APPENDIX 2

NARRATIVE

2. Project Description

Mass General Brigham Incorporated ("Applicant" or "MGB"), with a principal place of business located at 800 Boylston Street, Suite 1150, Boston, Massachusetts 02199, is filing a Notice of Determination of Need ("Application") with the Massachusetts Department of Public Health ("Department" or "DPH") to acquire a computed tomography ("CT") unit on behalf of North Shore Medical Center ("NSMC"), for operation by Salem Hospital (the "Hospital") at its satellite, Mass General Brigham Healthcare Center – Lynn (the "Healthcare Center"), located at 480 Lynnfield Street Lynn, MA 01904 (the "Proposed Project").

Salem Hospital serves a large and diverse community including Danvers, Lynn, Lynnfield, Marblehead, Nahant, Peabody, Salem, and Swampscott. The Hospital, located at 81 Highland Avenue, Salem, MA 01970, is licensed to provide a range of emergency, inpatient and outpatient services across its satellites, including the Healthcare Center, North Shore Physicians Group (Danvers), Salem Hospital Bridge Clinic (Salem), Salem Diagnostic Radiology at Lynn Community Health Care Center, Salem Hospital, Imaging (Peabody), Salem Hospital Imaging (Swampscott), Salem Hospital Imaging (Beverly) and the Community Care Van.

Salem Hospital currently has five CT units on the Hospital's Main Campus. The Proposed Project will significantly improve CT access for the Hospital's patients by offering CT services in Lynn, the largest community served by the Hospital. The Healthcare Center opened in 2020 at the site of the former Union Hospital to provide a modern and convenient location for residents of Lynn and the surrounding area to access vital healthcare services in their own community. While patients have access to primary and specialty care, urgent care, lab/blood testing, and imaging services such as mammography, ultrasound, bone density and X-ray, advanced imaging is not available. To that end, the Proposed Project seeks to make advanced imaging more accessible to the Lynn community and expand the services available within the Healthcare Center.

The need for the Proposed Project is based on existing and future needs of the Hospital's Patient Panel. Salem Hospital's outpatient CT units are operating at capacity as evidenced by historical CT volume. Increased demand for CT has contributed to long wait times, as well as higher rates of no-show appointments. Moreover, the location of the Proposed Project does not currently offer CT services, requiring patients to obtain CT imaging at the Hospital's Main Campus or at the Mass General Cancer Center in Danvers. Through the Proposed Project, patients in Lynn will have a more convenient option to access outpatient CT imaging by co-located CT with existing services offered at the Healthcare Center.

In addition to offering high quality CT services in Lynn, the new CT unit will provide access to cardiac CT to the Hospital's patients and allow the Hospital to increase the number of lung cancer screenings performed annually. Further, the Proposed Project will provide convenient access to CT for patients of the urgent care clinic located in the same building. Through the proposed location of the new CT, the Hospital anticipates that patients will chose to have urgently needed CT imaging performed at the Healthcare Center, which will alleviate some of the capacity constraints at the Hospital's emergency department. Lastly, population projections substantiate the need for access to expanded CT imaging services as Salem Hospital's service area is expected to grow in population, particularly with respect to patients 65+ age in Lynn, that more frequently requires CT services to diagnose and treat age-related conditions.

The Proposed Project is consistent with Massachusetts' goals for cost containment. With a third of outpatient CT units operated by the Hospital, patients will have timelier access to CT, and as a result,

diagnosis and treatment can begin. As further described in this Application, timely diagnosis allows for treatment to begin before the patient requires more costly care due to advanced disease. The new CT unit will be reimbursed at the same rate as the Hospital's existing units and will not impact costs for payers or patients. Consequently, the Proposed Project will contribute to the Commonwealth's goal of containing the rate of growth of total medical expenses and total healthcare expenditures.

In summary, the Proposed Project will meet an identified need for the Hospital's patients to access timely outpatient CT imaging close to home. Approval of the Hospital's request for an additional CT unit will not only increase CT capacity but will improve access to CT in a community that currently does not have convenient access to CT services. Through improved access, the Proposed Project will improve health outcomes and patient satisfaction while meaningfully contributing to Massachusetts' goals for cost containment.

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. Mass General Brigham

MGB is an integrated health care system of community and teaching hospitals, offering a wide range of inpatient and outpatient services in behavioral health, rehabilitation medicine, ophthalmology, and otolaryngology, five licensed and 15 affiliated community health centers, and a physician network with approximately 7,500 employed and affiliated primary care and specialty care physicians. The Applicant also operates a non-profit managed care organization and a for-profit insurance company that collectively provide health insurance and administrative services products to the MassHealth Program (Medicaid), ConnectorCare, and commercial populations.

MGB[1] serves a large and diverse Patient Panel as demonstrated by the utilization data for the 36-month period covering Fiscal Years[2] ("FY") 2022 through FY2024. The number of patients utilizing MGB's services has increased since FY22, with 1,820,073 unique patients in FY22; 1,881,497 unique patients in FY23; and 1,913,690 unique patients in FY24, an increase of 5.14% from FY22 to FY24. The following table illustrates the demographics of MGB's Patient Panel.

[1] Utilization of patient care services at the following MGB provider organizations was used to determine the Applicant's Patient Panel: Massachusetts General Hospital, Brigham and Women's Hospital, Newton Wellesley Hospital, North Shore Medical Center, Brigham and Women's Faulkner Hospital, Martha's Vineyard Hospital (post-Epic data only), Nantucket Cottage Hospital (post-Epic data only), Cooley Dickinson Hospital (post-Epic data only), Massachusetts Eye and Ear Infirmary (post-Epic data only), Spaulding Rehabilitation Hospital (Telehealth, Partners Mobile Observation Unit (PMOU), Home Hospital (HH) programs for GH and BWH, Stay Connected with GH, Lifeline, CareSage programs are not included), McLean Hospital (post-Epic data only), Massachusetts General Physicians Organization, Brigham and Women's Physicians Organization, North Shore Physicians Group, Newton Wellesley Medical Group, Cooley Dickinson PHO (post-Epic data only), Partners Community Physicians Organization (excluding pre-Epic non-risk patients), and Wentworth-Douglas Hospital (out-of-state hospital included in FY20 data, resulting in increased unique patients from out-of-state patients for FY20).
[2] The Applicant's fiscal year is from October 1 – September 30. The fiscal year data was pulled as of November 11, 2024.

TABLE 1: MGB Patient Panel Demographics	FY22 Count	FY22 Percent	FY23 Count	FY23 Percent	FY24 Count	FY24 Percent
MGB Total	**1,820,073**	**100%**	**1,881,497**	**100%**	**1,913,690**	**100%**
Gender: Female	1,047,584	57.56%	1,081,130	57.46%	1,098,751	57.42%
Gender: Male	772,186	42.43%	799,844	42.51%	813,898	42.53%
Gender: Other/Unknown	303	0.02%	523	0.03%	1,041	0.05%
Age: 0-17	168,949	9.28%	184,653	9.81%	198,404	10.37%
Age: 18-64	1,062,137	58.36%	1,102,243	58.58%	1,125,093	58.79%
Age: 65+	588,959	32.36%	594,571	31.60%	589,814	30.82%
Age: Unknown	28	0.00%	30	0.00%	379	0.02%
Race: American Indian or Alaska Native	3,795	0.21%	3,912	0.21%	3,920	0.20%
Race: Asian	91,303	5.02%	94,008	5.00%	95,968	5.01%
Race: Black or African American	104,464	5.74%	109,330	5.81%	113,888	5.95%
Race: Hispanic/Latino	17	0.00%	19	0.00%	29	0.00%
Race: Native Hawaiian or Other Pacific Islander	1,358	0.07%	1,466	0.08%	1,511	0.08%
Race: Other/Unknown	264,663	14.54%	282,226	15.00%	288,723	15.09%
Race: White	1,354,473	74.42%	1,390,536	73.91%	1,409,651	73.66%
Patient Origin: HSA_1	111,696	6.14%	115,788	6.15%	120,912	6.32%
Patient Origin: HSA_2	74,389	4.09%	83,272	4.43%	85,873	4.49%
Patient Origin: HSA_3	109,634	6.02%	118,860	6.32%	116,756	6.10%
Patient Origin: HSA_4	743,420	40.85%	757,934	40.28%	776,173	40.56%
Patient Origin: HSA_5	215,708	11.85%	229,697	12.21%	236,155	12.34%
Patient Origin: HSA_6	252,219	13.86%	256,679	13.64%	257,173	13.44%
Patient Origin: In MA but not in HSA 1-6	29	0.00%	25	0.00%	22	0.00%
Patient Origin: Outside of MA	308,600	16.96%	314,497	16.72%	315,594	16.49%
Patient Origin: Unknown	4,378	0.24%	4,745	0.25%	5,032	0.26%

Age: Data for FY22-FY24 show that the majority of MGB's Patient Panel is between the ages of 18-64 (consistently around 58%) followed by 65+ and 0-17 age cohorts, respectively.

Gender: MGB's Patient Panel is approximately 57.5% female and 42.5% male. These percentages remained consistent between FY22 and FY24.

Race and Ethnicity: Data based on self-reporting demonstrates that between FY22 and FY24, the majority of MGB's patients self-identified as White (around 74% across all three years). Patients also self-identified as African American (close to 6%); Asian (5%); American Indian or Alaska Native (0.2%); Native/Hawaiian or Other Pacific Island (0.1%); and Hispanic/Latino (0%). Since patients were grouped into these categories based on how they self-identified, there is a portion of the patient population (14.88% on average) that either chose not to report their race or identified as a race that did not align with the above categories. As a result, it is important to note that the racial composition of MGB's patients may be understated.

Geographic Origin: MGB provides care to patients across Massachusetts and beyond. The majority of MGB's patients reside in eastern Massachusetts (40.56% in HSA 4). A sizeable share of patients also reside in HSA 5 (12.13%) and HSA 6 (13.65%).

Payer Mix: Between FY22 and FY23, slightly more than 38% of all MGB patients were covered by Commercial PPO/Indemnity Plans; followed by, on average, approximately 21% of patients covered by Medicare, 18% of patients covered by Commercial HMO/POS, 7.5% of patients covered by Commercial Medicare, 6% of patients covered by Other, 5.8% of patients covered by MassHealth, and 3% of patients covered by Managed Medicaid. Percentages were largely unchanged between FY22 and FY23. Payer mix for MGB is illustrated in the table below.

Table 2: MGB Payer Mix	**FY22**	**FY23**	**FY24[3]**
Commercial (PPO/Indemnity)[4]	38.49%	38.69%	
Commercial (HMO/POS) [5]	18.15%	17.30%	
Medicare[6]	21.59%	21.09%	
Commercial Medicare	7.45%	7.87%	
MassHealth	6.04%	5.71%	
Managed Medicaid	2.25%	3.37%	
Other[7]	6.03%	5.98%	
Total	**100.00%**	**100.00%**	

B. Salem Hospital

Salem Hospital serves a diverse patient panel of over 225,000 individuals across several communities, including Danvers, Lynn, Lynnfield, Marblehead, Nahant, Peabody, Salem, and Swampscott. The Hospital provides a broad range of emergency, inpatient, and outpatient services through its main campus and satellite facilities, such as the Mass General Brigham Healthcare Centers in Lynn and Danvers. The Hospital's overall number of patients is increasing year over year, with nearly 10,000 more patients seen in FY2024 than in FY2022, an increase of nearly 4.5%. The below table illustrates the demographic breakdown of the Hospital's Patient Panel.

[3] To be provided when available.
[4] Commercial plans without an identified product type were included in the PPO/Indemnity product category.
[5] Includes ConnectorCare plans.
[6] Includes Medicare supplements.
[7] Includes Free Care, TriCare, VA, Uninsured COVID-19 tests, Workers Compensation, International, and other uncategorized plans.

Table 3: Salem Hospital Panel Demographics	FY22 Count	FY22 Percent	FY23 Count	FY23 Percent	FY24 Count	FY24 Percent
Hospital Total	**217,010**	**100%**	**223,256**	**100%**	**226,637**	**100%**
Gender: Female	128,158	59.06%	131,335	58.83%	133,474	58.89%
Gender: Male	88,834	40.94%	91,899	41.16%	92,852	40.97%
Gender: Other/Unknown	18	0.01%	22	0.01%	38	0.02%
Age: 0-17	21,428	9.87%	23,117	10.35%	24,220	10.69%
Age: 18-64	123,634	56.97%	128,933	57.75%	132,045	58.26%
Age: 65+	71,948	33.15%	71,206	31.89%	70,353	31.04%
Age: Unknown	-	0.00%	-	0.00%	19	0.01%
Race: American Indian or Alaska Native	365	0.17%	399	0.18%	429	0.19%
Race: Asian	7,019	3.23%	7,401	3.32%	7,656	3.38%
Race: Black or African American	13,852	6.38%	14,307	6.41%	14,746	6.51%
Race: Other/Unknown[8]	23,969	11.05%	26,179	11.73%	27,459	12.12%
Race: Native Hawaiian or Other Pacific Islander	168	0.08%	167	0.07%	167	0.07%
Race: White	171,637	79.09%	174,803	78.30%	176,180	77.74%
Patient Origin: HSA_1	372	0.17%	355	0.16%	323	0.14%
Patient Origin: HSA_2	1,101	0.51%	1,102	0.49%	988	0.44%
Patient Origin: HSA_3	33,406	15.39%	35,382	15.85%	35,293	15.57%
Patient Origin: HSA_4	16,346	7.53%	16,036	7.18%	17,013	7.51%
Patient Origin: HSA_5	1,261	0.58%	1,165	0.52%	1,114	0.49%
Patient Origin: HSA_6	154,045	70.99%	159,769	71.56%	163,159	71.99%
Patient Origin: Outside of MA	10,414	4.80%	9,392	4.21%	8,694	3.84%
Patient Origin: In MA but not in HSA 1-6	65	0.03%	55	0.02%	53	0.02%

[8] Includes other race categories that did not include enough patients to be separately reported for confidentiality.

Age: Data for FY22-FY24 show that the majority of Salem Hospital's Patient Panel is between the ages of 18-64 (consistently between 57% - 58%) with the next largest group being Age 65+ (more than 30%) Younger patients, ages 0-17, make up less than 11% of the Hospital's Patient Panel.

Gender: Salem Hospital's Patient Panel is approximately 59% female and 41% male. These percentages remained consistent between FY22 and FY24.

Race and Ethnicity: Data based on self-reporting demonstrates that between FY22 and FY24, the majority of Salem Hospital's patients self-identified as White (more than 77% in each year). Patients also self-identified as African American (more than 6%); Asian (slightly more than 3%); American Indian or Alaska Native (0.2%); and Native/Hawaiian or Other Pacific Island (0.1%). Roughly 10% of patients identified as another race or declined to report. Since patients were grouped into these categories based on how they self-identified, there is a portion of the patient population that either chose not to report their race or identified as a race that did not align with the above categories. As a result, it is important to note that the racial composition of Salem Hospital's patients may be understated.

Geographic Origin: The majority of Salem Hospital's Patient Panel comes from HSA Region 6, approximately 72% of patients in FY2024. 16% of patients are from HSA 3, followed by 7.41% from HSA 4.

Payer Mix: Between FY22 and FY24, nearly 30% of patients to Salem Hospital were covered by Medicare. Approximately 16% were covered each by Commercial (HMO/POS) and Commercial Medicare, while approximately 11% were covered by Commercial (PPO/Indemnity). The most significant change across the timeframe was the decline in MassHealth patients, from 19.37% in FY22 to 12.19% in FY24. This decline was accompanied by an increase in Managed Medicaid patients, which went from 3.46% in FY22 to 8.76% in FY24.

Table 4: Salem Hospital Payer Mix	**FY22**	**FY23**	**FY24**
Commercial (PPO/Indemnity)[9]	11.56%	11.53%	11.28%
Commercial (HMO/POS) [10]	15.83%	15.72%	16.84%
Medicare[11]	29.83%	29.99%	29.80%
Commercial Medicare	14.69%	15.18%	16.06%
MassHealth	19.37%	16.55%	12.19%
Managed Medicaid	3.46%	6.31%	8.76%
Other[12]	5.26%	4.71%	5.07%
Total	**100.00%**	**100.00%**	**100.00%**

C. Salem Hospital Outpatient CT

Salem Hospital currently operates five (5) CT units on its main campus. These units are nearing capacity due to increasing demand, as demonstrated by the below table. The number of unique outpatient CT patients at Salem Hospital increased by nearly 3,000, representing an increase of 11% over three (3) years. The increased need for CT has resulted in long wait times and increased no-show appointments. The proposed placement of a CT unit at the Healthcare Center in Lynn will expand access to CT for the Hospital's panel while specifically addressing the need for CT by Lynn residents in a convenient location.

[9] Commercial plans without an identified product type were included in the PPO/Indemnity product category.
[10] Includes ConnectorCare plans.
[11] Includes Medicare supplements.
[12] Includes Free Care, TriCare, VA, Uninsured COVID-19 tests, Workers Compensation, International, and other uncategorized plans.

Table 5: Salem Hospital Outpatient CT Panel Demographics	FY22 Count	FY22 Percent	FY23 Count	FY23 Percent	FY24 Count	FY24 Percent
Salem CT Total	**25,499**	**100%**	**27,449**	**100%**	**28,459**	**100%**
Gender: Female	14,244	56%	15,389	56%	15,914	56%
Gender: Male	11,254	44%	12,059	44%	12,542	44%
Gender: Other/Unknown	<11	0%	<11	0%	<11	0%
Age: 0-17	407	2%	585	2%	589	2%
Age: 18-64	13,349	52%	14,032	51%	14,155	50%
Age: 65	11,743	46%	12,832	47%	13,715	48%
Race: American Indian or Alaska Native	38	0%	32	0%	43	0%
Race: Asian	554	2%	661	2%	628	2%
Race: Black or African American	1,267	5%	1,338	5%	1,478	5%
Race: Hispanic/Latino	4,258	17%	5,012	18%	5,273	19%
Race: White or Caucasian	18,782	74%	19,752	72%	20,401	72%
Race: Other/Unknown	600	2%	654	2%	636	2%
Patient Origin: Primary	20,456	80%	22,232	81%	22,811	80%
Patient Origin: Secondary	2,563	10%	2,651	10%	2,847	10%
Patient Origin: Tertiary	739	3%	756	3%	813	3%
Patient Origin Outside General Area / Unknown	1,741	7%	1,810	7%	1,988	7%
Patient Origin: Lynn	8,468	33%	9,301	34%	9,521	33%

Age: Nearly half of all outpatient CT patients at Salem Hospital are Age 65+. The percent of outpatient CT patients Age 65+ has also been steadily increasing year-over-year. Only 2% of CT patients are Age 17 or younger. These percentages were consistent across all three years.

Gender: Salem Hospital's CT patients were approximately 56% female and 44% male across FY22-FY24.

Race and Ethnicity: Data based on self-reporting demonstrates that between FY22 and FY24, the majority of Salem Hospital's CT patients self-identified as White (approximately 73% across the three years). More than 15% of patients in each year identified as Hispanic or Latino. CT Patients also self-identified as African American (5% each year) and Asian (2%).

Patient Origin: More than 80% of patients in each year came from Salem Hospital's primary service area, which includes the Salem and Lynn communities. Of note, one third of Salem Hospital's total CT patients originated in Lynn.

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.

Salem Hospital requests approval to add a CT unit at its existing satellite location in Lynn to meet growing demand for CT imaging by the Hospital's patients and provide a co-located access point for patients who face barriers accessing care at the Hospital. The Hospital currently operates five (5) CT units, including two (2) dedicated outpatient units, all located at the Hospital's Main Campus in Salem. For the past three years CT utilization at the Hospital has increased and is expected to grow significantly in the next five years as the need for these services increases. Moreover, the Proposed Project will provide access to high-quality, outpatient CT in a convenient location that is home to one third of the Hospital's current CT patients. The addition of a CT service at Lynn will not only provide timely access to CT for the Patient Panel but will improve geographic access to CT for the Hospital's patients.

A. Historical Utilization

Patients obtain routine CT imaging services at Salem Hospital on one of two dedicated outpatient units. Both machines are available for appointments seven days per week from 7:30 am to 5:00 pm. Demand for CT has grown by more than 6% since FY2022 and cannot be met by the existing units. Even with extended hours of operation, the units are operating above 90% capacity and outpatient appointments have a wait time of 30 days.[13]

As illustrated in Table 6 (CT Patient Panel), more than half of patients receiving CT services at Salem Hospital are at least 65 years old. The most common reasons for CT imaging performed at Salem Hospital are low dose lung cancer screening, including annual screens and follow up imaging from

[13] Based on third available appointment as of December 16, 2024.

initial screens; oncology including initial cancer staging and follow up of known cancer[14]; diverticulitis, abdominal pain, suspected kidney stone; and head trauma, all of which are often urgently needed. The table below illustrates the increased demand for CT imaging at Salem Hospital.

Table 6: Historical CT Volume	FY22	FY23	FY24	Three Year Growth
Outpatient CT	15,415	16,155	16,370	6.2%
Other CT Volume[15]	32,252	36,432	39,018	20.9%
Total	47,667	52,587	55,388	16.2%

B. Impact of Demand on Access

Despite having two dedicated outpatient CT units, the units are operating at capacity, necessitating the addition of a third outpatient unit. Salem Hospital is the North Shore's largest healthcare provider. As demand for outpatient CT imaging increased in recent years, Salem Hospital extended its imaging hours to include full days on Saturday and Sunday to improve access for patients. This expanded schedule provided timelier access for more patients; however, the current and projected demand for CT can no longer be met through extended hours.

Moreover, the volume of scans being performed has led to increased downtime for both machines. Because the existing units are overutilized due to expanded hours of operation, they require maintenance and repair more frequently. In FY2023, the outpatient CT units were offline for 138 hours due to scheduled and unscheduled maintenance. The number of downtime hours increased 65% in FY2024 to 227 hours, further compounding appointment availability. Increased periods of scheduled and unscheduled maintenance further impacts wait times.

The availability of appointments, including for patients who are referred for urgent, but not emergent, imaging, continues to decrease. Current wait times three weeks for routine appointments, while patients for lung cancer screenings or cardiac CT have wait times of six weeks out.[16]

Scheduling delays contribute to the Hospital's significant rate of patients who do not come in for their scheduled appointment. In FY2024, Salem Hospital's outpatient CT department's missed appointment rate was 7%, twice the national average for diagnostic imaging appointments.[17] This translates into 1,200 appointments that are then unavailable for other patients. Given the correlation between scheduling delay and missed appointments, the no-show rate is unlikely to improve unless wait times first decrease.[18]

C. Projected Growth and Future Demand

As noted earlier, the Hospital's outpatient CT service is operating at a capacity, placing a significant toll on the existing CT units, and causing unintended impact on access for patients. Without additional capacity, the CT units will require more and more downtime, in turn reducing the number

[14] The most common cancer diagnoses among the Hospital's patients are colon cancer, breast cancer, non small cell lung cancer metastasis, ovarian cancer, and pancreatic cancer.
[15] Salem Hospital has three CT non-outpatient units which are used for both emergency cases and inpatients.
[16] Based on third available appointment.
[17] https://www.diagnosticimaging.com/view/decreasing-no-show-rates-radiology. *See also* https://radiologybusiness.com/topics/medical-imaging/ultrasound-imaging/no-shows-radiology-most-common-mammogram-ultrasound
[18] H. Benjamin Harvey, MD, JD *et* al. Predicting *No-Shows in Radiology Using Regression Modeling of Data Available in the Electronic Medical Record https://www.jacr.org/article/S1546-1440(17)30583-5/abstract*

of scans the Hospital can provide each year. Therefore, an additional CT machine is needed to meet current and future demand for outpatient CT imaging.

The Proposed Project will add a CT service in Lynn at the Hospital's existing satellite, the Healthcare Center. Lynn is the largest of the eight communities in Salem Hospital's service area and has the youngest and most racially/ethnically diverse population and the highest concentration of foreign-born residents in the region. Compared to the other communities in the service area, Lynn's educational attainment is lower while unemployment and poverty rates are higher. While Lynn has the lowest home values and lowest proportion of homes with computers and internet access, the city also has the highest rates of mortgage and rent burden. Lynn has also had higher rates of emergency department visits and inpatient discharges for mental health, more hospitalizations for non-fatal overdoses, and the highest rates of substance use treatment admissions.

Expanding the Hospital's CT service into Lynn will provide improved access to advanced imaging for this diverse community. Given the location of the Healthcare Center, it is a more convenient option for Lynn residents than Salem Hospital or Mass General Hospital's cancer satellite in Danvers. As noted in Salem Hospital's 2022 CHNA, 8% of community survey respondents indicated that they face transportation challenges and 15.9% selected transportation as one of the top three things hospitals should address to improve community health. Moreover, 18.5% of respondents said transportation was a barrier to care. The Proposed Project seeks to directly address barriers to care for the Lynn community by co-locating CT services with existing primary care, urgent care, and gastroenterology care services currently available in Lynn. The Hospital also anticipates that by providing CT imaging within walking distance to the urgent care services on site, patients will choose these nearby services instead of going to the emergency department, in turn reducing capacity constraints at the Hospital.

The Proposed Project will also allow the Hospital to provide cardiac CT imaging, which currently is only available in Danvers through Mass General Hospital. Currently, none of the CT units operated by Salem Hospital have the capability to perform cardiac CT procedures but 50% of orders performed at Danvers are made by Salem Hospital providers. By choosing the Healthcare Center as the location of this new CT service, the Proposed Project will not only provide more convenient access to CT for Lynn residents but also will offer closer access to cardiac CT imaging for the southern communities of the Hospital's service area. Moreover, wait times for cardiac CT are approximately six (6) weeks. The Proposed Project will significantly reduce wait times because of the additional capacity created in the service area by the new CT unit.

Based on historical volume trends and population projections, Salem Hospital projects that CT volume will continue to grow. A recent market analysis of outpatient imaging found that the need for CT in Salem Hospital's service area will grow significantly over the next five years. The population of the Hospital's primary service area is projected to increase by approximately 4.3% from 2022 to 2027.[19] In particular, the age 70 and older cohort is expected to grow by approximately 34% from 2025 to 2050, including 26% growth between years 2025 and 2035.[20] As the Hospital's service area ages, patients will more frequently require advanced diagnostic imaging to diagnose and treat age-related conditions. The Proposed Project will meet the community's need for cardiac CT and lung cancer screening as well as recapture missed and cancelled appointments due to wait times. Table 7 below details the Hospital's CT volume projections following implementation of the Proposed Project.

[19] GE Healthcare, Proprietary report prepared February 12, 2024.
[20] *Mass. Population Projections*, Univ. of Mass.: Donahue Inst. (2024), http://www.pep.donahue-institute.org/.

Table 7: Projected CT Volume	FY2026	FY2027	FY2028	FY2029	FY2030
Annual Scans – Lynn Only	12,740	13,589	14,439	15,288	16,137

As described throughout this section, the Proposed Project will address the current and future need of the Patient Panel for access to timely CT within their community. A third outpatient CT unit in Lynn will provide capacity to so that all CT services are more accessible, resulting in the ability to more quickly diagnose patients and initiate treatment. Moreover, expanding capacity in Lynn will reduce geographic and transportation-related barriers to access high quality CT services. Through the Proposed Project, Salem Hospital will improve access to care, health outcomes and patient experience, meeting an identified need of its patients.

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 or other recognized measures of health care spending through the provision of expanded access to CT in a convenient location for the Lynn community. As discussed in Factors F1.a.i and F1.a.ii, Salem Hospital's existing CT service is operating near full capacity, which can cause delayed access to CT imaging particularly for outpatients and patients requiring cardiac CT. Significant wait times increase the probability of missed appointments, further contributing to longer wait times for patients. Moreover, delayed diagnosis often not only results in delayed treatment, but also treatment of a more advanced concern. In turn, the overall cost of care increases significantly as the patient's medical condition worsens. The Proposed Project will create timely and convenient expand access to CT services in Lynn, expediting diagnosis and ultimately treatment. This will reduce healthcare costs by allowing care to be initiated when the acuity of a patient's medical condition is less acute and less costly to treat.

Finally, the Proposed Project will create CT services in a convenient location co-located with several other existing Salem Hospital Services, including urgent care. The new CT service is expected to improve access for patients who already receive care at the Healthcare Center when they require CT due to this convenience, further improving adherence to CT orders and scheduling. Based on these considerations, the Proposed Project is necessary to meet the Patient Panels' need, ensure timely access to care, provide timely diagnosis and treatment, and contain health care costs.

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 addition of a CT unit at the Healthcare Center will advance and support the needs of Lynn's diverse community by increasing timely access to CT imaging, decreasing delay in diagnosis and treatment, and increasing access to interventional CT procedures. The use of diagnostic imaging in the United States, including imaging with CT, has increased significantly over the last two decades.[21]

[21] Rebecca Smith-Bindman et al., *Rising Use Of Diagnostic Medical Imaging In A Large Integrated Health System*, 27 Health Affairs 1491 (2008), https:www.ncbi.nlm.nih.gov/pmc/articles/PMC2765780/pdf/nihms- 137739.pdf; Rebecca Smith-Bindman et al., *Use of*

Several factors have contributed to this increase, including advancements in technology (e.g., improvements in techniques, resolution, and acquisition time) and the expansion of clinical applications (particularly to diagnose and treat age-related conditions).[22] The development and improvement in these advanced diagnostic imaging technologies is widely credited with leading to improved patient outcomes, through earlier and more accurate diagnoses of disease using noninvasive techniques, as well as improved patient care processes.[23] As provided in greater detail below, the Proposed Project is supported by extensive evidence-based literature regarding the efficacy and utility of CT technology, which the Applicant relies on to demonstrate that CT imaging is an essential component of health care.

A. 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.[24] As a result, CT imaging produces more clear, detailed images than conventional x-rays, making CTs extremely useful in detecting, for example, tumors or lesions within the abdomen and lungs; heart disease or abnormalities of the heart; head injuries; and blood clots and embolisms.[25] CT is also useful in diagnosing disease, trauma, and abnormality; planning and guiding procedures; and monitoring the effectiveness of therapy.[26] CT-guided interventional radiology is used to perform diagnostic and therapeutic medical procedures to treat neurological conditions, cancer, heart disease, spinal problems, and vascular disease, among others.[27] CT scans can generally be performed in minutes, which means providers can quickly detect and diagnose emergent conditions.

The new CT scanner will be a photon-counting CT with improved imaging and diagnostic characteristics. Photon-counting CT uses a semiconductor material to convert each photon into an electrical signal, quickly scanning and "counting" each individual photon to provide a clearer image.[28] Photon-counting CT is much more dose efficient than standard CT, meaning patients can receive a lower dose of radiation and less use of contrast dye.[29] Furthermore, the improved spatial

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Diagnostic Imaging Studies and Associated Radiation Exposure For Patients Enrolled in Large Integrated Healthcare Systems, 1996-2010, JAMA Network (June 13, 2012), https://jamanetwork.com/journals/jama/fullarticle/1182858; Robert J. McDonald et al., *The Effects of Changes in Utilization and Technological Advancements of Cross-Sectional Imaging on Radiologist Workload*, 22 Academic Radiology 1191 (2015); Michael Walter, *Feeling overworked? Rise in CT, MRI images adds to radiologist workload*, Radiology Business (Jul. 31, 2015), https://radiologybusiness.com/topics/medical-imaging/magnetic-resonance-imaging-mri/feeling-overworked-rise-ct-mri-images-adds; *Increases in Imaging Procedures, Chronic Diseases Spur Growth of Medical Imaging Informatics Market*, Imaging Technology News (Oct. 28, 2016), https://www.itnonline.com/content/increases-imaging-procedures-chronic-diseases-spur-growth-medical-imaging-informatics.

[22] Health Affairs, *supra* note 20; Jama Network, *supra* note 20; McDonald et al., *supra* note 20; Walter et al., *supra* note 20; Imaging Technology News, supra note 20.

[23] Health Affairs, *supra* note 20; Jama Network, *supra* note 20; McDonald et al., *supra* note 20; Walter et al., *supra* note 20; Imaging Technology News, *supra* note 20.

[24] *See Computed Tomography (CT)*, Nat'l Inst. of Biomedical Imaging and Bioengineering, https://www.nibib.nih.gov/science-education/science-topics/computed-tomography-ct (last visited Feb. 24, 2022); *CT Scan*, Mayo Clinic, https://www.mayoclinic.org/tests-procedures/ct-scan/about/pac-20393675 (last visited Feb. 24, 2022).

[25] *See* Yvette Brazier, *How Does a CT or CAT scan work?*, MedicalNewsToday, https://www.medicalnewstoday.com/articles/153201#procedure (last modified June 23, 2017).

[26] Carlo Liguori et al., *Emerging clinical applications of computed tomography,* 8 Med. Devices 265 (2015), *available at* https:/lwww.ncbi.nlm.nih.gov/pmclarticles/PMC4467659/; *Computed Tomography*, RadiologyInfo.org, https:/lwww.radiologyinfo.org/en/submenu.cfm?pg=ctscan (last visited Jun. 29, 2018); *Computed Tomography (CT),* U.S. Food & Drug Administration, https://www.fda.gov/radiation-emitting-products/medical-x-ray-imaging/computed-tomography-ct (last updated Mar. 7, 2018).

[27] Elizabeth Hanes, RN, What is Interventional Radiology?, DignityHealth, https://www.dignityhealth.org/articles/what-is-interventional-radiology (Aug. 26, 2017).

[28] Chantelle Lachance and Jennifer Horton, *Photon-Counting CT: High Resolution, Less Radiation*, Emerging Health Technologies (Feb. 2024), https://www.ncbi.nlm.nih.gov/books/NBK602525/.

[29] *Understanding the Technology Behind Photon-Counting CT*, SIEMENS HEALTHINEERS, https://www.siemens-healthineers.com/en-us/computed-tomography/technologies-and-innovations/photon-counting-ct.

resolution of photon-counting CT can improve diagnostic ability by providing more detailed, subtle image findings.[30] Scans performed with a photon-counting CT unit also require less time to complete compared to conventional systems.[31]

Finally, literature on patterns of CT use indicate that imaging rates tend to be higher among older adults.[32] According to a study published in 2013, average CT utilization rates were approximately 24, 72, 159, and 240 per 1,000 persons for ages <18, 18-44, 45-54 and 65+ years, respectively.[33] The high CT imaging rates among older adults are likely related to the modalities' abilities to diagnose and treat age-related conditions.

B. Clinical Application

CT is an essential and invaluable tool in the diagnosis and treatment of patients. In addition to its general diagnostic utility, CT is the preferred diagnostic tool for patients with suspected heart diseases and is necessary for urgent care services and an essential tool in screening for lung cancer on an annual basis.

1. Cardiac Screening and Evaluation

CT imaging can be used for cardiac coronary computed tomography angiography ("CTA") to visualize coronary arteries and help aide in the diagnosis and need for intervention.[34] CTA scans are noninvasive tests used to create a three-dimensional image of a patient's heart.[35] These exams help detect the presence and impact of narrowing in the coronary arteries, allowing clinicians to better diagnose and treat cardiac problems. By using contrast dye during a CTA, clinicians can determine if artery blockages are present in a patient's heart or if chest pain is caused by other issues.[36] Further, standard CT scans can also be used to diagnose a range of other cardiovascular conditions, including calcium buildup[37] and coronary artery disease.[38] Of importance, CT imaging has the ability to reliably exclude coronary artery disease without being invasive.[39]

2. Urgent Care

Urgent care represents an intermediary between primary care physicians and emergency rooms, helping patients who require prompt medical attention but do not have life-threatening conditions.[40] CT scans are important diagnostic tools for treating urgent medical conditions such as head and brain injuries, as well as cardiac conditions, due to CT's ability to provide rapid, detailed imaging of

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[30] Andrea Esquivel *et al.*, *Photon-Counting Detector CT: Key Points Radiologists Should Know*, KOREAN JOURNAL OF RADIOLOGY (Aug. 2022), https://pmc.ncbi.nlm.nih.gov/articles/PMC9434736/.

[31] Chantelle Lachance and Jennifer Horton, *Photon-Counting CT: High Resolution, Less Radiation*, Emerging Health Technologie(Feb. 2024), https://www.ncbi.nlm.nih.gov/books/NBK602525/.

[32] Smith-Bindman et al., *supra* note 20; Kathleen Lang et al., National trends in advanced outpatient diagnostic imaging utilization: an analysis of the medical expenditure panel survey, 2000-2009, BMC Med. Imaging, (2013) available at https://pubmed.ncbi.nlm.nih.gov/24279724/.

[33] Lang et al., *supra* note 31.

[34] Coronary CTA, RadiologiyInfo.org available at https://www.radiologyinfo.org/en/info/angiocoroct (last visited March 8, 2023).

[35] *Cardiac Computed Tomography Angiography (CCTA)*, AMERICAN HEART ASSOCIATION (Apr. 12, 2023), https://www.heart.org/en/health-topics/heart-attack/diagnosing-a-heart-attack/cardiac-computed-tomography.

[36] *Id.*

[37] *Coronary Calcium Scan*, MAYO CLINIC (July 22, 2023), https://www.mayoclinic.org/tests-procedures/heart-scan/about/pac-20384686#:~:text=A%20coronary%20calcium%20scan%20is,disease%20before%20you%20have%20symptoms.

[38] *CT Scan for Coronary Artery Disease*, YALE MEDICINE (last visited Nov. 19, 2024), https://www.yalemedicine.org/conditions/ct-scan-for-coronary-artery-disease.

[39] The director of cardiac CT/MRI Imaging at Yale Medicine's Department of Radiology & Biomedical Imaging described CT as "probably the only imaging method to reliably exclude coronary artery disease when other methods are either invasive, cannot detect early coronary artery disease or don't have the capability of characterizing an atherosclerotic lesion." *Id.*

[40] *Do Urgent Care Centers Have CT Scans?*, AETHER HEALTH (Apr. 22, 2024), https://aetherhealth.org/do-urgent-care-centers-have-ct-scans/.

the body's internal structures.[41] CT imaging can also help diagnose internal injuries or damage, such as internal bleeding.[42] In an urgent care setting in which time is critical, CT scans are essential for identifying potential life-threatening injuries, allowing clinicians to make informed decisions about treatment plans, prioritize the required interventions, and improve patient outcomes.[43] Furthermore, urgent care facilities with CT capabilities can help alleviate pressure on overcrowded emergency departments by allowing patients to receive CT scans at an urgent care facility rather than referring those same patients to the emergency room and allowing emergency departments to focus on patients with life-threatening conditions.[44]

3. Low-Dose Lung Cancer Screening

In the United States, there were approximately 135,720 deaths in 2020 due to lung cancer, making it the leading cause of cancer-related deaths.[45] Approximately 8 million Americans qualify as high risk for lung cancer and are recommended to receive annual screening with low-dose CT ("LDCT") scans.[46] Screening with LDCT for those at high risk can decrease lung cancer mortality by 14% to 20%.[47] LDCT has been underutilized with only 12.5% of the eligible population receiving this screening exam.[48] In Massachusetts, only 11.9% of those with a high-risk of lung cancer were screened in 2023.[49] If half of the high risk individuals were screened, over 12,000 deaths from lung cancer could be prevented.[50]

The US Preventive Services Task Force (USPSTF) recommends yearly lung cancer screening using LDCT for people who:

- Have a 20 pack-year[51] or more smoking history, *and*
- Smoke now or have quit within the past 15 years, *and*
- Are between the ages of 50 and 80 years old.[52]

Patients who meet these criteria are recommended to continue annual screenings each year they meet these criteria. Screening should stop once the patient reaches the age of 81, has not smoked in 15 years, develops a health problem that makes him or her unwilling or unable to have curative lung surgery or develops a health problem that will significantly limit life expectancy.[53] Improving access to LDCT will reduce barriers for eligible individuals to receive screening, in turn improving screening rates and the number of lung cancer cases that are detected early and can receive

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[41] *CT (Computed Tomography) Scan*, CLEVELAND CLINIC (June 13, 2023), https://my.clevelandclinic.org/health/diagnostics/4808-ct-computed-tomography-scan.
[42] *Id.*
[43] *Do Urgent Care Centers Have CT Scans?*, AETHER HEALTH (Apr. 22, 2024), https://aetherhealth.org/do-urgent-care-centers-have-ct-scans/.
[44] *See, e.g.,* Benjamin Barlow, *Urgent vs. Emergent: Alleviating Overcrowded Emergency Room Pressures*, MEDCITY NEWS (Jan. 5, 2024), https://medcitynews.com/2024/01/urgent-vs-emergent-alleviating-overcrowded-emergency-room-pressures/.
[45] *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.
[46] *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).
[47] *Id.*
[48] 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.
[49] *Lung Cancer Key Findings*, American Lung Association, https://www.lung.org/research/state-of-lung-cancer/key-findings (last modified June 7, 2024).
[50] *Id.*
[51] A pack-year is defined as 20 cigarettes smoked every day for one year, or 40 cigarettes smoked every day for 6-months.
[52] *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*.
[53] *Id.*

treatment. Most recently, CMS expanded eligibility in 2022 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.[54]

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 Proposed Project will provide public health value by improving access to high-quality CT imaging in the Hospital's Service Area, thereby improving health outcomes and patient satisfaction. To assess the impact of the Proposed Project, the Applicant developed the following quality metrics, including baseline and metric projections. The measures are provided below:

1. **Access - Wait times**

	Baseline (FY24)	Year One	Year Two	Year Three
Outpatient Wait Times (days)	30 days	7 days	14 days	21 days

2. **Access – Lung Cancer Screening Volumes**

	Baseline (FY24)	Year One	Year Two	Year Three
# of Annual Screenings	2082	2150	2200	2250

3. **Quality - Patient Experience Scores**

	Baseline (FY24)	Year One	Year Two	Year Three
Net Promoter Score	68	70	75	80

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.

To ensure health equity to all patients and communities, the Proposed Project will improve accessibility to high-quality CT imaging regardless of financial and payer status. The Hospital does not discriminate based on ability to pay or payer source and this practice will continue following implementation of the Proposed Project. As further detailed throughout this narrative, the Proposed Project will increase access to outpatient CT imaging for the Applicant's Patient Panel.

The Applicant addresses health inequities in a variety of ways. As part of this mission, the Hospital collects patient demographic data including race, ethnicity, language, disability, sexual orientation,

[54] *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.

and gender identity. The Applicant and Salem Hospital then analyze data to identify areas of disparity. Further, medical interpreter services are available, including interpreters for radiology and CT patients. The Hospital has a Qualified Bilingual Support program where staff and providers are assessed for competence in a language other than English, and who can speak directly with patients in that language. Bilingual staff are available to provide direct services to Spanish-speaking patients, and outside vendors are retained for all other languages. In-person interpreters are available for patients speaking Spanish or American Sign Language, while video and telephonic interpreter services are available for all patients with low English proficiency. In FY2023, all forms of interpreter services were used during 89,347 visits.

All primary care patients at the Healthcare Center are screened for social determinants of health at least annually using a standard Mass General Brigham questionnaire. Patients who screen positive are connected to a community health worker to address their needs and connect them to community resources. Moreover, Salem Hospital works to systemically address social needs of its community. One of the biggest social needs of the Healthcare Center's patients is access to nutritious, culturally appropriate food. To address that need, in the spring of 2022 Salem Hospital partnered with The Food Project in Lynn to build a community farm on the Healthcare Center's property. There are currently 17 raised vegetable beds, and the produce is distributed weekly from June through October to eligible patients. This is part of larger 'Food is Medicine' community collaboration in Lynn. Mass General Brigham provided $1.85M for a food hub in downtown Lynn that includes a food pantry, a state-of-the-art teaching kitchen, and available navigation support, such as SNAP enrollment.

Additionally, Salem Hospital's financial assistance transportation policy applies to patients receiving medical services at the Healthcare Center. Eligible MassHealth and Health Safety Net patients are provided with free transportation to/from their medical appointments. Accordingly, the Applicant and Salem Hospital have, and continue to, ensure social determinates of health are incorporated into the delivery of care.

As a system, MGB launched United Against Racism, a statewide initiative for becoming an anti-racist organization. In doing so, MGB committed to a series of specific timelines and metrics of success based on input from staff, leadership, and the Board of Trustees. Highlights of those efforts include, among others:

- removing race in clinical protocols – where too often in the healthcare system a patient's race has played a role in clinical decision tools and policies;
- increased screening and resources to reduce health gaps such as food insecurity, housing needs, and other determinants of health across 22 primary practices;
- improving access for all patients through screening for digital access and providing education and navigation by a team of bilingual digital access coordinators who collectively speak Spanish, Portuguese, Haitian, Creole, Arabic, Russian, Mandarin, Cantonese, and Cape Verdean Creole;
- building a culture of health equity improvement by funding 18 grants that aim to reduce racial disparities in patient outcomes;
- established a Doula Care program which matches Black and indigenous nulliparous pregnant patients planning vaginal birth with diverse Doulas to provide culturally and language concordant support & established a funded scholarship program to train 20 diverse doulas;
- enrolling more than 1,621 patients not at goal for Hypertensive Blood Pressure control in a CHW-based intervention inclusive of remote monitoring, education, navigation, and social risk mitigation;

- expanding on mobile community care model to deliver blood pressure checks and services to prevent substance use disorder; improving accuracy of patient race, ethnicity and language data to better identify and address health disparities;
- implementing a Patient Code of Conduct, setting standards for patient behavior with respect to racism and discrimination.

This work is led by MGB senior leadership – The Chief Community Health and Health Equity Officer and Associate Chief Health Equity Officer - both highly respected clinicians with a lifelong dedication to providing all patients with exceptional care; and becoming a greater force for equity and inclusion. Through the Applicant's United Against Racism program, staff training is offered to increase cultural competency including unconscious bias. Leaders are required to participate in diversity, equity, and inclusion training. These examples and MGB's recent $50 million investment in community and mental health are just some of the ways MGB strives to enable real progress.

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 facilitate improved health outcomes and quality of life for the Applicant's Patient Panel by ensuring patients have timely access to CT in their community which will reduce transportation barriers that may limit a patient's ability to receive services in Salem or Danvers. The location of the Proposed Project does not currently offer CT services, requiring patients to obtain CT imaging at the Hospital's Danvers location. Providing access to CT services in Lynn will allow Lynn residents to have a more convenient option to access outpatient CT imaging, reducing wait times for outpatient CT scans at Salem Hospital and helping to eliminate no-shows from patients who otherwise would have to travel long distances for CT services. Currently, one third of the Hospital's CT patients reside in Lynn; the Proposed Project will allow for much more convenient CT services for this population while helping reduce demand at the Hospital's main location. Access to CT imaging will contribute to improved health outcomes for all patients whose condition requires CT to facilitate a diagnosis and treatment planning. In sum, Salem Hospital is committed to promoting health equity and ensuring all patients can access the Hospital's services in the right location at the right time. The Applicant anticipates the Proposed Project will result in improved patient experience and quality outcomes while assuring health equity.

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

The Proposed Project will ensure continuity of care, improved health outcomes, and enhanced quality of life by providing case management/social work support and integration and coordination of care for Applicant's patients. The Proposed Project will also greatly improve the range of healthcare available locally in Lynn. This will reduce transportation barriers to treatment, facilitating more timely, efficient, and effective diagnosis and treatment.

Furthermore, Salem Hospital's Electronic Medical Record ("EMR") serves as the primary linkage within the Hospital, across satellites, and with North Shore Physician Group primary care and specialty providers. This allows results to be communicated quickly using the same platform for all

providers. Further, critical findings for treating physicians within the MGB system will be communicated immediately and directly to the responsible clinician who can initiate the appropriate clinical action for the patient, using a closed loop communication within one hour. If a scan ordered by a clinician not on the MGB medical staff indicates critical results, the radiologist will inform the ordering or covering clinician and must document closed loop communication with the ordering or covering clinician, or the patient if the clinician cannot be reached.

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 the Proposed 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 **<u>Process for Determining Need/Evidence of Community Engagement:</u>**
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. Salem Hospital worked with and presented to current Healthcare Center patients as well as the Hospital's Community Advisory Board ("CAB") to provide information on the Proposed Project and address their questions.

On November 12, 2024, the Hospital's Director of Community Health presented the Proposed Project to the CAB as well as the resulting Community Health Initiative that the CAB would oversee. Additionally, the Executive Director of Radiology at Salem Hospital hosted a four-hour tabling event at the Healthcare Center on November 26, 2024. The event was attended by approximately 50 members of the community. Attendees provided positive feedback and seemed excited to have CT access in the community rather than having to go into the Hospital for CT services. Further, attendees expressed positive feedback about the ability to receive CT services in Lynn related to their urgent care needs rather than going to the emergency department.

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 took the actions detailed in Factor F1.e.i. In addition, the Applicant published two legal notices announcing the Proposed Project in *The Boston Herald* on November 29, 2024, and also posted a copy of such legal notice prominently on the Hospital's website. Please refer to Appendix 6 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 goals for cost containment in the Commonwealth center on providing high-quality care at a reasonable price. The Proposed Project is in line with these goals through its impact on improving timely access to advanced imaging. As discussed throughout this Application, the Proposed Project seeks to improve access to an essential component of diagnostic care for a range of conditions and concerns. Timely access to CT imaging improves timely diagnosis, directly impacting the commencement of treatment before the patient requires more costly care due to advanced disease. Lastly, CT services provided at the Healthcare Center will be reimbursed at the same rate as those provided at the Hospital; However, the availability of CT at the Healthcare Center is expected to reduce the number of patients who require CT at the Hospital's emergency department, which will result in lower overall charges. Accordingly, the Proposed Project will contribute to the Commonwealth's goals of cost containment by improving the Lynn community's 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.

As discussed in this Application, the Applicant anticipates demand for CT imaging will continue to increase as the Hospital's panel grows and ages. To ensure timely access to CT imaging it is necessary to have adequate capacity. The placement of an additional CT unit at the Healthcare Center in Lynn will increase capacity and provide timely access to CT imaging. Timely access will be

achieved by reducing wait times for all outpatients and providing cardiac CT in a more central location for the Hospital's panel. More timely access will facilitate treatment and result in improved patient experience and public health outcomes.

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.

The Applicant and Salem Hospital have numerous programs in place to ensure linkages to social service organizations. First, all primary care patients at the Healthcare Center are screened for social determinants of health at least annually using a standard Mass General Brigham questionnaire. Patients who screen positive are connected to a community health worker to address their needs and connect them to community resources. One of the biggest social needs of the Healthcare Center's patients is access to nutritious, culturally appropriate food. As noted earlier, Salem Hospital partnered with The Food Project in Lynn to build a community farm on the Healthcare Center's property as part of the larger 'Food is Medicine' community collaboration in Lynn. In addition, Mass General Brigham provided $1.85M for a food hub in downtown Lynn that includes a food pantry, a state-of-the-art teaching kitchen, and available navigation support, such as SNAP enrollment. Another commonly used linkage is the Hospital's transportation policy which provides free transportation to eligible MassHealth and Health Safety Net patients to and from their appointments, including those at the Healthcare Center. Accordingly, the Applicant and Salem Hospital have, and continue to, ensure social determinates of health are incorporated into the delivery of care.

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 addition of a CT unit at the Healthcare Center.

Quality: The Proposed Project is the superior option because of the impact it will have on patient experience and outcomes. With access to CT in the community, the Healthcare Center will have capacity to address the high volume of patients in need of a CT in a currently underserved community. The addition of a CT unit at Lynn will reduce delays in accessing treatment, reducing worse patient outcomes resulting from delayed diagnosis and treatment. Patients residing in Lynn currently have to travel elsewhere for CT services, causing delays and even leading patients to forgo necessary services. Adding capacity for

local CT services will reduce existing barriers to care and promote the provision of care within the community.

Efficiency: The acquisition of a CT unit will reduce delays in accessing care currently caused by traveling to the Hospital or the Mass General Cancer Center in Danvers for CT services.

Capital Expense: The total capital expenditure for the CT unit is $4,341,755.

Operating Costs: The first-year incremental operating expense of the Proposed Project is $1,706,881. By year five (5), operating costs are estimated to be $2,348,438.

Alternative Proposal: Placement of a sixth CT unit at Salem Hospital.

Alternative Quality: This alternative does not address geographic concerns related to Lynn patients' need for better access to CT imaging.

Alternative Efficiency: Wait times would likely decrease, similar to the reductions projected by the Proposed Project, but similar to quality outcomes, the placement of an additional unit at the Hospital would not reduce transportation barriers which contribute to delayed imaging and thus the potential for delayed diagnosis.

Alternative Capital Expense: The capital expense for adding a third outpatient CT unit at the Hospital would be more than the Proposed Project due to the amount of renovation required to create space for the additional unit. The location of the Proposed Project involves an empty shell space within the Healthcare Center and requires minimal demolition. Additionally, the shell space is closer to the utility connections required for the CT unit than any space that could be made available at the Hospital. For these reasons, the capital expense for this alternative would be greater than the Proposed Project.

Alternative Operating Costs: Operating costs would be similar to the Proposed Project.