

Dana-Farber Cancer Institute, Inc.
DoN # DFCI-23040915-HE
APPLICANT QUESTIONS #2

Responses should be sent to DoN staff at DPH.DON@State.MA.US

While you may submit each answer as available, please

- List question number and question for each answer you provide
- Submit responses as a separate word document, using the above application title and number as a running header and page numbers in the footer
- When providing the answer to the final question, submit all questions and answers in one final document
- Submit responses in WORD or EXCEL; only use PDF's if absolutely necessary. If "cutting and pasting" charts, provide them in a PDF so they can be clearly seen
- **Whenever possible, include a table with the response**
- **For HIPAA compliance Do not include numbers <11.**
- **When providing data, includes dates, and indicate whether it is Calendar (CY) or Fiscal Year (FY).**

Factor 1a: Patient Panel Need

1. **The application states while BWH and the Applicant have successfully collaborated to provide world-class cancer care for many years, the Applicant has determined that developments in cancer care require that operational and decision-making authority be vested in one entity for all licensed medical/surgical (M/S) that will serve as medical oncology beds to best serve patients and ensure the best outcomes (pg.2).**
 - a. **Explain why vesting operational and decision-making authority in one entity for all licensed beds will best serve the Applicant's Patient Panel and ensure the best outcomes over the current setup.**

Dana-Farber's sole focus is cancer. From initial diagnosis through treatment, surveillance, survivorship, and end-of-life care, Dana-Farber patients have an oncology care team that includes specialized oncologists, physician assistants, oncology nurses, pharmacists, and patient navigators, among others. Medical oncology serves as the nucleus of the patient's cancer treatment. The medical oncologist is responsible for coordinating the entire course of care, while a surgical oncologist or a radiation oncologist may take care of a patient for episodes of care (*i.e.*, through surgery or radiation therapy). The oncology care team is supplemented by non-cancer specialists, such as cardiologists and infectious disease specialists. In a dedicated cancer hospital with centralized operational and decision-making authority, everything, from policies and procedures to medico-administrative oversight, is organized around the care of cancer patients. All staff and clinicians are trained to understand the disease and symptoms of, and individual treatment regimens (including side effects and risks) for, cancer and are devoted to the care of cancer patients.

That specialization benefits Dana-Farber's patients and ultimately benefits cancer patients everywhere through the development and dissemination of next-generation cancer treatments, standards, and guidelines. Research shows outcomes are significantly better for cancer patients treated in dedicated cancer hospitals compared to those treated in general hospital settings, even when that general hospital

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is a National Cancer Institute-designated Cancer Care Center (“CCC”) or an Academic Medical Center (“AMC”).¹ Dana-Farber’s multidisciplinary care teams—including social workers, nutritionists, pharmacists, genetic counselors, palliative care providers, psychosocial providers, oncology nurse navigators, oncology resource specialists, and more—specialize in the unique issues that arise in the lives of cancer patients. They provide care for the whole patient and family over their long-term cancer journey. Dana-Farber also develops infrastructure dedicated to oncology care that improves the patient experience and reduces costs. For example, by establishing an Acute Care Clinic to provide oncology-specific urgent care, Dana-Farber reduced emergency room visits by 20% for patients seen in the Acute Care Clinic. Further, 80% of these patients were treated and sent home. In contrast, 80% of cancer patients seen in emergency rooms are admitted to the hospital.

In addition, the policies of a general hospital (*e.g.*, infection control policies) do not always serve the unique interests or needs of the cancer population. Conflicting recommendations regarding infection control resulted in conflicting practices caring for patients in Dana-Farber-licensed beds and Brigham and Women’s Hospital (“BWH”)-licensed beds (*e.g.*, with respect to masking, utilization of air-controlled spaces, triage of patient locations, allocation of staff). Further, certain benchmarking data recommended and adopted for National Cancer Institute-designated comprehensive cancer centers (*e.g.*, ability to administer intravenous antibiotics within 30 minutes of presentation with fever and neutropenia (an oncologic emergency)) are not routinely collected in general acute care hospitals, including AMCs, which makes collection of these data solely for the cancer patient population more difficult. Convincing a general acute care hospital’s administration to invest resources in the collection of these nationally recommended, cancer-specific quality benchmarks is not always possible.

These are just a few of the reasons that Dana-Farber’s singular focus on cancer—and the vesting of operational and decision-making authority within a single dedicated cancer center—improves quality of care and the patient experience while decreasing cost and unnecessary inpatient care.

b. What outcomes does the Applicant expect will improve as a result of this change?

Dana-Farber expects survival rates, continuity of care, ability to benchmark and track cancer-specific quality metrics to improve and ensure quality, and inpatient patient satisfaction (*e.g.*, Press Ganey scores) to improve. Additionally, Dana-Farber expects the number of adverse events to decrease.

2. The application states that the Applicant projects that by 2032, there will be a need by its Patient Panel for approximately 384 inpatient beds dedicated to the advanced cancer care provided by the Applicant (pg.18).

a. Why is the Applicant requesting 300 beds, and not 384 beds to address projected need by 2032?

A 300-bed inpatient hospital is all that can be accommodated on the land available, given applicable budgeting, design, and permitting constraints.

¹ David G. Pfister, MD, *Risk Adjusting Survival Outcomes in Hospitals That Treat Patients With Cancer Without Information on Cancer Stage*, JAMA Oncology (2015).

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b. Does the proposed facility include any shell space for future build out?

No, it does not include any shell space for future build out.

3. The application states that the Proposed Project will also include 20 observation beds (pg.3)

a. Describe the methodology used to determine Patient Panel need for 20 observation beds.

Dana-Farber derived the Patient Panel need for 20 observation beds using internal billing data for Dana-Farber and Center for Health Information and Analysis ("CHIA") data for Beth Israel Deaconess Medical Center ("BIDMC"). Using the Dana-Farber internal data and CHIA data, respectively, Dana-Farber estimated the number of annual observation discharges in its licensed and managed beds and combined that with the number of annual observation discharges at BIDMC attributable to patients with a cancer diagnosis. It then applied an average growth rate assumption of 16%² to arrive at an estimate of observation level discharges in 2032. Using an estimated average length of stay of 2 days for observation level patients, Dana-Farber derived an estimated average daily census of observation level patients and, in turn, an estimate of the number beds necessary to satisfy Patient Panel need.

4. Provide projected discharges, from Year 1 through Year 5 of project implementation.

	Year 1	Year 2	Year 3	Year 4	Year 5¹
Inpatient Discharges	9,689	11,832	11,901	12,064	12,111

¹Included on the Change of Service Form as part of the Application.

5. The Applicant states that the identified need cannot be met by other hospitals within the Commonwealth because of the highly specialized nature of inpatient oncology care required by the Applicant's Patient Panel and the growing demand for such care (pg.23).

a. Explain why the identified need cannot be met by other hospitals within the Commonwealth.

Other hospitals in the Commonwealth are not able to meet the need both because they lack the expertise to provide a number of services that Dana-Farber provides and because they generally lack inpatient capacity.

Cancer care is more sophisticated and complex today than it has ever been in the past. Dana-Farber is at the forefront of providing these services, nationally and internationally. Complex and novel therapies like induction therapy for acute leukemia patients, CAR T-cell therapy, bi-specific T-cell engager therapy, and stem cell transplantation, all of which require or may lead to potentially lengthy inpatient stays, are expanding significantly in their prevalence. Dana-Farber is one of the only hospitals in the Commonwealth providing these services. Dana-Farber is best equipped to oversee their expansion within the New Cancer

² Based on average historical growth of observation discharges for Dana-Farber and BIDMC over the last three years.

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Hospital. Further, Dana-Farber’s “bench to bedside” approach means that it can offer access to clinical trials that cannot be offered elsewhere.

Regarding capacity, the health care ecosystem in the Commonwealth relies on Dana-Farber to treat the sickest cancer patients. Dana-Farber has the highest acuity case-mix index of all adult care hospitals in the Commonwealth. Currently, sufficient inpatient beds simply are not available for those patients. Some die or suffer unnecessarily as a result. Others obtain care in suboptimal settings—such as crowded emergency departments—that lack the specialized staff and equipment of Dana-Farber. In fact, some profoundly immunosuppressed patients spend their entire hospitalization in emergency departments with little privacy and surrounded by sick and potentially infectious patients.

6. **The application states that when the proposed Facility is operational, the Applicant expects its Patient Panel will include the cancer patients it has historically cared for, as well as cancer patients previously admitted to BIDMC but who require the sort of advanced cancer care the Applicant will provide at the Facility (pg.18). Based on the application narrative, patients that the Applicant has historically cared for include patients admitted to beds on the Applicant’s license, and patients admitted to BWH-licensed beds under the care of the Applicant’s medical oncologists.**
 - a. **Given that the Applicant currently maintains a licensed bed count of 30, why is it appropriate to include patients cared for in BWH-licensed beds when projecting need for a dedicated cancer hospital that will be owned and operated by the Applicant?**

Dana-Farber cares for 200 to 230 inpatient oncology patients every day. Thirty of these beds are located in Dana-Farber-licensed space, while the remaining are located in BWH-licensed space. Regardless of licensee, these patients are all Dana-Farber patients. All have Dana-Farber medical record numbers. During their inpatient stay, Dana-Farber-employed medical oncologists and hospitalists direct the care of the patients in these beds.³ No oncology patient in these beds is seen by a primary attending physician other than a Dana-Farber employee. Dana-Farber employs every physician assistant providing care to these patients. BWH does not employ any medical oncologists or medical oncology advanced practice providers of its own. The only BWH employees that are part of a patient’s clinical care team are individuals without specialties in medical oncology or, during their training by Dana-Farber medical oncologists, members of the BWH house staff (residents and interns). Their care and consultations of these inpatient patients are all immediately overseen by Dana-Farber-employed clinicians. Importantly, Dana-Farber is the medical oncology provider for these patients outside of the hospital, as well. Nearly all cancer patients presenting at the BWH emergency department have been previously seen by Dana-Farber in the outpatient setting and were already established under Dana-Farber care.

7. **The application states a number of comprehensive cancer centers (its most comparable peers) have in recent years or are currently undergoing significant inpatient expansion. Further, the Applicant looks at quality and outcomes at these comparators as a driver and seeks to expand to ensure that it can continue to provide innovative, high quality, and life-saving care to its patients both within the Commonwealth and those who travel to Boston for the sole purpose of receiving care at the Applicant’s facility (pg.22).**

³ The management of these patients by Dana-Farber is carried out pursuant to its existing arrangement with BWH, with BWH exercising the degree of oversight required by applicable law and program requirements.

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- a. **What quality and outcome measures did the Applicant examine at comparator cancer centers?**

As previously described in the response to Question 1, Dana-Farber examined the medical literature assessing the impact of receiving treatment at a dedicated cancer center as opposed to other types of hospitals, including AMCs. Multiple, validated studies have found higher survival rates at dedicated cancer hospitals.⁴ Additional research shows that other outcomes are also improved when care is received at Prospective Payment System-exempt cancer hospitals (including Dana-Farber), as opposed to CCCs, AMCs, and other types of hospitals, including the decreased incidence of sepsis, acute renal failure, pulmonary failure, and failure to rescue.⁵

- b. **Did the Applicant compare other factors, such as populations served or existing statewide inpatient capacity for advanced cancer care, across its national peers when evaluating ways to address its Patient Panel need for adult inpatient cancer care?**

In comparing the needs of its Patient Panel with the needs of its peers, Dana-Farber considered the higher average age of New England oncology patients as compared with the national average as indicative of the need for more inpatient capacity.⁶ Dana-Farber did not consider the existing statewide inpatient capacity for advanced cancer care amongst its national peers, which comparative data were not readily available.

8. **The responses to DoN Questions #1 states that the Advisory Board projects that there will be a 28% growth in inpatient oncology patients in this age cohort (age 75+) (pg.4).**

- a. **During what period of time will the percentage increase occur and for which parts of the country?**

The Advisory Board projects this increase to occur from 2023 to 2028. Its projection was Massachusetts-specific.

9. **The Application states that approximately 26.9% of inpatients in fiscal year (FY) 2022 came from outside Massachusetts (pg. 4).**

- a. **Has the Applicant modeled its existing and projected out-of-state and international market share?**

No, Dana-Farber has not modeled its out-of-state and international market share.

10. **Explain the reason for the 22% increase in the Applicant's Patient Panel, the 9% increase in Unique Inpatients and 16% increase in Unique outpatients between 2020 and 2022.**

Dana-Farber attributes the increase in unique inpatients and outpatients to (1) receipt of care delayed by patients during the COVID-19 pandemic; and (2) general increases in the incidence of cancer cases (*i.e.*, new patients diagnosed) and prevalence of cancer cases (*i.e.*, patients living longer with disease, requiring

⁴ David G. Pfister, MD, *Risk Adjusting Survival Outcomes in Hospitals That Treat Patients With Cancer Without Information on Cancer Stage*, JAMA Oncology (2015).

⁵ Ryan P. Merkow, MD, MS, *Comparison of Hospitals Affiliated With PPS-Exempt Cancer Centers, Other Hospitals Affiliated With NCI-Designated Cancer Centers, and Other Hospitals That Provide Cancer Care*, JAMA Internal Medicine (2019).

⁶ Approximately 19% of New England oncology patients are 65 years of age or older as compared with approximately 17.3% nationally. The Advisory Board Company: Demographic Profiler.

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ongoing care) leading patients to seek treatment at the Applicant's facilities, including newer access points in Methuen, Chestnut Hill, and Foxborough.

11. The Application provides the payer mix for the Longwood Medical Campus, inclusive of the Applicant's Chestnut Hill location (pg.14).

- a. **To better understand Patient Panel need for inpatient beds, provide the payer mix for Unique Inpatients for the most recent 3 years available.**

	FY21	FY22	FY23
Commercial	38.6%	39.4%	39.9%
MassHealth	1.8	1.3	1.3
Managed Medicaid	7.2	7.9	7.2
Commercial Medicare	12.2	9.7	11.6
Medicare FFS	38.4	39.2	37.2
Other*	1.8	2.6	2.8

Note: Payor mix data are not available for BWH-licensed beds. This table includes data on Unique Inpatients within Dana-Farber-licensed beds only.

*Includes Health Safety Net, out-of-state Medicaid, other governmental payor, and self-pay patients.

12. To better understand Patient Panel need for the Proposed Project, provide a breakdown of inpatients by zip code for the most recent year available. If the count is <11 use Other and specify which cities/towns are included in that category.

Zip Code & City/Town	State	Discharges (FY22)
02136 Hyde Park	MA	119
02131 Roslindale	MA	98
02124 Dorchester Center	MA	91
02132 West Roxbury	MA	91
02130 Jamaica Plain	MA	87
02026 Dedham	MA	75
02062 Norwood	MA	70
02169 Quincy	MA	67
02301 Brockton	MA	62
02081 Walpole	MA	58
02125 Dorchester	MA	57
02121 Dorchester	MA	56
02446 Brookline	MA	55
02184 Braintree	MA	54
02155 Medford	MA	53
02780 Taunton	MA	52
02115 Boston	MA	49

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Zip Code & City/Town	State	Discharges (FY22)
02474 Arlington	MA	49
02119 Roxbury	MA	48
02148 Malden	MA	48
02050 Marshfield	MA	48
02472 Watertown	MA	45
02467 Chestnut Hill	MA	45
02048 Mansfield	MA	41
02043 Hingham	MA	40
02038 Franklin	MA	40
02360 Plymouth	MA	39
02021 Canton	MA	39
02090 Westwood	MA	39
01844 Methuen	MA	39
02478 Belmont	MA	39
01752 Marlborough	MA	39
01845 North Andover	MA	39
02186 Milton	MA	38
02072 Stoughton	MA	38
01701 Framingham	MA	37
02045 Hull	MA	37
02035 Foxboro	MA	37
02760 North Attleboro	MA	36
02368 Randolph	MA	35
02459 Newton Center	MA	35
02067 Sharon	MA	35
02445 Brookline	MA	34
02126 Mattapan	MA	34
02703 Attleboro	MA	34
02116 Boston	MA	33
02359 Pembroke	MA	33
01757 Milford	MA	33
01760 Natick	MA	32
03038 Derry	NH	32
01960 Peabody	MA	31
02135 Brighton	MA	31
02138 Cambridge	MA	31
02066 Scituate	MA	31
01453 Leominster	MA	31
01420 Fitchburg	MA	31
02122 Dorchester	MA	30
02118 Boston	MA	29

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Zip Code & City/Town	State	Discharges (FY22)
01810 Andover	MA	29
01876 Tewksbury	MA	29
02120 Roxbury Crossing	MA	29
02151 Revere	MA	28
01915 Beverly	MA	28
02127 Boston	MA	28
01890 Winchester	MA	28
01830 Haverhill	MA	28
01545 Shrewsbury	MA	28
02302 Brockton	MA	27
01832 Haverhill	MA	27
01721 Ashland	MA	27
02190 South Weymouth	MA	27
02149 Everett	MA	26
02324 Bridgewater	MA	26
01702 Framingham	MA	26
02740 New Bedford	MA	26
02339 Hanover	MA	26
02370 Rockland	MA	26
02649 Mashpee	MA	26
01880 Wakefield	MA	25
02093 Wrentham	MA	25
01930 Gloucester	MA	24
02332 Duxbury	MA	24
02421 Lexington	MA	24
02745 New Bedford	MA	24
02481 Wellesley Hills	MA	24
02215 Boston	MA	23
02563 Sandwich	MA	23
01887 Wilmington	MA	23
02351 Abington	MA	23
02053 Medway	MA	23
01776 Sudbury	MA	23
02540 Falmouth	MA	23
02632 Centerville	MA	23
02139 Cambridge	MA	22
02458 Newton	MA	22
02347 Lakeville	MA	22
02019 Bellingham	MA	22
02189 East Weymouth	MA	22
02790 Westport	MA	22

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Zip Code & City/Town	State	Discharges (FY22)
03053 Londonderry	NH	22
02171 Quincy	MA	21
01913 Amesbury	MA	21
03104 Manchester	NH	21
01801 Woburn	MA	20
02140 Cambridge	MA	20
01907 Swampscott	MA	20
02061 Norwell	MA	20
02726 Somerset	MA	20
01886 Westford	MA	20
02492 Needham	MA	19
02375 South Easton	MA	19
02333 East Bridgewater	MA	19
01867 Reading	MA	19
02536 East Falmouth	MA	19
01906 Saugus	MA	19
02188 Weymouth	MA	19
02465 West Newton	MA	19
01581 Westborough	MA	19
01923 Danvers	MA	19
02748 South Dartmouth	MA	19
01778 Wayland	MA	18
01970 Salem	MA	18
02494 Needham Heights	MA	18
02025 Cohasset	MA	18
01604 Worcester	MA	18
02476 Arlington	MA	17
01749 Hudson	MA	17
02382 Whitman	MA	17
02766 Norton	MA	17
01602 Worcester	MA	17
02719 Fairhaven	MA	17
01949 Middleton	MA	17
02864 Cumberland	RI	17
02176 Melrose	MA	16
02180 Stoneham	MA	16
02343 Holbrook	MA	16
01730 Bedford	MA	16
02767 Raynham	MA	16
01940 Lynnfield	MA	16
02482 Wellesley	MA	16

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Zip Code & City/Town	State	Discharges (FY22)
02777 Swansea	MA	16
01748 Hopkinton	MA	16
01201 Pittsfield	MA	16
03087 Windham	NH	16
03110 Bedford	NH	16
02852 North Kingstown	RI	16
02170 Quincy	MA	15
02152 Winthrop	MA	15
01841 Lawrence	MA	15
02144 Somerville	MA	15
02128 Boston	MA	15
02056 Norfolk	MA	15
01803 Burlington	MA	15
02601 Hyannis	MA	15
01742 Concord	MA	15
02724 Fall River	MA	15
01606 Worcester	MA	15
02150 Chelsea	MA	14
02451 Waltham	MA	14
01027 Easthampton	MA	14
01440 Gardner	MA	14
01843 Lawrence	MA	14
02460 Newtonville	MA	14
02720 Fall River	MA	14
02747 North Dartmouth	MA	14
02769 Rehoboth	MA	14
01610 Worcester	MA	14
01028 East Longmeadow	MA	14
03801 Portsmouth	NH	14
03301 Concord	NH	14
02134 Allston	MA	13
02330 Carver	MA	13
02346 Middleboro	MA	13
01720 Acton	MA	13
01821 Billerica	MA	13
02453 Waltham	MA	13
01085 Westfield	MA	13
02723 Fall River	MA	13
01095 Wilbraham	MA	13
01854 Lowell	MA	13
02895 Woonsocket	RI	13

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Zip Code & City/Town	State	Discharges (FY22)
02837 Little Compton	RI	13
02145 Somerville	MA	12
02379 West Bridgewater	MA	12
02191 North Weymouth	MA	12
02648 Marstons Mills	MA	12
01945 Marblehead	MA	12
01824 Chelmsford	MA	12
01746 Holliston	MA	12
01938 Ipswich	MA	12
01450 Groton	MA	12
01532 Northborough	MA	12
01469 Townsend	MA	12
02842 Middletown	RI	12
02420 Lexington	MA	11
02461 Newton Highlands	MA	11
01770 Sherborn	MA	11
02738 Marion	MA	11
02493 Weston	MA	11
02571 Wareham	MA	11
02660 South Dennis	MA	11
02633 Chatham	MA	11
01331 Athol	MA	11
01863 North Chelmsford	MA	11
03051 Hudson	NH	11
02865 Lincoln	RI	11
02891 Westerly	RI	11
02871 Portsmouth	RI	11
Unknown	-	343
Other [^]	MA, CT, ME, NH, NY, RI, VT	2,267

*Includes CHIA data for Dana-Farber and BWH.

[^]Includes cities and towns listed on Exhibit A attached hereto. Table excludes patients who live in states other than New England and New York.

13. The application states that over 60% of the Applicant's inpatients were admitted through BWH's emergency department (ED) in FY22 (pg. 6).

- a. Given that 60% of the Applicant's inpatients were admitted through BWH's Emergency Department in FY22, what will be the source(s) of admission to the proposed facility?**

Nearly all cancer inpatients admitted through the BWH Emergency Department ("ED") had previously obtained outpatient care from a Dana-Farber medical oncologist. If, during the course of treatment, a patient experiences side effects, complications, or symptoms that require urgent management, that patient is often directed to the BWH ED, particularly after the existing outpatient Acute Care Clinic is

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closed. Such a patient can sometimes be treated and sent home, but, in many cases, is kept for observation or admitted, either to a BWH-licensed bed (managed by Dana-Farber) or to a Dana-Farber-licensed bed. Additionally, in some cases, because of capacity constraints, a patient who would otherwise be admitted to a medical oncology bed in either licensed hospital remains in the BWH ED instead, creating a suboptimal cancer treatment environment.

Dana-Farber does not anticipate that 60% of its inpatient patients in the New Cancer Hospital will be admitted through the BIDMC ED, though a significant percentage likely will be. Because of the increased capacity, however, Dana-Farber envisions inpatient admissions occurring through a number of additional pathways, including from the outpatient environment, elective admissions, admissions from observation beds, admissions from the (expanded) Dana-Farber Acute Care Clinic (discussed above in response to Question 1), transfers from other general acute care hospitals, and transfers from post-acute facilities and nursing homes.

How many of the Applicant's inpatients were transferred from another facility in FY22 and FY23?

Dana-Farber estimates approximately 300 patients were transferred to Dana-Farber licensed or managed beds from outside facilities in each of FY22 and FY23.

14. The application states the ALOS in the BWH ED increased from 6.9 hours in 2018 to 8.6 hours in 2022, a 25% increase (pg. 6).

a. How was ALOS in the ED calculated?

ALOS was calculated using the CHIA data available in the Massachusetts Health Data Consortium ("MHDC"), which states that "Length of Stay" is calculated by "subtracting the arrival date and time from the departure date and time and is reported in hours." As shown in the table below, the Application inadvertently understated the BWH ED ALOS increase from 2018 to 2022. The ALOS in 2022 was actually 9.43 hours and the percent change against 2018 was approximately 38%.

CY	Encounters	ED ALOS in hours	% Change from 2018
2018	41,451	6.86	N/A
2019	41,690	7.26	5.8%
2020	32,484	7.47	8.9%
2021	36,791	8.65	26.1%
2022	28,053	9.43	37.5%

15. Provide the location of existing imaging equipment and their proposed location after project implementation.

Excluding imaging equipment available at its Chestnut Hill location, all of Dana-Farber's imaging equipment on its Longwood campus (3 CT machines, 2 MRI machines, 2 PET/CT machines, and 3 LINACs) are located at 44 Binney Street, Boston, Massachusetts, 02115. All such imaging equipment is expected to remain at its 44 Binney Street location following project implementation.

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- a. **What are the current wait times (inpatient and outpatient where applicable) for existing imaging equipment and LINACs. Include a description of how wait time is calculated.**

Outpatient Imaging and LINAC Wait Times

For FY23, the wait times for outpatient imaging and LINAC were as follows:

CT: 1.6 days

MRI: 2.8 days

PET/CT: 12.9 days

LINAC: 55.3 days (inclusive of time spent receiving other treatments/services prior to radiation therapy)

For outpatient imaging equipment, Dana-Farber calculates “wait time” by the number of hours from the time of order to third next available appointment (calendar days). This does not include same-day orders with emergency priority. For outpatient LINAC, Dana-Farber calculates “wait time” by averaging the time between a new patient consult by a radiation oncologist at Dana-Farber and the first radiation therapy treatment thereafter. This is the closest Dana-Farber could approximate “wait time” for LINAC using only its data and it includes any time spent receiving other treatments/services (e.g., CT simulation and chemotherapy) prior to receipt of radiation therapy.

Inpatient Imaging Wait Times

For FY23, the wait times for inpatient imaging were as follows:

CT: 5.6 hours

MRI: 18.5 hours

PET/CT: 51.2 hours

For inpatient imaging equipment, Dana-Farber calculates “wait time” by measuring, in hours, the difference between the time the service is ordered by a physician and the time it is completed. Measurement includes data for Dana-Farber-licensed beds only and excludes orders with emergency priority.

- b. **What are the anticipated wait times after project implementation?**

Following project implementation, the proposed devices are anticipated to provide same-day service for urgent appointments and will ensure same-day access for inpatients, facilitating patient progression. Dana-Farber anticipates providing outpatients with ordered imaging services within 3 days of the order.

16. **The application states the percentage of oncology admissions requiring use of Inpatient Imaging Equipment increased substantially between 2020 and 2022—by approximately 40% for MRI scans, 25% for CT scans, and 43% for PET-CT scans (pg.6).**

- a. **Explain the reason for increasing use of imaging.**

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Dana-Farber attributes the increased utilization of imaging for inpatients between 2020 and 2022 to (1) receipt of care delayed by patients during the COVID-19 pandemic (including patients presenting with more advanced disease requiring imaging); and (2) general increases in the incidence and prevalence of cancer cases.

- 17. The application states the Applicant saw an increased use of outpatient imaging with an approximately 81% increase in MRI scans, 38% increase in CT scans, and 22% increase in PET-CT scans between 2021 and 2023. This increase can be attributed partially to an increase in the number of outpatients following the opening of the Applicant's site in Chestnut Hill in 2021 (pg.7).**

- a. Explain other reasons for the increase, besides the opening of the Applicant's site in Chestnut Hill.**

In addition to the opening of the Chestnut Hill facility and other outpatient locations, Dana-Farber attributes the increased utilization of imaging for outpatients between 2020 and 2022 to (1) receipt of care delayed by patients during the COVID-19 pandemic (including patients presenting with more advanced disease requiring imaging); (2) general increases in the incidence and prevalence of cancer cases; (3) increases in the number of commercially available diagnostic radiotracers, allowing PET/CTs to be deployed to assist in the diagnosis of more types of cancer (*e.g.*, prostate-specific membrane antigen tracers for prostate cancer imaging); and (4) the launch of an early detection program to find cancers earlier when they can more often be cured.

- 18. The application states that Patient Panel utilization of LINAC therapy increased by approximately 18% between 2020 and 2022 (pg.7).**

Dana-Farber attributes the increased utilization of LINACs between 2020 and 2022 to (1) receipt of care delayed by patients during the COVID-19 pandemic (including patients presenting with more advanced disease requiring radiation therapy) and (2) general increases in the incidence of cancer cases.

- 19. The application states Table 6 provides Inpatient Imaging Equipment utilization in the Applicant's 30 licensed beds by the Applicant's Patient Panel (pg.13).**

- a. Why did the Applicant project imaging equipment based on historical utilization of patients in the Applicant's licensed 30 beds when projected bed need was based on patients in the Applicant's licensed beds and patients in BWH-licensed beds that were cared for by the Applicant?**

Dana-Farber projected inpatient imaging need based on its 30 licensed beds because the data regarding BWH-licensed beds were not available from publicly available sources and nonpublic, BWH data are proprietary to BWH.

- 20. The application states that number of machines needed for each modality, was calculated by dividing the projected 2032 annual demand for scans for such modality by the estimated number of scans that can be performed per machine in one year (collectively known as "throughput"). The projected 2032 demand for scans was estimated by first multiplying projected 2032 discharges by the average number of scans per discharge for each modality based on historical data of the Applicant (pg.23).**

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- a. **Why did the Applicant calculate need for imaging based on projected 2032 data where the bed need is estimated to be 384, when the proposed facility will have a licensed bed count of 300?**

Dana-Farber used 384 beds to calculate imaging need because, notwithstanding the constraints that limit Dana-Farber's ability to build a facility with more than 300 beds, that number represents the true need of its Patient Panel. That said, the number of required machines would remain the same even had a bed count of 300 beds been used.

21. **Explain the Applicant's plan for staffing the new facility, including where any new staff come from, the types of new staff that will be hired, and the Applicant's plans for hiring diverse and representative staff.**

The specialized workforce for the New Cancer Hospital must be built. It does not currently exist in the market. Many of the future members of the New Cancer Hospital's staff are currently in high school or college. Dana-Farber is committed to building a diverse and representative clinical staff with specialized oncology expertise through new and existing pipeline programs. These programs (including the existing nurse residency program with UMass Boston, Dana-Farber's advanced practice provider fellowship program in medical oncology and palliative care, and Dana-Farber-funded scholarship programs to encourage entry level employees to pursue nursing education) provide opportunities to diverse individuals to enter the field of oncology and aim to improve economic mobility. Dana-Farber is also developing a state-of-the-art simulation center, scheduled to open in 2025, which will support these programs and training objectives. Dana-Farber does not anticipate recruiting staff away from community hospitals.

Further, Dana-Farber is committed to identifying and providing a variety of training and employment opportunities for Boston residents. Dana-Farber's Office of Workforce Development works to ensure that underrepresented populations from Boston's historically marginalized communities have equitable access to and opportunities for professional development experiences at Dana-Farber that offer training, employment, and mentorship. The Office of Workforce Development has two primary objectives: (1) to provide multi-level professional pathways to careers in healthcare at Dana-Farber, along with intensive and comprehensive educational, employment, and mentoring experiences; and (2) to develop and grow the pipeline programs described above, with particular focus on historically marginalized communities, through its relationships with community partners like Roxbury Community College, the Urban League, Boston Public Schools, YMCA Training Inc., and the Jewish Vocational Service. Workforce development initiatives for the New Cancer Hospital focus on (1) leveraging untapped talent sources in Boston and surrounding neighborhoods; (2) establishing pipeline programs to address needs not covered by existing programs, such as in biotechnology and clinical support; (3) offering programs to support English as a second language and job skills training, citizenship test preparation, and college readiness; and (4) expanding scholarships, mentorship programs, and other resources.

- a. **To better understand the Applicant's efforts to promote health equity, describe any required cultural competence training for staff and clinicians that will be working at the proposed facility.**

All Dana-Farber workforce members are required to complete the Inclusion, Diversity & Equity ("ID&E") Foundational Education Curriculum covering six topics, including: unconscious bias, anti-racism, cultural

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humility, inclusive workplaces, health equity, and allyship. Nursing staff are assigned further cultural competence training every other year. Additionally, effective Summer 2024, all staff will be required to complete disability competency care training as part of the annual education update. In addition to the all-workforce curriculum, the Cancer Care Equity Program (“CCEP”) has developed a comprehensive patient navigator onboarding program that includes clinic shadowing and evidence-based trainings as well as ongoing education to ensure staff are equipped with the skills and knowledge to best support patients of all backgrounds and with a variety of needs. Finally, Dana-Farber has an Office for ID&E that is staffed with experts who not only lead trainings but provide individual or group coaching opportunities to increase staff understanding and awareness of ID&E in the work environment. All of the above-described training will be required of any Dana-Farber employee working in the New Cancer Hospital.

- b. Provided the Proposed Project will support future demand for healthcare among older adults aged 65 and older, will Geriatric Oncologists be available to work with aging populations? If so, at what point in their care?**

Geriatricians will be available for consultation when needed in the New Cancer Hospital as part of the full complement of consultative services that Dana-Farber anticipates will be available. These services will complement an existing ambulatory program Dana-Farber has in place for older patients, which involves the development of care plans by geriatricians and medical oncologists to help meet the unique needs of older cancer patients.

22. What age-friendly measures will be incorporated into the design of the building?⁷ Will there be any modifications to the hospital setting to ensure it is age-friendly?

- a. In addition to age-related issues, how were variations in patient mobility, vision, hearing and cognition factored into the design of the building to make it accessible, safe and convenient for users?**

The New Cancer Hospital will be designed to ensure all patients can ambulate in a safe manner as part of their clinical care and recovery from treatment, including through the use of bridges and tunnels to easily connect the New Cancer Hospital with Dana-Farber’s other facilities (including the Acute Care Clinic) and BIDMC. The New Cancer Hospital will be accessible to all persons and will comply with all applicable legal and regulatory requirements, including requirements of the Massachusetts Architectural Access Board and the Americans with Disabilities Act. Further, as part of its building design process, Dana-Farber plans to devote particular attention to facilitating safe, convenient, and patient-centered access to all patients and caregivers, including older patient populations, as well as other patients with mobility, vision, hearing and cognition deficits. In addition to aspects of building design, Dana-Farber also maintains psychosocial oncology and social work programs designed to improve the experience of patients with intellectual or developmental disabilities, among others.

23. The application states its limited inpatient bed capacity is a constraint on use of innovative and effective procedures, and this contributes to access issues for the Applicant’s most

⁷ Becoming Age-friendly means reliable practice of four evidence-based interventions, known as the 4Ms: asking what matters to older adults; making sure medications are helpful, not harmful to patients; attending to mentation, including delirium, depression, and dementia; and ensuring mobility so older adults can maintain their function. Institute for Healthcare Improvement Announces New Age-Friendly Action Community. <https://www.businesswire.com/news/home/20200129005105/en/Institute-for-Healthcare-Improvement-Announces-New-Age-Friendly-Action-Community#:~:text=Becoming%20Age%20friendly%20means%20reliable,mobility%20so%20older%20adults%20can>

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vulnerable patients (including, but not limited to, patients of color and low-income patients) (pg.16).

- a. **Describe the process through which the Proposed Project will address access issues for the Applicant's most vulnerable patients over the current setup.**

Disadvantaged patients are disproportionately impacted by the lack of adult inpatient cancer care capacity in Massachusetts. The New Cancer Hospital will help address that access disparity.

Currently, because of ongoing bed constraints at BWH, oncology patients experience long wait times in the BWH ED for an inpatient bed and, in some cases, leave before a bed is available. The patients that leave are often among the most vulnerable (*e.g.*, immigrant patients, patients with limited English proficiency, and patients with fewer resources). In Dana-Farber's experience, historically marginalized patients access specialized care the least in part due to capacity constraints. The New Cancer Hospital will expand access to historically marginalized patients. Finally, through the expansion of the community-focused patient navigation program (which guides historically marginalized patients through their cancer care experience at Dana-Farber), Dana-Farber will intentionally integrate access and equity into the clinical operations of the New Cancer Hospital and all of Dana-Farber's locations, as well as at community health centers and other community networks.

Expanded bed capacity within the Commonwealth means better outcomes for the most vulnerable patients. These groups are experiencing disproportionately high rates of hospitalization, largely owing to social determinants of health ("SDoH") and baseline health disparities. Since these populations are overrepresented among hospitalized patients, the impacts of shortages of intensive care unit or other hospital beds disproportionately falls on them. In addition, patients from these disadvantaged groups are more likely to seek care at safety-net hospitals, which, due to resource constraints, may be less adaptable to capacity needs than other hospitals and may require patient transfer in the event certain specialized care is required. The New Cancer Hospital will be available to all patients, including those requiring transfers for more advanced, specialized care.

1b. Public Health Value/Health Equity

24. **As required by Factor 1b, Applicants must demonstrate how they will assess the impact of a Proper Project. The Applicants plans to assess the impact of the Proposed Project through tracking patient access to inpatient care and radiation therapy, and patient satisfaction (pg.30).**

- a. **What other measures can the Applicant track to assess the impact of the Proposed Project on health outcomes?**

Dana-Farber tracks, and will continue to track, a robust set of quality, safety, and outcomes measures, from patient experience measures to adverse events, complications of care, and a multitude of other process and outcome metrics. Examples include: (1) standardized infection ratios for Central Line-Associated Bloodstream Infections, Catheter-Associated Urinary Tract Infections, Methicillin-resistant *Staphylococcus aureus* infections, and *Clostridioides difficile* infections; (2) utilization measures, including length of stay (observed/expected), 30-day unplanned readmissions for cancer patients, admissions and emergency department visits for patients receiving outpatient chemotherapy, the proportion of patients who died of cancer and received chemotherapy in the last 14 days of life, and the proportion of patients

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who died of cancer not admitted to hospice, occupancy rates, and transfer from outside hospitals; and (3) community-focused patient navigator program metrics, including barriers to care identified, barriers to care addressed, and psychosocial oncology referral rate, and all of which are regularly monitored using a data dashboard.

25. Describe interpreting services for the Deaf and Hard of Hearing (DHH), and for patients who are blind or who have low vision.

Dana-Farber's Interpreter Services provides American Sign Language interpreters, certified deaf interpreters, and captioning access in real time to its deaf and hard of hearing patients. For blind and low vision patients, Dana-Farber uses braille in permanent spaces and on signage, provides materials in enlarged font and high contrast (text/color paper) for low vision patients, and provides blind patients with access to audio-recording technology so patient/provider visits may be audio-recorded and referred to post-discharge.

26. The application states the building of the new Facility as part of the Proposed Project gives the Applicant the opportunity to take lessons learned from ongoing work to address health equity and cancer health disparities and apply those lessons in the fabric of the design of the Applicant's Facility, its clinical programming, and its ability to reach historically underserved communities. (pg. 34).

a. Describe the Applicant's current plans for identifying and addressing cancer disparities within its Patient Panel. Include any data to demonstrate the impact of such efforts.

The CCEP leverages Community Health Needs Assessments ("CHNAs"), including Dana-Farber's and the CHNAs of other hospitals, to better understand health disparities in local communities and ensure its clinical access and equity interventions meet the needs of historically medically underserved populations and address cancer disparities. In addition to CHNAs, CCEP refers to medical appointment no-show and cancellation rates data stratified by patient demographics to identify and monitor trends in patient populations most at risk to delays in care across the cancer continuum due to missed appointments. Data from CHNAs and medical appointment no-shows/cancellations are leveraged during the planning phases of CCEP's clinical interventions. They are also used to identify areas of improvement on an ongoing basis. In partnership with Dana-Farber's Informatics and Analytics team, CCEP has developed certain program-specific data dashboards to visualize and continually monitor the impact of interventions. In addition to quantitative data, CCEP is currently planning a qualitative study of Dana-Farber's community-focused patient navigator program, including by inviting patients and care teams to participate in structured focus groups and/or interviews to share their experiences with the program. The outcomes of this study will inform changes to the intervention's care delivery model as needed.

CCEP holds onsite cancer diagnostic outreach clinics at federally qualified health centers in priority neighborhoods. CCEP also works closely with Dana-Farber's Community Benefits Office to foster collaborative relationships with community organizations that offer expertise and resources to address root causes of health disparities. CCEP's patient navigators refer patients directly to these organizations based on the social risk factors their patients report. CCEP received patient travel grants to fund rides to medical appointments after program data showed transportation was the most common barrier to cancer care reported by patients. Patient navigators work with Dana-Farber's social workers, resource specialists, and financial counselors to maximize assistance to patients, consistent with applicable laws. In addition

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to these actions, CCEP partners with the Community Benefits Office on education and training programs delivered within historically marginalized communities to promote cancer prevention and screening.

Consistent with standards of The Joint Commission and Massachusetts Health & Hospital Association,⁸ Dana-Farber prioritizes the following initiatives to address disparities: (1) the development of a unique Enterprise-Wide Patient Demographics Tableau Dashboard, to be launched in spring 2024, that will standardize patient demographics reporting across the clinical enterprise, unify operational data with health equity/social justice data (including SDoH and sexual orientation and gender identity data), and allow departments to more easily consider the access, health quality, and equity implications inherent in its decision-making; and (2) the formation in summer 2024 of a committee chaired by Dana-Farber's Chief Clinical Access & Equity Officer to advise Dana-Farber management and its Board of Trustees on clinical access, health quality, and equity work across Dana-Farber. This committee will support prioritization, integration, and evaluation of access and equity work across the entire organization.

These efforts to address disparities have had promising results. Patients reached through the outreach clinic have a 62% faster path to diagnosis and start of treatment compared with historical averages. Twice as many patients from marginalized populations have enrolled in clinical trials at Dana-Farber than the historical average, thanks in large part to early education about the promise of new treatments. Currently, the CCEP helps more than 600 patients seek diagnosis and treatment, housing, transportation, nutritional assistance, language services, and mental health care.

Dana-Farber was also one of the first hospitals in the country, and the first in the Commonwealth, recognized as meeting The Joint Commission's new health equity requirements. The organization met all six elements of performance by designating leaders to reduce health disparities for patients, assessing health related social needs, providing resource information and meeting identified patient needs with resources, stratifying quality and safety data by socio-demographic characteristics, developing a written action plan to address at least one health disparity, evaluating the action plan and taking action to achieve those goals, and informing leaders, practitioners, and staff about progress to reduce identified disparities.

b. How will the Proposed Project improve the Applicant's efforts to address cancer disparities within its Patient Panel over the current setup.

Dana-Farber has an opportunity to integrate equity throughout the cancer care continuum to enhance coordination and delivery of services rather than trying to retrofit existing infrastructure.

Currently, Dana-Farber partners with community health centers in a co-location model focused on keeping care local and serving historically underserved communities. Dana-Farber plans to expand patient navigation services (which provide resources and guidance to patients throughout the course of their cancer care experience at Dana-Farber) (1) to the entire cancer center, with integration into operations and a focus on underserved communities in alignment with Dana Farber's CHNA; and (2) in community health centers and community networks to aid in increased access to cancer care. In addition, the proposed collaboration with BIDMC will expand Dana-Farber's access to patients needing these services. BIDMC has existing affiliations and relationships with community health centers that can expand Dana-Farber's patient navigation and co-location model into additional communities and neighborhoods.

⁸ Massachusetts Hospitals Achieve First-in-the-Nation Health Equity Distinction from The Joint Commission. Massachusetts Health & Hospital Association, available at <https://www.mhalink.org/news/massachusetts-hospitals-achieve-first-in-the-nation-health-equity-distinction-from-the-joint-commission/>.

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Integrating these services among a broader community of patients will increase the coordination and delivery of services and better connect patients, including especially historically marginalized patients, to care throughout the cancer care continuum.

Dana-Farber will also identify and pursue opportunities to improve patient financial access and reduce cost barriers for patients, including opportunities for financial assistance policy alignment with BIDMC.

27. The application states that the ability to consolidate oncologic subspecialized care in the inpatient setting will allow for implementation of a more equitable, integrated, cancer-focused health care delivery infrastructure as described above. In addition, the Proposed Project will also facilitate enhanced coordination of cancer prevention, outreach, and screening and diagnostic services for communities (pg.36).

- a. **Explain how the consolidation of subspecialized oncologic care in the inpatient setting will allow for implementation of a more equitable health care delivery infrastructure, than the current setup.**

Consolidation of subspecialized oncologic care in the New Cancer Hospital will allow for implementation of a more equitable health care delivery infrastructure by (1) expanding access, including access to cutting-edge treatment and clinical trials; and (2) building a diverse and representative workforce. For information on the ways in which the New Cancer Hospital will increase access, see Dana-Farber's response to Question 23.a. For information on the ways in which the New Cancer Hospital will involve the development of a diverse and representative workforce, see Dana-Farber's response to Question 21.

Studies have shown that patients of color are significantly underrepresented in clinical trials.⁹ Dana-Farber is working to increase recruitment of patients from historically marginalized communities in clinical trials of new cancer therapies. The New Cancer Hospital will allow for Dana-Farber to proactively grow and expand its clinical trial programs.

- b. **How will improvements in health equity be measured?**

Dana-Farber intends to measure improvements in health equity through the following metrics: number of cancer screenings conducted with community partners for patients in Dana-Farber's priority neighborhoods, time to initiation for treatment for patients coming from community partners, and time from when a patient presents at a community partner to the development of a care plan.

Factor 1c: Continuity and Coordination of Care

28. The application states that Total Unique Inpatients is based on utilization data for the Applicant's current licensed beds, as well as an estimate of utilization for patients admitted to BWH-licensed beds under the care of the Applicant's medical oncologists.

- a. **To better understand care delivery under the current affiliation agreement, describe how treatment teams and care coordination are structured, including any differences**

⁹ L. Vidal et al., *Equitable Inclusion of Diverse Populations in Oncology Clinical Trials: Deterrents and Drivers*, ESMO Open (2024); Brandon E. Turner, et al., *Race/Ethnicity Reporting and Representation in US Clinical Trials: A Cohort Study*, The Lancet Regional Health (2022).

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**for a patient in a BWH-licensed bed under the care of one of the Applicant's oncologists
vs. a patient cared for in one of the Applicant's current licensed beds.**

See Dana-Farber's response to Questions 1 and 6.a.

- b. Describe any changes in care coordination that will result from the Proposed Project, including any anticipated improvements as compared to the current setup.**

At the New Cancer Hospital, all staff will be singularly focused on cancer patients. All care team members will have a sophisticated level of expertise and appreciate the specific challenges of a cancer patient's journey which will ultimately create efficiencies in care coordination. For more information, see Dana-Farber's responses to Questions 1 and 6.a.

- 29. Explain how the increased coordination and hospital-based services that will result from the Proposed Project will help to address inefficiencies and delays patients are currently facing concerning discharge to post-acute facilities (pg.18).**

As with many other hospitals across the Commonwealth,¹⁰ Dana-Farber is facing post-acute care challenges. Cancer patients discharged to post-acute facilities typically need increased coordination for the continued management of their oncology care. For instance, oncology patients discharged to post-acute sites may require daily radiation or outpatient chemotherapies that require significant coordination between Dana-Farber and the applicable post-acute sites. In the New Cancer Hospital, discharge staff with specialized expertise in discharge planning for oncology patients will work to decrease inefficiencies for patients transferred to post-acute sites. This is supported by Vizient proprietary Clinical Data Base (to which Dana-Farber has access through a subscription), accessed on May 20, 2024, which shows other hospitals in the Alliance of Dedicated Cancer Centers discharge patients more efficiently to skilled nursing facilities than the Applicant.

Factor 1e: Community Engagement

- 30. The application states that as part of the Applicant's community engagement activities, the Applicant met with its Adult PFAC as well as held three virtual forums (pgs.40-41).**

- a. Provide the number of people in attendance at the Adult PFAC meetings as well as each of the virtual forums.**

Forum	Date	Attendees
Adult PFAC meeting	Tuesday, October 3, 2023, 5pm	20
Virtual Patient forum	Monday, October 16, 2023, 6pm	269
Virtual Patient forum	Tuesday, October 17, 2023, noon	170
Virtual Patient forum	Wednesday, October 18, 2023, 9am	135

¹⁰ Massachusetts Health & Hospital Association, A Clogged System: Keeping Patients Moving Through their Care Journey (June 2023), available at <https://mhalink.informz.net/mhalink/data/images/ACloggedSystemMHAREport.pdf>.

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b. What feedback was received during the community engagement process?

Dana-Farber received overall positive feedback during the community engagement process. Patients have had questions that focused on the following recurring themes: (1) impact of the New Cancer Hospital on the patient experience over the next five years (*e.g.*, impact it will have on care team structure, coordination of care, patient portal access, urgent and emergent care, and screening services); (2) impact on traffic in the Longwood Medical Area; (3) financial impact on patients; (4) expenses associated with the construction project; and (5) patient/family communications related to the New Cancer Hospital.

Factor 1f: Competition

31. The application states in connection with the Proposed Project, the Applicant anticipates that a significant volume of cancer care will shift from higher-priced health sites of care to relatively lower-priced ones. A significant percentage of patients currently receiving medical oncology services at BIDMC or BWH (and some receiving medical oncology services at MGH) will begin receiving such services from the Applicant. Similarly, the Applicant anticipates that a significant percentage of patients currently receiving surgical oncology services at BWH (and some receiving surgical oncology services at MGH) will begin receiving such services from BIDMC (pg.28).

a) When the application states that volume of cancer care will shift from higher-priced health sites of care to relatively lower-priced ones, does that include higher-priced health sites other than BWH and MGH?

Dana-Farber does not anticipate any additional shifts in care from higher-priced health sites.

b) Why does the Applicant expect that a significant percentage of patients currently receiving medical oncology services at BWH will begin receiving such services from the Applicant at the proposed facility and those receiving surgical oncology services at BWH (and some at MGH) will begin receiving such services from BIDMC?

Because the patients currently receiving medical oncology care at Dana-Farber and BWH are all under the care of Dana-Farber medical oncologists, Dana-Farber anticipates those patients will continue to be Dana-Farber patients and that, in connection with their collaboration, will receive surgical services from BIDMC, subject to patient choice. See Dana-Farber's response to Question 6.a.

Factor 2:

Delivery System Transformation

32. Explain the existing process for social determinants of health (SDoH) screening, including domains screened for and referral process for positive screens, and any changes to the process for patients that will receive care at the proposed facility.

a. What is the top SDoH need identified through screening?

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Dana-Farber screens patients for health-related social needs (“HRSNs”) in both the ambulatory and inpatient settings. HRSNs are defined as the “immediate daily necessities that arise from inequities caused by the social determinants of health.”¹¹

Dana-Farber has screened outpatient patients for HRSNs since April 2023 as part of its New Patient Intake Questionnaire. The most frequently identified need through HRSN screening in the ambulatory setting is food insecurity (5% of responses from May 2023-May 2024), with paying bills, housing insecurity and utility costs being the next most frequently reported (each 4% of responders over the same period).

Dana-Farber has screened inpatient patients since January 2024. Analytical reporting is still under development. As such, Dana-Farber is not able to report specifically on the top SDoH identified in screenings. The results of completed questionnaires are captured in Dana-Farber’s electronic health record system, which allows members of a patient’s care team to respond to identified HSRNs by providing information to patients about community resources and support services available.

Factor 5: Relative Merit

33. The Application states, it has engaged in a multi-year strategic planning process to assess how best to expand access, address the unmet need of its Patient Panel, ensure continuity of care, and further its clinical and academic mission...as part of that process, the Applicant evaluated a wide variety of options (pg.49).

- a. In order to better understand the alternative options considered, provide a description of the quality, efficiency, capital expense, and operating costs of the options considered to support their dismissal.**

As part of a multi-year planning process, Dana-Farber engaged in confidential discussions with BWH regarding their existing collaborative relationship, including confidential alternatives to maintaining the status quo. Those discussion did not yield viable alternatives.

Dana-Farber’s other available options were (1) pursue the New Cancer Hospital with a new clinical partner, BIDMC; or (2) establish a full-service standalone cancer hospital. The approximately \$3.4 billion estimated capital cost for a full-service, stand-alone cancer hospital was cost-prohibitive (2-3 times the capital of the New Cancer Hospital). From an operating expense perspective, this scenario would require Dana Farber to add resources for surgery, radiology, pathology, and radiation oncology, which would add an estimated \$340 million in annual operating costs.

Further, from an efficiency perspective, independently building a full-service cancer hospital without a clinical affiliation would result in duplication of resources in the Longwood Medical Area, requiring Dana-Farber to recruit its own surgeons and specialists (e.g., cardiologists, dermatologists, pulmonologists, psychiatrists) for the oncology-related needs of the New Cancer Hospital patients. These surgeons and other specialists are better supported when part of a larger department.

¹¹ MassHealth: EOHHS Hospital Quality and equity Incentive Program (HQEIP) Performance Year 1 (PY1) Deliverable: Stratified Reporting of Quality Data, available at <https://www.mass.gov/doc/stratified-reporting-of-quality-data-0/download>.

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Partnering with BIDMC and HMFP provides Dana-Farber patients with access to best-in-class surgeons and non-oncology specialists essential to the care of its patients at all points both during treatment and in survival.

34. **The application states through a clinical collaboration with BIDMC, the Applicant can better manage continuity of care with a consistent clinical partner for surgical oncology services and other cancer-adjacent services. Care continuity is more challenging under the Alternative Option, where the Applicant would have no consistent clinical partner with which to coordinate care. As such, the Proposed Project is the superior option on quality (pg.49)**

- a. **Explain why BIDMC is the optimal clinical partner.**

BIDMC is the optimal clinical partner because of, among many other advantages: (1) its close physical proximity to Dana-Farber and the New Cancer Hospital, allowing physical connections to its facilities and services; (2) its affiliation with Harvard Medical School and world-class clinicians; and (3) its existing relationships and affiliations (including with community health centers), which may be leveraged to expand equitable access to the care Dana-Farber provides.

Tables

35. **To better understand Patient Panel need for the Applicant's services, please complete the missing information in the Tables listed below and indicate FY or CY, and when appropriate, whether the data include inpatients admitted to BWH-licensed beds under the care of the Applicant's medical oncologists.**

Total Unique Patients, Demographics, and Geography

Inclusive of all of the Applicant's inpatients and outpatients at all sites

Responses to DoN Questions, pg. 2

	FY18	FY19	FY20	FY21	FY22	FY23
Total Unique Patients	73,074	76,789	79,358	90,754	96,940	102,921
Gender^						
Female	45,860	47,840	49,370	56,720	60,480	64,000
Male	27,210	28,960	29,980	34,030	36,450	38,920
Unknown & X	0	0	0	0	10	0
Race & Ethnicity						
Asian Non-Hispanic or Latino	1,980	2,175	2,121	2,510	2,883	3,199
Black or African American	2,714	2,870	2,885	3,375	3,799	3,981
Hispanic or Latino	2,597	2,790	3,950	4,919	5,563	6,190
Multiracial, non-Hispanic	531	572	661	861	1,197	1,417
Null & Other	11,243	10,495	9,463	10,057	10,322	10,508

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	FY18	FY19	FY20	FY21	FY22	FY23
White or Caucasian Non-Hispanic or Latino	54,009	57,887	60,278	69,032	73,176	77,626
Age						
0-18	73	78	69	75	68	82
19-35	4,399	4,675	4,753	5,748	6,192	6,669
36-55	18,965	19,422	19,445	21,782	23,222	24,208
56-75	39,887	41,963	43,205	48,813	51,780	54,463
75+	10,936	12,031	13,162	15,763	17,328	19,450
Geography						
Massachusetts	51,789	54,464	57,465	67,056	73,363	77,996
New York	2,389	2,444	2,250	2,488	2,272	2,308
Outside MA (New England)	20,352	21,255	21,246	23,067	22,735	23,914
Outside MA (US)	18,533	19,379	18,492	19,952	19,667	20,737
Outside MA (International)	1,065	1,143	676	678	947	1,056

^Data in subsection rounded to the nearest 10 to preserve patient anonymity.

Total Unique Inpatient Patients, Demographics, and Geography

Inpatients admitted to beds on the Applicant's license, as well as inpatients admitted to BWH-licensed beds under the care of the Applicant's medical oncologists.

Application Narrative, pg. 9

	FY18	FY19	FY20	FY21	FY22	FY23
Total Unique Inpatients	4,524	4,819	4,521	4,784	4,887	5,004
Gender^						
Female	2,220	2,370	2,260	2,370	2,430	2,500
Male	2,300	2,450	2,260	2,410	2,460	2,510
Unknown & X	0	0	0	0	0	0
Race & Ethnicity						
Asian Non-Hispanic or Latino	159	169	177	175	184	203
Black or African American	261	265	272	298	319	313
Hispanic or Latino	211	219	185	267	240	278
Multiracial, non-Hispanic	29	33	31	43	62	68
Null & Other	232	191	192	158	220	276
White or Caucasian Non-Hispanic or Latino	3,632	3,942	3,664	3,843	3,862	3,866

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	FY18	FY19	FY20	FY21	FY22	FY23
Age^						
0-18	0	0	0	0	0	10
19-35	180	190	180	190	210	220
36-55	850	850	780	840	860	870
56-75	2,500	2,750	2,590	2,680	2,850	2,860
75+	1,000	1,030	960	1,070	970	1,060
Geography						
Massachusetts	3,233	3,342	3,280	3,563	3,578	3,692
New York	136	154	121	115	110	114
Outside MA (New England)	832	960	836	820	937	909
Outside MA (US)	1,171	1,318	1,124	1,127	1,213	1,187
Outside MA (International)	100	129	87	90	97	113

^Data in subsection rounded to the nearest 10 to preserve patient anonymity.

Total Unique Outpatient Patients, Demographics, and Geography, Longwood Medical Campus
Applicant's Outpatients

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	FY18	FY19	FY20	FY21	FY22	FY23
Total (unique outpatients)	58,573	61,842	59,745	65,605	69,286	73,875
Gender^						
Female	36,590	38,330	36,780	40,670	42,900	45,800
Male	21,990	23,510	22,960	24,940	26,380	28,070
Unknown & X	0	0	0	0	0	0
Race & Ethnicity						
Asian Non-Hispanic or Latino	1,773	1,939	1,805	2,056	2,372	2,639
Black or African American	2,397	2,549	2,457	2,795	3,070	3,169
Hispanic or Latino	2,386	2,558	2,406	2,684	3,060	3,483
Multiracial, non-Hispanic	441	479	519	674	950	1,119
Null & Other	8,227	7,594	6,419	6,622	6,626	6,764
White or Caucasian Non-Hispanic or Latino	43,349	46,723	46,139	50,774	53,208	56,701

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	FY18	FY19	FY20	FY21	FY22	FY23
Age						
0-18	57	61	52	53	50	53
19-35	3,874	4,104	3,884	4,421	4,645	4,896
36-55	15,931	16,366	15,347	16,569	17,491	18,258
56-75	32,233	34,081	33,126	36,111	37,913	40,107
75+	7,392	8,286	8,300	9,474	10,325	11,876

Geography

Massachusetts	39,235	41,562	40,698	45,147	48,922	52,261
New York	2,355	2,367	2,237	2,462	2,244	2,289
Outside MA (New England)	11,765	12,421	11,847	12,706	13,246	14,077
Outside MA (US)	18,454	19,298	18,433	19,872	19,558	20,646
Outside MA (International)	1,051	1,131	674	668	937	1,042

*International Patient definition from STRATA, based on unique patients with at least one international encounter

^Data in subsection rounded to the nearest 10 to preserve patient anonymity.

Discharges

	FY18	FY19	FY20	FY21	FY22	FY23
Discharges	1,303	1,566	1,420	1,436	1,297	1,300

*Table includes actual discharge numbers for FY18 through FY23. The calculation described in the Application used preliminary discharges for FY21 and FY22.

Case Mix Index (CMI) for medical oncology patients

	FY18	FY19	FY20	FY21	FY22	FY23
CMI	1.95	2.04	-	2.02	2.40	-

*Includes CHIA data for Dana-Farber, BWH and BIDMC. Dana-Farber has omitted FY20 due to COVID-19, and FY23 is not yet available through CHIA.

Average Length of Stay (ALOS) for medical oncology patients

	FY18	FY19	FY20	FY21	FY22	FY23
ALOS (days)	7.54	7.61	-	7.94	8.60	-

*Includes CHIA data for Dana-Farber, BWH and BIDMC. Dana-Farber has omitted FY20 due to COVID-19, and FY23 is not yet available through CHIA.

Percent of Applicant's inpatients admitted through BWH's ED

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	FY18	FY19	FY20	FY21	FY22	FY23
% of Admissions	66.1%	66.8%	-	67.8%	68.2%	-

*Includes CHIA data for Dana-Farber and BWH. Dana-Farber has omitted FY20 due to COVID-19, and FY23 is not yet available through CHIA. The CHIA dataset does not capture this metric directly. Percentage of admissions from BWH's ED is approximated by assuming that all admissions other than "direct transfers from another hospital" and "direct admissions" (including admissions from post-acute facilities, direct from clinic, or from other healthcare or government agencies) are from the BWH ED.

Average Length of Stay (ALOS) in the BWH ED

Application Narrative, pg. 6

	FY18	FY19	FY20	FY21	FY22	FY23
ALOS (hours)	6.9	7.3	7.5	8.7	8.6	-

*Includes CHIA data from MHDC for all BWH ED patients. FY23 data are not yet available. The dataset calculates Length of Stay "by subtracting the arrival date and time from the departure date and time and is reported in hours."

Inpatient Imaging Equipment Utilization

Application Narrative, pg. 13

Metric	FY18	FY19	FY20	FY21	FY22	FY23
MRI						
Inpatient Scans	313	267	387	538	497	504
Percentage of Inpatients Requiring Scan	24%	21%	28%	38%	39%	39%
CT						
Inpatient Scans	699	684	714	917	882	908
Percentage of Inpatients Requiring Scan	54%	44%	51%	65%	68%	71%
PET-CT						
Inpatient Scans	32	38	38	68	56	50
Percentage of Inpatients Requiring Scan	2%	2%	3%	5%	4%	4%

Outpatient Imaging Equipment Utilization Longwood Medical Campus

Application Narrative, pg. 13

Scans	FY18	FY19	FY20	FY21	FY22	FY23
MRI	6,830	8,120	7,845	11,896	14,266	14,948
CT	32,228	33,611	31,505	38,487	43,593	44,467
PET-CT	5,465	5,825	5,610	6,214	6,828	8,646

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LINAC Therapy Utilization

Application Narrative, pg. 14

Metric	FY18	FY19	FY20	FY21	FY22	FY23
Total Radiation Oncology Treatments	20,275	21,067	17,723	20,966	21,059	18,288

*This table includes the total number of radiation oncology treatments for FY18 through FY23. The Application used preliminary data that has been updated and finalized since its submission. Dana-Farber has updated its LINAC need analysis (Tables A-1, A-2, A-3 and 18 from the Application) below using finalized Dana-Farber data for FY23.

Table A-1

Calculation of SSH to Longwood Medical Campus Conversion Factor

Disease Center	Total Outpatients (SSH and Longwood Medical Campus)	Share of Patients Receiving LINAC Therapy - SSH	Share of Patients Receiving LINAC Therapy – Longwood Medical Campus	Conversion Factor
Breast Oncology Center	17,719	14%	3%	4.67x
Head and Neck Oncology	3,141	26%	8%	3.25x
Thoracic Oncology Program	3,903	21%	4%	5.25x
Weighted Average Conversion Factor	--	--	--	4.58x

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Table A-2

Estimate of Longwood Medical Campus LINAC Therapy Patients

Disease Center	Percent of Patients Receiving LINAC Therapy at SSH	Estimated Percent Patients at Longwood Medical Campus Receiving LINAC Therapy	Total Outpatients on the Longwood Medical Campus	Estimated LINAC Therapy Patients -- Longwood Medical Campus
Breast Oncology Center	14%	4%	14,693	588
Cutaneous Oncology Center	23%	6%	2,156	129
Gastrointestinal Oncology	10%	3%	6,881	206
Genitourinary Oncology	16%	4%	7,100	284
Gynecology Oncology	16%	4%	4,059	162
Head and Neck Oncology	26%	6%	2,964	178
Hematologic Malignancies	5%	2%	16,027	321
Hematology Service	1%	1%	2,433	24
Melanoma Center	12%	3%	2,382	71
Neuro-Oncology Center	32%	7%	1,957	137
Sarcoma and Bone Oncology	20%	5%	2,017	101
Thoracic Oncology Program	21%	5%	3,478	174
Other	8%	2%	7,734	155
Total	--	--	73,881	2,530

Table A-3

LINAC Treatments (Applicant)

Metric	2023
Total Patients with LINAC Treatment	2,530
Sessions per Unique Patient	20.3
Total LINAC Sessions	51,359

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Table 18

Projected Demand for LINAC Sessions (w/ Proposed Project)

Metric	Total
Applicant	
Projected 2032 LINAC Sessions	51,460
BIDMC	
Projected 2032 LINAC Sessions	18,080
Total Projected 2032 LINAC Sessions	69,540
Throughput	7,000
Total LINAC Need	10

ALOS for patients admitted to the Applicant's 30-bed inpatient hospital

Application Narrative, pg. 16

	FY18	FY19	FY20	FY21	FY22	FY23
Dana-Farber						
CAR T-Cell ALOS (Days)	-	-	-	-	15.2	-
Autologous Stem Cell Transplantation ALOS (Days)	18.8	19.1	18.9	19.1	19.8	-
Allogeneic Stem Cell Transplantation ALOS (Days)	21.5	18.9	24.6	26.5	25.1	-
BIDMC						
CAR T-Cell (Days)	-	-	-	-	26.2	-
Autologous Stem Cell Transplantation ALOS (Days)	20.8	22.2	34.9	31.0	26.3	-
Allogeneic Stem Cell Transplantation ALOS (Days)	41.0	37.4	39.1	34.3	36.8	-

*Includes CHIA data for Dana-Farber, BWH and BIDMC. Data is supplied for both Dana-Farber and BWH because patients are treated in the first bed available to them, regardless of licensee. FY23 is not yet available through CHIA. No Diagnosis Related Group was available for CAR T-Cell therapy before 2022 and, as such, prior year data are not available.

Average Daily Census (ADC) of oncology beds the Applicant manages in partnership with BWH

Application Narrative, pg. 17

	FY18	FY19	FY20	FY21	FY22	FY23
ADC	250.25	262.02	-	253.09	272.89	-

*Includes CHIA data for Dana-Farber, BWH and BIDMC. Dana-Farber has omitted FY20 due to COVID-19, and FY23 is not yet available through CHIA.

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Patient Days

	FY18	FY19	FY20	FY21	FY22	FY23
Patient Days	91,342	95,636	-	92,378	99,605	-

*Includes CHIA data for Dana-Farber, BWH and BIDMC. Dana-Farber has omitted FY20 due to COVID-19, and FY23 is not yet available through CHIA.

In addition to responses to the above questions, Dana-Farber attaches an overview of its health equity initiatives as Exhibit B.

Exhibit A

Massachusetts

Acushnet	Cotuit	Holyoke	North Eastham	South Walpole	Windsor
Adams	Dalton	Hopedale	North Easton	South Wellfleet	Woods Hole
Agawam	Deerfield	Housatonic	North Falmouth	Southampton	Worcester
Amherst	Dennis	Hyannis Port	North Grafton	Southborough	Yarmouth Port
Ashburnham	Dennis Port	Indian Orchard	North Reading	Southbridge	
Ashby	Dighton	Jefferson	North Scituate	Southfield	
Assonet	Douglas	Kingston	North Truro	Southwick	
Attleboro Falls	Dover	Lancaster	Northampton	Spencer	
Auburn	Dracut	Lanesboro	Northbridge	Springfield	
Auburndale	Dudley	Lawrence	Oak Bluffs	Stockbridge	
Avon	Duxbury	Lee	Orange	Stow	
Ayer	East Brookfield	Leicester	Orleans	Sturbridge	
Baldwinville	East Dennis	Lenox	Osterville	Sutton	
Barnstable	East Freetown	Lincoln	Oxford	Templeton	
Barre	East Sandwich	Littleton	Palmer	Topsfield	
Becket	East Taunton	Longmeadow	Paxton	Tyngsboro	
Belchertown	East Walpole	Lowell	Peabody	Upton	
Berkley	East Wareham	Ludlow	Pepperell	Uxbridge	
Berlin	Eastham	Lunenburg	Plainville	Village Of Nagog	
				Woods	
Bernardston	Edgartown	Lynn	Plymouth	Vineyard Haven	
Blackstone	Erving	Manchester	Plympton	Waltham	
Bolton	Fall River	Mattapoisett	Pocasset	Ware	
Boston	Feeding Hills	Medfield	Princeton	Warren	
Boxborough	Florence	Medford	Provincetown	Webster	
Boxford	Forestdale	Merrimac	Richmond	Wellfleet	
Boylston	Grafton	Millbury	Rochester	Wenham	
Brewster	Granby	Millers Falls	Rockport	West Barnstable	
Brimfield	Great Barrington	Millis	Rowley	West Boylston	
Brookfield	Greenfield	Millville	Royalston	West Brookfield	
Bryantville	Groveland	Monson	Rutland	West Dennis	
Buzzards Bay	Hadley	Montague	Sagamore	West Falmouth	
Byfield	Halifax	Monterey	Sagamore Beach	West Newbury	
Cambridge	Hampden	Monument Beach	Salisbury	West Springfield	
Carlisle	Hanscom Air Force Base	Nahant	Seekonk	West Stockbridge	
Cataumet	Hanson	Nantucket	Shelburne Falls	West Tisbury	
Charlton	Harvard	New Bedford	Shirley	West Townsend	
Charlton City	Harwich	Newbury	Somerset	West Wareham	
Cherry Valley	Harwich Port	Newburyport	Somerville	West Yarmouth	
Cheshire	Hatfield	Newton	South Chatham	Westminster	
Chicopee	Haverhill	North Adams	South Deerfield	Westminster	
Chilmark	Hinsdale	North Attleboro	South Hadley	Whitinsville	
Clinton	Holden	North Billerica	South Hamilton	Williamstown	
Conway	Holland	North Dighton	South Orleans	Winchendon	

Connecticut		Maine		
Baltic	Plainfield	Acton	Harrison	Sangerville
Bantam	Plainville	Alfred	Houlton	Scarborough
Berlin	Preston	Andover	Jackman	Skowhegan
Bloomfield	Putnam	Auburn	Jonesboro	Smithfield
Bozrah	Redding	Augusta	Kennebunk	Solon
Bridgeport	Rocky Hill	Bangor	Kingfield	South China
Bristol	Somers	Bar Harbor	Kittery	South Portland
Brookfield	South Glastonbury	Belgrade Lakes	Kittery Point	Springfield
Colchester	South Windham	Berwick	Lebanon	Springvale
Cromwell	Southington	Biddeford	Levant	Standish
Darien	Stafford Springs	Blue Hill	Litchfield	Stockton Springs
Dayville	Stamford	Brewer	Machiasport	Stonington
East Haven	Stamford	Bridgton	Madison	Strong
Eastford	Sterling	Bristol	Manchester	Topsham
Ellington	Stonington	Brunswick	Mars Hill	Union
Enfield	Storrs Mansfield	Calais	Mechanic Falls	Unity
Essex	Suffield	Cambridge	Millinocket	Waldoboro
Farmington	Terryville	Cape Neddick	Milo	Washburn
Glastonbury	Thompson	Cherryfield	Monmouth	Waterford
Granby	Tolland	Cushing	Moody	Waterville
Groton	Vernon Rockville	Deer Isle	Morrill	Wells
Guilford	Waterbury	East Baldwin	Newport	Westbrook
Hampton	Wauregan	East Machias	Norridgewock	Whitefield
Hebron	West Hartford	East Waterboro	North Berwick	Windham
Jewett City	West Haven	Eastport	North Yarmouth	Woolwich
Manchester	Westbrook	Eddington	Northeast Harbor	Yarmouth
Manchester	Westport	Eliot	Oakland	York
Mansfield Center	Wethersfield	Ellsworth	Ogunquit	
Middletown	Willimantic	Fairfield	Old Orchard Beach	
Milford	Wilton	Falmouth	Old Town	
Moosup	Windsor	Farmingdale	Oquossoc	
New Britain	Windsor Locks	Farmington	Orono	
New Hartford	Winsted	Freeport	Pembroke	
New Haven	Wolcott	Friendship	Plymouth	
New London	Woodstock	Fryeburg	Portland	
Newington	Woodstock Valley	Gardiner	Presque Isle	
Niantic		Garland	Richmond	
North		Gorham	Rockland	
Grosvenordale		Gouldsboro	Sabattus	
North Haven		Gray	Saco	
North Stonington		Hampden	Saint Albans	
Norwich		Harpswell	Saint Francis	
Old Lyme		Harrington	Sanford	
Old Saybrook				

New Hampshire			New York		Rhode Island
Alstead	Harrisville	Salisbury	Albany	North Creek	Barrington
Alton Bay	Hill	Sanbornton	Amsterdam	Palatine Bridge	Bristol
Amherst	Hillsborough	Sanbornville	Argyle	Piercefield	Charlestown
Atkinson	Hollis	Sandown	Ballston Lake	Plattsburgh	Chepachet
Auburn	Hooksett	Seabrook	Bolton Landing	Poestenkill	Coventry
Barnstead	Jaffrey	Somersworth	Camillus	Pulaski	Cranston
Belmont	Keene	Stoddard	Canaan	Putnam Station	East Greenwich
Berlin	Kingston	Strafford	Canandaigua	Ravena	East Providence
Bow	Laconia	Stratham	Castleton On Hudson	Red Hook	Exeter
Bristol	Lancaster	Suncook	Cazenovia	Redwood	Greenville
Brookline	Lee	Swansey	Chatham	Rensselaer	Harmony
Canterbury	Litchfield	Tilton	Chaumont	Richfield Springs	Harrisville
Center Tuftonboro	Littleton	Union	Cincinnatus	Saratoga Springs	Hope
Chester	Loudon	Weare	Clinton	Schenectady	Hope Valley
Chichester	Manchester	Wentworth	Cohoes	Schuylerville	Jamestown
Colebrook	Meredith	West Chesterfield	Congers	Selkirk	Johnston
Concord	Merrimack	Westmoreland	Corinth	Slingerlands	Narragansett
Contoocook	Milford	Wilton	Delmar	South Glens Falls	Newport
Cornish	Monroe	Winchester	Duanesburg	Taberg	North Smithfield
Danville	Moultonborough		East Amherst	Ticonderoga	Pascoag
Dover	Nashua		East Chatham	Troy	Pawtucket
Dublin	New Boston		East Greenbush	Tupper Lake	Pawtucket
Durham	New Castle		East Syracuse	Utica	Providence
East Hampstead	New Hampton		Glen Head	Valatie	Riverside
East Kingston	New Ipswich		Glenmont	Voorheesville	Rumford
East Wakefield	New London		Glens Falls	Walton	Saunderstown
Epping	Newbury		Great Neck	Waterford	Smithfield
Epsom	Newmarket		Greenfield Center	Watervliet	Tiverton
Exeter	Newton		Greenville	Watkins Glen	Wakefield
Farmington	North Hampton		Guilderland	West Sand Lake	Warren
Fitzwilliam	Nottingham		Hammondsport		Warwick
Franconia	Orford		Honeoye		West Greenwich
Fremont	Pelham		Hoosick Falls		West Warwick
Gilford	Peterborough		Hudson		Wood River Junction
Gilmanton Iron Works	Plaistow		Johnson City		Wyoming
Gilsum	Plymouth		Johnstown		
Glen	Raymond		Lake Luzerne		
Goffstown	Rindge		Lockport		
Grantham	Rochester		Macedon		
Greenland	Rollinsford		Millbrook		
Greenville	Rye		Mount Sinai		
Hampton	Rye Beach		Mount Tremper		
Hampton Falls	Salem		New York City		

Vermont

Barre	West Dover
Bellows Falls	Westminster
Belmont	White River Junction
Bennington	Wolcott
Brattleboro	Woodstock
Brattleboro	Worcester
Bridport	
Bristol	
Burlington	
Burlington	
Charlotte	
Chester	
Colchester	
Derby	
East Calais	
East Thetford	
Essex Junction	
Grand Isle	
Highgate Center	
Hinesburg	
Killington	
Manchester	
Manchester Center	
Middlebury	
Milton	
Montpelier	
Morrisville	
Newport	
North Bennington	
North Hero	
Perkinsville	
Poultney	
Proctor	
Richmond	
Rutland	
Saint Albans	
Shaftsbury	
Shelburne	
Stamford	
Stowe	
Vergennes	
Waitsfield	
Wallingford	

Exhibit B

Dana-Farber: Health Equity Initiatives

To support enhancing patient access and improving cancer care outcomes, Dana-Farber is committed to the advancement of greater health equity across the cancer care continuum. Below is an overview of five key access and equity initiatives that exemplify the impactful work we are currently doing and planning to do in connection with the new Dana-Farber cancer hospital.

1 – Screening and Education – In alignment with City of Boston public health priorities, Dana-Farber will launch a new broad-based community screening and education campaign to increase awareness and access, with a focus on community practices and community health centers.

- Initiative will leverage community-based programs currently in development with partners (i.e., MassLeague, Boston Public Health Commission, etc.) to increase access to screening, reduce the age mortality gap and address the ongoing cancer disparities gap, especially in specific cancer types (e.g. colorectal).
- A multi-level approach will increase overall access to health care by harnessing community education, screening access, and assessment of impacts. Through these efforts we will more efficiently and effectively move patients along the cancer care continuum from the community to screening and then through diagnosis.
- Dana-Farber will leverage existing Massachusetts incidence and mortality data (i.e., Health of Boston Cancer Report¹, Dana-Farber Community Health Needs Assessment (CHNA)², etc.) as well as the new Dana-Farber Enterprise-Wide Patient Demographics Tableau Dashboard³ to determine appropriate process/outcome measures and to assess our impact on reducing screening barriers/gaps and improving patient outcomes.

2 – Workforce and Pipeline – Expand and create workforce development/pipeline programs for Dana-Farber to increase access to sustainable jobs and careers for local community members.

- Dana-Farber will continue to enhance workforce hiring processes, create multi-level professional pathways to careers in healthcare and develop new programs for historically marginalized communities in collaboration with community partners (i.e., Roxbury Community College, Urban League, Boston Public Schools, YMCA Training Inc, JVS, etc.). These initiatives will support a diverse workforce and culturally competent providers in the new hospital, help address economic mobility and existing wage disparities, and mitigate any need to recruit staff away from community hospitals.
- New initiatives over the next few years will include:
 - Development of a Workforce Development Strategy to leverage untapped talent sources in Boston and surrounding neighborhoods
 - New pipeline programs to fill new and evolving healthcare roles (i.e., biotech, clinical support)
 - Programs to support ESL, citizenship, job skills, and college readiness
 - Expansion of scholarship/resource and mentorship/sponsorship programs

- Dana-Farber will continue to track demographics of participants for these workforce development programs as well as gather feedback from participants to better understand overall program success.

3 – Patient Navigation – Expand community-focused patient navigation services (1) to entire cancer center, including regional sites, with intentional integration of access & equity into clinical operations of the new cancer hospital and a focus on patients from priority neighborhoods (in alignment with Dana Farber’s CHNA²); and (2) **in community health centers and community networks** to aid in increased access to cancer care.

- Dana-Farber will replicate and expand existing co-location model within a community health center⁴ to incorporate both cancer diagnostic services and patient navigation for expedited evaluation and resolution of potential cancer diagnoses. Integrating such services enhances coordination and delivery of services and extends navigation from prevention through survivorship/end-of-life care and better connects patients to care throughout the cancer care continuum^{5,7}.
- Expansion of patient navigation and extension of the patient navigation professional pathway acts as a cost-containment strategy. Data show improved navigation decreases unintended hospitalizations and associated costs⁶.

4 – Patient Equity Dashboard – Implement Dana-Farber Enterprise-Wide Patient Demographics Tableau Dashboard³ to standardize reporting of patient-level equity data and make information more accessible for integration into programs and program measurement.

- Dana-Farber will launch an innovative health equity patient dashboard expected in Spring 2024, with planned future iterations to incorporate additional patient populations and data functionalities. This work is being done in conjunction with Dana-Farber’s Quality and Patient Safety department to better advise on clinical access, health quality, and equity work across Dana-Farber.
- Very few cancer centers have been able to develop and launch a similar dashboard focused on cancer. The Dana-Farber Enterprise-Wide Patient Demographics Dashboard is unique in that it addresses a broad need to unify operational data with health equity/social justice data, including SDoH and SOGI data, in support of targeted interventions and program improvements.
- Dashboard includes clinical data for patients with an encounter at any Dana-Farber location (outpatient data only).

5 – Patient Financial Assistance — Dana-Farber will identify and pursue opportunities to improve patient financial access and reduce cost barriers for patients.

- Using publicly available information, Dana-Farber will initiate a process to review and compare existing financial assistance policies with Beth Israel Deaconess Medical Center and identify opportunities for alignment with the goal of reducing cost barriers for patients.
- Currently developing an initiative to promote access to screening mammography for historically marginalized communities by reducing cost barriers for such screenings on Dana-Farber’s Mammography Van and at Dana-Farber’s Mammography Suite at Whittier Street Health Center, consistent with regulatory guidance.

Supporting Data Sources and Literature

¹*Health of Boston 2023 Cancer Report* ([Link](#))

“This report highlights trends in cancer screening, incidence, and mortality for Boston residents. Data sources include the US Census, MA death and cancer registries, and surveys that describe individual health conditions and behaviors of Boston residents. This data reflects much of what had been generated for the 2022 Dana-Farber Community Health Needs Assessment (CHNA), a project providing deeper understanding of cancer-related health issues facing Boston residents including cancer risks and cancer experiences.”

As noted in the 2023 Health of Boston reports, persistent health inequities in Boston were pronounced in premature mortality (death before the age of 65 years). From 2017-2021, Black residents in Boston experienced the greatest increase and specific neighborhoods with higher concentrations of Black and Latinx residents and lower median income (Dorchester, Roxbury) experienced higher premature mortality.

From 2015 to 2021, the cancer mortality rate decreased overall (specifically for breast cancer, colorectal cancer, liver cancer, and lung cancer), but the cancer mortality rate was highest among Black males and females.

Addressing these gaps and disparities has been identified as a City of Boston priority by Mayor Wu and Public Health Commissioner Dr. Ojikutu.

²*Dana-Farber Community Health Needs Assessment* ([Link](#))

In addition to satisfying the CHNA report requirement, this assessment also “aimed to gain a deep understanding of health issues facing Boston residents including cancer risks and cancer experiences. This report presents findings from cancer-focused data collection and analysis and also integrates key results from a larger Boston CHNA to provide a deeper dive from the perspective of residents, cancer patients, and survivors regarding their experiences, concerns, supports, and challenges related to cancer prevention, screening, treatment, and survivorship within the larger framework of the social determinants of health.”

³*Dana-Farber Enterprise-Wide Patient Demographics Tableau Dashboard* (implemented May 2024)

This dashboard is an internal initiative led by Dana-Farber’s Cancer Care Equity Program with a goal to standardize equity reporting and make information more accessible for integration into projects and program measurement. It includes internal clinical and equity data for patients with a Dana-Farber encounter (outpatient data only). Demographic data collected includes: race, ethnicity, age, language, location, sexual orientation, gender identity, sex assigned at birth, gender description, and payor.

⁴*The Colocation Model in Community Cancer Care: A Description of Patient Clinical and Demographic Attributes and Referral Pathways (2023, [Link](#))*

Dana-Farber initiated a clinical outreach program incorporating cancer diagnostic services and patient navigation within a federally qualified health center to expedite evaluation and resolution of potential cancer diagnoses with the goal of collaboration between oncology specialists and primary care providers in a historically marginalized community in Boston, MA. This article suggests that integrating such services offers promise for enhancing the coordination and delivery of cancer diagnostic services among historically marginalized populations and could be a method to address clinical access disparities.

⁵*Patient navigation across the cancer care continuum: An overview of systematic reviews and emerging literature (2023, [Link](#))*

This review suggests that “patient navigation is effective in improving participation in cancer screening and reducing the time from screening to diagnosis and from diagnosis to treatment initiation; emerging evidence suggests that patient navigation improves quality of life and patient satisfaction with care in the survivorship phase and reduces hospital readmission in the active treatment and survivorship care phases.”

⁶*Best Practices for Reducing Unplanned Acute Care for Patients With Cancer (2018, [Link](#))*

Five strategies were identified to reduce unplanned acute care for patients with cancer: (1) identify patients at high risk for unplanned acute care; (2) enhance access and care coordination; (3) standardize clinical pathways for symptom management; (4) develop new loci for urgent cancer care; and (5) use early palliative care. Patient navigation was identified as a mechanism to enhance access and care continuity, and data from University of Alabama Birmingham’s Patient Care Connect Program, that employs non-clinical navigators, showed navigators decreased ED visits and all-cause hospitalizations.

⁷*Effect of an Antiracism Intervention on Racial Disparities in Time to Lung Cancer Surgery (2022, [Link](#))*

Timely lung cancer surgery is a metric of high-quality cancer care and improves survival for early-stage non-small-cell lung cancer. Historically, Black patients experience longer delays to surgery than White patients and have lower survival rates. This study conducted an analysis of Accountability for Cancer Care through Undoing Racism and Equity (ACCURE), an antiracism prospective pragmatic trial, at five cancer centers to assess the impact on overall timeliness of lung cancer surgery and racial disparities in timely surgery. Their findings suggested that patient navigation was likely an important driver of timely surgery, “patient navigation is a well-known intervention with demonstrated evidence for improving patient adherence to care across the cancer continuum for multiple cancer types.”