further contribute to reduced costs by negating a site-of-care review.¹⁰ Accordingly, the Proposed Project will provide the community with high quality care in a more convenient setting at a lower cost.

⁹ See, e.g., *Site of Care: Advanced Radiologic Imaging*, Aetna, https://www.anthem.com/dam/medpolicies/abcbs/active/guidelines/gl_pw_c191757.html (Sept. 27, 2023); *Site of Care: High-Tech Radiology*, Cigna https://static.cigna.com/assets/chcp/pdf/coveragePolicies/medical/mm_0550_coveragepositioncriteria_SOC_HTR.pdf (Mar. 15, 2023).

¹⁰ *Id.* Both policies apply only to hospital-based imaging departments or facilities.

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

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

The use of diagnostic imaging, such as CT, has significantly increased over the last several decades because of technological advancements and the expansion of clinical applications.¹¹ The availability of a CT unit at Baystate Longmeadow will advance and support the health needs of Baystate Health's Patient Panel by providing a more convenient option to CT imaging in the community. The Applicant relies on extensive evidence-based literature, which demonstrates that routine and diagnostic CT imaging is an essential component of health care.

A. Computed Tomography

Computed Tomography ("CT") is an imaging tool that utilizes x-ray beams to generate cross-sectional images - or "slices" - of the bones, blood vessels and soft tissue.¹² As a result, CT scans produce clearer, more detailed images than conventional x-rays, making CTs extremely useful in detecting, for example, tumors or lesions within the abdomen and lungs; detecting heart disease or abnormalities of the heart; head injuries; and blood clots and embolisms.¹³ CT scans can generally be performed in minutes, which means providers can quickly detect and diagnose emergent conditions such as strokes and consequently, reduce the chances of brain damage and disability.¹⁴ In summary, CT is an essential and invaluable tool in the diagnosis and treatment of patients and must be readily available in the community.

1. General Lung Diagnostics

As a result of the detailed images produced by CT, doctors are able to diagnose and manage lung problems earlier and more effectively.¹⁵ CT scans are commonly used to detect pulmonary nodules, screen for malignant neoplasm of respiratory organs, and identify other respiratory abnormalities or disorders such as pneumonia, tuberculosis, or cystic fibrosis.¹⁶ Lastly, as discussed in more detail below, CT also allows for low-dose lung cancer screening, which is an essential tool in reducing lung-cancer deaths.¹⁷

2. Low-dose lung cancer screening

Lung cancer is the leading cause of cancer-related deaths for men and women in the United States.¹⁸ Screening high-risk individuals with low dose CT ("LDCT") can decrease lung cancer mortality up to 20%.¹⁹ Approximately 8 million Americans qualify as high risk for lung cancer and are recommended to receive annual screening with low-dose CT ("LDCT") scans.²⁰ Per the United States Preventive Services Task Force (USPSTF), high-risk individuals include those who:

- Have a 20 pack-year²¹ or more smoking history, and

¹¹ See *Recent Advances in CT Scan Technology*, Neurologica, <https://www.neurologica.com/blog/advances-ct-scan-technology> (last visited Feb. 24, 2022).

¹² See U.S. Department of Health & Human, <https://www.nibib.nih.gov/science-education/science-topics/computed-tomography-ct> (last visited Feb. 24, 2022); Mayo Clinic, <https://www.mayoclinic.org/tests-procedures/ct-scan/about/pac-20393675> (last visited Feb. 24, 2022).

¹³ See *How Does a CT or CAT scan work?*, MedicalNewsToday, <https://www.medicalnewstoday.com/articles/153201#procedure> (last modified June 23, 2017).

¹⁴ See *How CT Scans and MRIs are Used to Diagnose Strokes*, <https://www.enrvad.com/how-ct-scans-mris-used-to-diagnose-strokes/> (last visited Feb. 24, 2022).

¹⁵ *What Are The Benefits of CT Scans?*, RadiologyInfo, https://www.radiologyinfo.org/en/info/safety-hiw_04 (last accessed July 30, 2024).

¹⁶ *Chest CT*, RadiologyInfo, <https://www.radiologyinfo.org/en/info/chestct> (last accessed July 30, 2024).

¹⁷ *Lung Cancer: Screening*, U.S. Preventive Services Task Force, <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening> (Mar. 9, 2021).

¹⁸ See *First Population-Based Study Finds State-Level Lung Cancer Screening Rates Not Aligned with Lung Cancer Burden in the U.S.* (Nov. 12, 2020), http://pressroom.cancer.org/LDCTScanLCS_

¹⁹ *Id.*

²⁰ See *Lung Cancer Fact Sheet*, American Lung Association, <https://www.lung.org/lung-health-diseases/lung-disease-lookup/lung-cancer/resource-library/lung-cancer-fact-sheet> (last modified May 27, 2020).

²¹ A pack-year is defined as 20 cigarettes smoked every day for one year, or 40 cigarettes smoked every day for 6-months.

- Smoke now or have quit within the past 15 years, *and*
- Are between the ages of 50 and 80 years old.²²

Patients who meet these criteria are recommended to continue annual screenings each year until the age of 81, they have not smoked in 15 years, they develop a health problem that makes them unwilling or unable to have curative lung surgery or they develop a health problem that will significantly limit life expectancy.²³

In 2022, CMS expanded eligibility by lowering the starting age for lung cancer screening and reducing tobacco smoking history, which will further increase access to lung cancer screening for at-risk populations.²⁴ LDCT has been underutilized with only 12.5% of the eligible population receiving this screening exam.²⁵ In Massachusetts, only 11.9% of those with a high-risk of lung cancer were screened in 2023.²⁶

3. Orthopedics

CT provides more detailed information about bone tissue and bone structure than standard X-rays, allowing physicians to assess bones for lesions, fractures, or other abnormalities. The three-dimensional internal view offered by CT allows orthopedic specialists to see detailed images of bones, soft tissues, organs, muscles, and blood vessels. These detailed images help orthopedists assess trauma such as injuries and complex fractures, diagnose soft tissue damage, identify abdominal issues or other internal injuries, examine blood vessels, tumors, and foreign bodies.²⁷ As the “gold standard” for analyzing morphology measurements in three-dimensional reconstructions of bone, CT imaging can be used to analyze and enhance the effectiveness of prosthetic devices.²⁸ For these same clinical reasons, CT is the preferred modality for joint replacement planning.²⁹

F.1.b.ii Public Health Value /Outcome-Oriented

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

The Applicant will use the following quality metrics to assess the impact of the Proposed Project. The Applicant will provide the Department with baseline measures for each metric following the first full year of implementation. All measures will be reported annually thereafter for the duration required. The measures are discussed below:

1. **Access – Lung Cancer Screening:** Increased access to screening services is likely to increase the number of patients who receive lung cancer screening as recommended.

Measure: The number of low-dose CT scans provided at Baystate Longmeadow annually

Projections: As described in Table 8, Baystate Longmeadow will provide approximately 100 low-dose lung cancer screenings in Year 1 and will increase the number of scans each year.

2. **Patient Satisfaction:** Patients that are satisfied with care are more likely to seek additional treatment when necessary. The Applicant will review patient satisfaction levels with the CT imaging service. To ensure a

²² See *Who Should Be Screened for Lung Cancer* (Oct. 18, 2021), www.cdc.gov/cancer/lung/basic_info/screening.htm; Lung Cancer: Screening, U.S. Preventative Services, Task Force (March 9, 2021), <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening>.

²³ *Id.*

²⁴ CMS Expands Coverage of Lung Cancer Screening with Low Dose Computed Tomography, Centers for Medicare & Medicaid Services (Feb. 10, 2022), <https://www.cms.gov/newsroom/press-releases/cms-expands-coverage-lung-cancer-screening-low-dose-computed-tomography>.

²⁵ See Thomas B. Richards, M.D., Ashwini Soman, MBBS, et al., *Screening for Lung Cancer – 10 States, 2017*, Centers for Disease Control and Prevention, MMWR Morb Mortal Wkly Rep 2020;69:201–206, <http://dx.doi.org/10.15585/mmwr.mm6908a1>.

²⁶ Lung Cancer Key Findings, American Lung Association, <https://www.lung.org/research/state-of-lung-cancer/key-findings> (last modified June 7, 2024).

²⁷ Paula R. Patel and Orlando De Jesus, *CT Scan*, National Library of Medicine, <https://www.ncbi.nlm.nih.gov/books/NBK567796/> (last updated Jan. 2, 2023).

²⁸ Zakary Wankier et al., *Use of Computer Tomography Imaging for Analyzing Bone Remodeling Around a Percutaneous Osseointegrated Implant*, Journal of Orthopaedic Research, <https://onlinelibrary.wiley.com/doi/10.1002/jor.25247> (Dec. 15, 2021).

²⁹ Huppertz A, Radmer S, Wagner M, Roessler T, Hamm B, Sparmann M. *Computed tomography for preoperative planning in total hip arthroplasty: what radiologists need to know*. Skeletal Radiol. 2014 Aug;43(8):1041–51. doi: 10.1007/s00256-014-1853-2. Epub 2014 Mar 13. PMID: 24622927.

service-excellence approach, patient satisfaction surveys will be distributed to all patients receiving imaging services with specific questions around a) satisfaction levels with pre-appointment communication; and b) satisfaction around the wait time for services.

Numerator: Average patient score

Denominator: Highest possible score

Projections: As a new service, a baseline measure will be provided following the Proposed Project's first year of operation.

3. **Quality of Care – Critical Value Reporting:** When critical values or abnormal test results are registered within an electronic medical record for a patient, the referring physician is notified via electronic communication.

Numerator: Number of critical values reported timely.

Denominator: Total number of critical value findings.

Projections: As a new service, a baseline measure will be provided following the Proposed Project's first year of operation.

4. **Quality of Care – Quality of CT scan:** The quality of a CT scan is imperative to its interpretation. Accordingly, the Applicant will evaluate the number of scans that need to be repeated to ensure radiology technicians are performing appropriate scans.

Numerator: Number of CT scans repeated due to image quality

Denominator: Total number of CTs ordered (not including repeat orders)

Projections: As a new service, a baseline measure will be provided following the Proposed Project's first year of operation.

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

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

Baystate Health's mission is to improve the health of the people in its communities every day with quality and compassion. Diversity, Equity, & Inclusion is critical to fulfilling our organizational mission. Our vision at Baystate Health is to integrate the core tenets of DHEI into every aspect of care and human interaction to create a culture of inclusivity and belonging, equitable care delivery, and economic prosperity for all patients, families, employees, clinicians, and members of our community. Baystate Health's key areas of focus are Clinical Health Equity, to reduce disparities in care; Workforce & Pipeline, to improve and increase advancement for historically underrepresented populations to ensure reflection of the populations we serve; DEI Education and Learning, to advance the delivery of culturally responsive care and foster a culture of inclusivity and belonging; and Community Health Equity, to increase BH impact within the community and advance recognition as a regional/national DEI leader that builds collective action and changes community conditions of inequity.

Reducing Health Disparities

Many factors affect a person's health, including race, ethnicity, gender, sexual orientation, age, disability, socioeconomic status, and geographic location. When certain health outcomes become common among certain

populations, there is a disparity. Baystate Health is committed to reducing health disparities by closely examining quality, safety and patient experience through an equity lens and making necessary changes in protocols and practices.

In 2015, Baystate Health signed the American Hospital Association’s [#123forEquity pledge campaign](#) to eliminate health disparities. It builds on the efforts of the National Call to Action to Eliminate Health Care Disparities – a joint effort of the AHA, American College of Healthcare Executives, Association of American Medical Colleges, Catholic Health Association of the United States and America’s Essential Hospitals – and asks hospital and health system leaders to begin taking action to accelerate progress on the following areas:

- Increasing the collection and use of race, ethnicity, language preference and other socio-demographic data
- Increasing cultural competency training
- Increasing diversity in leadership and governance
- Improve and strengthen community partnerships

As part of Baystate Health’s culture transformation strategy to advance DEI in practice, it launched an enterprise-wide education strategy that includes application of targeted and diffuse learning for staff at all levels of the enterprise. For example, in February 2024, a Trans Inclusion learning session was delivered to all staff, including physicians/APPs, in all four of our Community Health Centers, which introduced concepts and terminology related to transgender and nonbinary experience, and an intersectional approach to trans inclusion. In addition, a pilot program for all employees at Baystate Wing Hospital (“BWH”) was launched, *Dignity in Action: Creating an inclusive culture of respect and trust*, which introduces a framework to reduce bias and microaggressions, foster an inclusive culture with a DEI lens, and understand the intersectionality of the many dimensions of diversity. The goal is to deliver this education to all employees at BWH with the intention to expand to all areas of Baystate Health in the future. Baystate Health continues to identify resources to ensure opportunities are available for team members to further their knowledge and skills to understand and address health equity.

Growing a More Diverse Workforce

A diverse workforce provides representation and leads to innovative thinking. Baystate Health is committed to achieving equity in the hiring, promotion, and retention of Black and Brown employees. In the last year, Baystate Health has made great strides, including a 7% increase in Underrepresented in Medicine (URiM) leaders, a 5% increase in URiM providers, including physicians and advanced practice practitioners (“APP”), and an 8% increase in URiM Direct Care Registered Nurses (“RN”). Equity and Belonging is also a core competency which has been adopted as part of the Baystate Health culture. The table below captures additional progress made towards advancing URiM at Baystate Health.

Underrepresented in Medicine (URiM) FY 2022 – FY 2023
7% increase in URiM Leaders
5% increase in URiM Physicians/APPs
8% increase in URiM Direct Care RNs
15% of total BH Leaders are URiM
10% of total BH Physicians/APPs are URiM
14% of total BH Direct Care Nurses are URiM
21% promotion rate of URiM Employees in 2023
27% turnover rate of URiM Employees in 2023
72% retention rate of URiM employees promoted in 2022

Anchor Collaborative

BH is one of thirteen health systems nationwide that signed an “Impact Purchasing Commitment.” In June 2021, BH aligned our purchasing power with clinical and community efforts to improve societal health, well-being, and to catalyze prosperity for all. Baystate’s anchor investments undergird its commitment to racial justice and community health equity. In May 2023, Dr. Hinson and members of the BH Purchasing team participated in the Massachusetts Healthcare Anchor Convening at the UMASS Medical School in Worcester to advance the work and strengthen collaborations across Massachusetts. Each year, we continue to monitor our progress and examine opportunities for improvement. In 2023, BH met the 2.5% goal for total construction spend; however, we also remain focused on ensuring a 60/40 split between Minority Business Enterprise and Women Owned Enterprise spending, respectively. We look forward to continued advancement of this effort in 2024.

Alliance for Digital Equity

In response to increased community need for access to digital connectivity as a social determinant of health, the Alliance for Digital Equity, a grassroots effort, resulted in the forming of the largest regional coalition in the Commonwealth addressing the digital divide. In 2023, the Massachusetts Broadband Institute (MBI) awarded BH with a two-year, \$5.1 million dollar grant. Over the past year, the Alliance for Digital Equity began implementing systemwide and localized interventions around digital equity in all four counties of western Massachusetts. This regional collaboration has engaged 59 organizations, with 17 sub-grantees directly receiving funding for implementation of deliverables related to connectivity, education, affordable internet, digital literacy and skills training, and public internet space through modernization.

Health Quality and Equity Learning Collaborative

To build our hospital teams’ capability and skills in performance improvement to address health disparities in clinical outcomes, Baystate Health launched a learning collaborative to staff and leaders with short-term (12-month) comprehensive support including peer learning, professional development, and sustainable improvements. In partnership with the enterprise’s Division of Healthcare Quality and Operations Excellence (performance improvement) teams, learning collaborative participants attend virtual and in-person meetings, share data quarterly, and test interventions (that address disparities) using Plan-Do-Check-Act cycles. In addition, the learning collaborative utilizes established performance improvement tools (e.g., a gap analysis) in tandem with equity tools (Equity Impact Assessments) as frameworks to promote long-term sustainable change.

BeHealthy ACO

Further, the BeHealthy Partnership collects and uses data to ensure its programs are equitable. By continually analyzing the populations of each program to the general population of BeHealthy Partnership, Baystate is able to ensure it is serving its members equitably.

Lastly and specific to the Proposed Project’s care delivery, the Applicant, including its BRI locations, provides all patients with interpreter and translation services for each encounter. Language and communication services are available via telephone and video service in a majority of languages. Patients may also request in-person assistance during appointment scheduling. These services are also available for patients that are deaf and hard of hearing. The Applicant and BRI continue to ensure that patients not only can access health care services, but that patients and their caregivers can meaningfully engage with their providers.

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

The Proposed Project will improve health outcomes and quality of life for Baystate Health’s Patient Panel by providing improved access to CT imaging. Convenient and timely access to CT imaging will ultimately improve health

outcomes. Baystate Health remains committed to promoting health equity, ensuring patients can access the System's services and effectively communicate with their providers as well as ensuring appropriate care linkages to resources outside of the System. As a result, the Applicant anticipates that the Proposed Project will result in improved patient care and quality outcomes while promoting health equity.

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

As a member of Baystate Health, Baystate Longmeadow is affiliated with both tertiary and community hospitals, primary care offices, specialists, and urgent care centers, making integrated medical records central to effective coordination of care, improving quality of care and public health outcomes. Baystate Longmeadow's electronic medical record ("EMR") serves as the primary linkage between the office and referring providers. With respect to the Proposed Project, the EMR affords Baystate Longmeadow radiologists' real-time access to a patient's comprehensive medical information, including medical history, lab results, and clinical notes while they are protocoling or reading a CT study. Once the radiologist's report is complete, the EMR enables imaging results and information to be available to primary care and specialty physicians across the System and integrated into the patient's EMR. The EMR also allows authorized providers outside of the Applicant to view patients' records and send progress notes back for continuity of care. Further, the EMR has a critical results system to provide immediate results for critical findings, which are automatically provided to referring physicians.

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

The Applicant consulted with numerous individuals at multiple regulatory agencies regarding the Proposed Project. The following individuals were consulted with regards to this Project:

- Massachusetts Department of Public Health, including but not limited to: Dennis Renaud, Director, Determination of Need Program; Jennica Allen, Manager of Community Engagement Practices, Bureau of Community Health and Prevention; Elizabeth Maffei, Program Manager, Bureau of Community Health and Prevention; Katelyn Teague, Community Health Planning + Engagement Specialist, Bureau of Community Health and Prevention
- Massachusetts Executive Office of Health and Human Services
- Health Policy Commission
- Center for Health Information and Analysis
- The Centers for Medicare & Medicaid Services

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

In addition to relying on the data described throughout this application that demonstrates the need for the Proposed Project, the Applicant also sought to engage the community to elicit feedback from patients and families regarding the Proposed Project. The Proposed Project was presented to the following groups:

- Current Baystate Longmeadow patients,
- BMC's Community Benefits Advisory Council ("CBAC"),
- BMC's Hospital's Patient Family Advisory Council ("PFAC"),
- Elected officials.

On August 29th and August 30th, each for a period of at least three hours, BRI hosted an information table in the waiting room of Baystate Longmeadow. Staff were available to provide hand-outs and answer questions, such as will the project expand the waiting room and will there be a radiologist on site, both of which have affirmative responses. Patients were also generally excited at the prospect of CT being provided at Baystate Longmeadow due to the increased convenience of the location compared to other Baystate Health locations.

Next, representatives from BRI presented the Proposed Project to members of the Hospital's CBAC on September 12, 2024, and members of the Hospital's PFAC on September 18, 2024. The CBAC meeting was attended by seven (7) committee members and the PFAC meeting was attended by eight (8) council members. During both presentations representatives from BRI spoke about the need for additional CT capacity to address growing wait times and how Baystate Longmeadow represents a convenient, lower cost option to meet the need of the community. Community members asked for more information about why the Baystate Longmeadow location was chosen and how wait times will be impacted.

Lastly, community leaders were provided details of the Proposed Project via email on October 8, 2024. Recipients included Senator Jake Oliveira, Representative Brian Ashe, and the Longmeadow Selectboard.

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

To ensure sound community engagement throughout the development of the Proposed Project, the Applicant and BMC took the actions detailed in Factor F1.e.i. In addition, the Applicant published two legal notices announcing the Proposed Project in The Republican on October 18, 2024, and also posted a copy of such legal notice prominently on Baystate Longmeadow's website³⁰. Please refer to Appendix 4 for copies of the legal notices.

Factor 2: Health Priorities

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

F2.a. Cost Containment

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

The Proposed Project will meaningfully contribute to and further the Commonwealth's goals for cost containment by expanding access to high-quality CT imaging services in a low-cost setting. As discussed throughout the Application, the Proposed Project seeks to improve access to an essential component of diagnostic care. Timely access to CT imaging increases a patient's chance to receive timely treatment that can improve health outcomes

³⁰ <https://www.baystatehealth.org/locations/health-and-wellness-center-longmeadow/radiology-imaging>

and quality of life. Improved CT access will reduce long-term healthcare cost for patients, as earlier diagnosis leads to faster treatment and the prevention of higher cost services needed in the future. By providing CT services on-site, Baystate Longmeadow's new CT unit will help save money for patients and the Commonwealth by ensuring increased coordination of care and reducing wait times for CT.

Importantly, the Proposed Project will offer payers and patients office-based prices which is significantly less than hospital-based CT services, such as those provided at the Satellite. This change in reimbursement will provide significant savings as patient volume is appropriately shifted from hospital-based facilities to Baystate Longmeadow for their CT needs. In conclusion, the Proposed Project will contribute to the Commonwealth's goals of cost containment by reducing costs while ensuring timely access to care.

F2.b. Public Health Outcomes

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

The Proposed Project will improve public health outcomes by providing access to CT imaging in an office-based setting, which is both more convenient and less expensive than imaging provided in hospital outpatient departments. Because the Longmeadow CT unit will be co-located with a number of specialties as well as primary care, patients are more likely to receive any CT imaging ordered because they are not being asked to travel outside of their community to an unfamiliar facility. This will not only benefit existing Baystate Longmeadow patients but also the Applicant's Patient Panel by reducing outpatient CT wait times where existing demand is overwhelming the CT service at the Satellite. The new CT service at Baystate Longmeadow will improve access to CT in the community, resulting in more timely access to imaging and fewer delays in diagnosing and treating for the Applicant's Patient Panel. Moreover, these improvements will help reduce overall health care costs.

As discussed in F.1.a.ii., Longmeadow anticipates CT volume will continue to increase. To properly serve the patient panel that is aging, tends to have higher acuity, and appropriately serve outpatients with CT needs, it is necessary that Baystate Longmeadow offer CT services. The Proposed Project will not only improve access to care and health outcomes, but also decrease costs, contributing to overall improved public health.

F2.c. Delivery System Transformation

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

Baystate Health has a robust system in place regarding social determinants of health for patients. Patients are referred to community services as identified through the Health-Related Social Needs Screening tool as well as the MassHealth ACO Flexible Services program criteria. Referrals and connections to social services is now very much a part of the natural daily routine by Care Teams. Each program has unique criteria for participation and involves referrals to unique organizations.

Screening tools are also available in the EMR used by Baystate Longmeadow. The goal is for patients to be screened at least annually. When a need is identified, the patient may be referred to a community health worker (CHW) for assistance or may be given information directly from the primary care team. CHWs will usually continue to work with a patient to ensure that connections with community services are made. However, there is no formal process to track all community referrals.

Further, in 2019, the BeHealthy Partnership Social Determinants of Health Committee developed Health Equity Goals that were approved by the Joint Operating Committee as follows:

- Establish protocols and procedures for collecting, using, and monitoring demographic data in order to address health disparities and population health outcomes.
- Establish required training and development for all staff to meet a baseline standard for cultural humility.
- Seek balance of power in staffing, governance, and leadership by intentionally including people who have lived experience and reflect/represent the population being served to improve the likelihood that their voices will be included.
- Recognize and appreciate Baystate Health's productive community partnerships that it can work to deepen and expand as opportunities arise.

Factor 5: Relative Merit

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

This Proposal: The Proposed Project is for the acquisition of a CT unit at Baystate Longmeadow.

Quality: The Proposed Project is the superior option because of the impact it will have on patient outcomes and quality of life. With access to CT, Baystate Longmeadow will be able to meet growing patient needs for outpatient CT services in a more convenient, cost-effective manner without burdening existing CT services in other locations. This will directly improve patient quality of life by reducing wait times for scans, allowing physicians to diagnosis conditions more rapidly and treat patients sooner.

Efficiency: The acquisition of a CT unit will minimize delays in patient access by eliminating the need for patients to travel to a secondary facility further from home and will reduce the burden on the Hospital's outpatient CT service, in turn decreasing wait times. Because the majority of expected patient volume for the Proposed Project are current patients of Baystate Longmeadow, these patients will be more likely to receive the scan in a timely manner if the scan is available in their community, co-located with existing services.

Capital Expense: The total capital expenditure for the CT unit and required construction is \$994,467.

Operating Costs: The first-year operating expenses to operate the new CT unit are anticipated to be \$625,930.

Alternative Proposal: Expand CT capacity at the Satellite.

Alternative Quality: This alternative does not address the need of Baystate Longmeadow's patient population to have timely, centralized access to CT imaging in their community. Inconvenient services can lead to delays in diagnosis and ultimately delayed treatment, which can adversely impact patient outcomes and quality of life. Furthermore, the average commercial reimbursement for CT is higher for the Satellite than it would be at Baystate Longmeadow, which could impact a patient's decision whether or not to receive CT imaging.

Alternative Efficiency: While this alternative would provide additional CT capacity and reduce wait times for the Patient Panel, it does not address the need for Baystate Longmeadow's patients to have access to high-quality imaging in their community. Moreover, while the Applicant considered extending the hours of operation, this option is not preferred by patients due to security concerns and could further compound staff shortages due to staff preference.

Alternative Capital Expenses: Capital costs for this alternative would be higher due to the required renovation of existing hospital-licensed space and the potential need for new construction to accommodate an additional CT unit and/or increased patient load, such as additional exam and waiting areas.

Alternative Operating Costs: Operating costs would be similar or slightly higher than the Proposed Project under this alternative. due to the costs associated with an outpatient hospital facility. For example, staff and overhead costs are both higher at the Satellite than at Baystate Longmeadow. Further, operating expenses would increase as a result of extended hours of operation because of the need for multiple shifts instead of the current single staff shift.