**APPLICATION FOR DETERMINATION OF NEED**

**SUBSTANTIAL CAPITAL EXPENDITURE CAPE COD HOSPITAL**

**APPLICATION # CCHC-22021416-HE**

**MARCH 1, 2022 BY**

**CAPE COD HEALTHCARE, INC.**

**27 PARK STREET**

**HYANNIS, MA 02601**

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**APPENDIX 1 APPLICATION FORM**

**Massachusetts Department of Public Health Determination of Need**

**Application Form**

Version: 11-8-17

Application Type:

Hospital/Clinic Substantial Capital Expenditure

Application Date:

03/01/2022

Applicant Name:

Cape Cod Healthcare, Inc.

27 Park Street

Mailing Address: City:

Hyannis

Massachusetts

02601

Michael Bachstein

Vice President of Facilities

State:

Zip Code:

Contact Person: Title:

27 Park Street

Mailing Address: City:

Hyannis

State:

Zip Code:

Phone: Ext: E-mail:

Massachusetts

02601

5088625225

MBachstein@capecodhealth.org

1 Facility Name:

Cape Cod Hospital

Facility Address: 27 Park Street

City: Hyannis

State: Massachusetts

Zip Code: 02601

Facility type:

Hospital

CMS Number: 220135

**Facility Information**

**List each facility affected and or included in Proposed Project**

Delete this Facility

Add additional Facility

# About the Applicant

* 1. Type of organization (of the Applicant):

nonprofit

* 1. Applicant's Business Type: Corporation Limited Partnership Partnership Trust LLC Other
	2. What is the acronym used by the Applicant's Organization?

CCHC

* 1. Is Applicant a registered provider organization as the term is used in the HPC/CHIA RPO program? Yes No
	2. Is Applicant or any affiliated entity an HPC-certified ACO?

Yes  No

1.5.a If yes, what is the legal name of that entity?

Steward Health Care Network, Inc.

* 1. Is Applicant or any affiliate thereof subject to M.G.L. c. 6D, § 13 and 958 CMR 7.00 (filing of Notice of Material Change to the Health Policy Commission)?

 Yes No

* 1. Does the Proposed Project also require the filing of a MCN with the HPC?  Yes No
	2. Has the Applicant or any subsidiary thereof been notified pursuant to M.G.L. c. 12C, § 16 that it is exceeding the health care cost growth benchmark established under M.G.L. c. 6D, § 9 and is thus, pursuant to M.G.L. c. 6D, §10 required to file a performance improvement plan with CHIA?

Yes No

1.9 Complete the Affiliated Parties Form

**2. Project Description**

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

See attached narrative.

2.2 and 2.3 Complete the Change in Service Form

1. **Delegated Review**
	1. Do you assert that this Application is eligible for Delegated Review?

Yes

No

1. **Conservation Project**
	1. Are you submitting this Application as a Conservation Project?

Yes

No

1. **DoN-Required Services and DoN-Required Equipment**
	1. Is this an application filed pursuant to 105 CMR 100.725: DoN-Required Equipment and DoN-Required Service?

Yes

No

1. **Transfer of Ownership**
	1. Is this an application filed pursuant to 105 CMR 100.735?

Yes

No

1. **Ambulatory Surgery**
	1. Is this an application filed pursuant to 105 CMR 100.740(A) for Ambulatory Surgery?

Yes

No

1. **Transfer of Site**
	1. Is this an application filed pursuant to 105 CMR 100.745?

Yes

No

1. **Research Exemption**
	1. Is this an application for a Research Exemption?

Yes

No

1. **Amendment**
	1. Is this an application for a Amendment?

Yes

No

1. **Emergency Application**
	1. Is this an application filed pursuant to 105 CMR 100.740(B)?

Yes

No

# 12. Total Value and Filing Fee

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

**Your project application is for:** Hospital/Clinic Substantial Capital Expenditure

12.1 Total Value of this project:

$137,048,632.00

12.4 Maximum Incremental Operating Expense resulting from the Proposed Project:

$4,942,000.00

$274,097.26

12.3 Filing Fee: (calculated)

$6,852,431.60

12.2 Total CHI commitment expressed in dollars: (calculated)

12.5 Total proposed Construction costs, specifically related to the Proposed Project, If any, which will be contracted out to local or minority, women, or veteran-owned businesses expressed in estimated total dollars.

|  |
| --- |
| **13. Factors** |
| Required Information and supporting documentation consistent with 105 CMR 100.210Some Factors will not appear depending upon the type of license you are applying for. Text fields will expand to fit your response. |
| **Factor 1: Applicant Patient Panel Need, Public Health Values and Operational Objectives** |

F1.a.i **Patient Panel:**

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

See attached narrative.

F1.a.ii **Need by Patient Panel:**

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

See attached narrative.

F1.a.iii **Competition:**

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

See attached narrative.

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

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

See attached narrative.

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

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

See attached narrative.

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

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

See attached narrative.

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

See attached narrative.

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

See attached narrative.

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

See attached narrative.

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

See attached narrative.

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

See attached narrative.

**Factor 2: Health Priorities**

F2.a **Cost Containment:**

Addresses the impact of the Proposed Project on health more broadly (that is, beyond the Patient Panel) requiring that the Applicant

demonstrate that the Proposed Project will meaningfully contribute to the Commonwealth's goals for cost containment, improved public health outcomes, and delivery system transformation.

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

See attached narrative.

## F2.b Public Health Outcomes:

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

See attached narrative.

## F2.c Delivery System Transformation:

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

See attached narrative.

|  |
| --- |
| **Factor 3: Compliance** |
| Applicant certifies, by virtue of submitting this Application that it is in compliance and good standing with federal, state, and local lawsand regulations, including, but not limited to M.G.L. c. 30, §§ 61 through 62H and the applicable regulations thereunder, and in compliance with all previously issued notices of Determination of Need and the terms and conditions attached therein . |
| F3.a Please list all previously issued Notices of Determination of Need |
| Add/Del Rows | Project Number | Date Approved | Type of Notification | Facility Name |
| + - | NA | 04/17/2020 | Emergency Substantial Change in Service | Cape Cod Hospital |

|  |
| --- |
| **Factor 4: Financial Feasibility and Reasonableness of Expenditures and Costs** |
| Applicant has provided (as an attachment) a certification, by an independent certified public accountant (CPA) as to the availability of sufficient funds for capital and ongoing operating costs necessary to support the Proposed Project without negative impacts or consequences to the Applicant's existing Patient Panel. |
| F4.a.i **Capital Costs Chart:**For each Functional Area document the square footage and costs for New Construction and/or Renovations. |
|  | Present SquareFootage | Square Footage Involved in Project | Resulting SquareFootage | Total Cost | Cost/Square Footage |
|  | New Construction | Renovation |  |  |  |
| Add/Del Rows | Functional Areas | Net | Gross | Net | Gross | Net | Gross | Net | Gross | New Construction | Renovation | New Construction | Renovation |
| + | - | See Appendix 4.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total: (calculated) |  |  |  |  |  |  |  |  |  |  |  |  |

Application Form Cape Cod Healthcare, Inc.

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|  |
| --- |
| F4.a.ii For each Category of Expenditure document New Construction and/or Renovation Costs. |
|  | Category of Expenditure | New Construction | Renovation | Total(calculated) |
|  | **Land Costs** |
| Land Acquisition Cost |  |  |  |
| Site Survey and Soil Investigation | $22000. |  | $22000. |
| Other Non-Depreciable Land Development |  |  |  |
|  | Total Land Costs | $22000. |  | $22000. |
|  | **Construction Contract (including bonding cost)** |
|  | Depreciable Land Development Cost |  |  |  |
|  | Building Acquisition Cost | $611500. |  | $611500. |
|  | Construction Contract (including bonding cost) | $116271912. | $2625000. | $118896912. |
|  | Fixed Equipment Not in Contract | $7385800. |  | $7385800. |
|  | Architectural Cost (Including fee, Printing, supervision etc.) and Engineering Cost | $6399812. | $130608. | $6530420. |
|  | Pre-filing Planning and Development Costs | $1487000. |  | $1487000. |
|  | Post-filing Planning and Development Costs | $2115000. |  | $2115000. |
| Add/DelRows | Other (specify) |
| + - |  |  |  |  |
|  | Net Interest Expensed During Construction |  |  |  |
|  | Major Movable Equipment |  |  |  |
|  | Total Construction Costs | $134271024. | $2755608. | $137026632. |
|  | **Financing Costs:** |
|  | Cost of Securing Financing (legal, administrative, feasibility studies, mortgage insurance, printing, etc |  |  |  |
|  | Bond Discount |  |  |  |
| Add/DelRows | Other (specify |
| + - |  |  |  |  |
|  | Total Financing Costs |  |  |  |
|  | **Estimated Total Capital Expenditure** | $134293024. | $2755608. | $137048632. |

 **Factor 5: Relative Merit**

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

## Proposal:

See attached narrative.

## Quality:

See attached narrative.

## Efficiency:

See attached narrative.

## Capital Expense:

See attached narrative.

## Operating Costs:

See attached narrative.

List alternative options for the Proposed Project:

## Alternative Proposal:

See attached narrative.

## Alternative Quality:

See attached narrative.

## Alternative Efficiency:

See attached narrative.

## Alternative Capital Expense:

See attached narrative.

## Alternative Operating Costs:

See attached narrative.

Add additional Alternative Project

Delete this Alternative Project

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

**Documentation Check List**

Copy of Notice of Intent Affidavit of Truthfulness Form

The Check List below will assist you in keeping track of additional documentation needed for your application.

Once you have completed this Application Form the additional documents needed for your application will be on this list. E-mail the documents as an attachment to: DPH.DON@state.ma.us

Scanned copy of Application Fee Check Affiliated Parties Table Question 1.9

Change in Service Tables Questions 2.2 and 2.3

Certification from an independent Certified Public Accountant Articles of Organization / Trust Agreement

Community Engagement Plan form

Current IRS Form, 990 Schedule H CHNA/CHIP and/or Current CHNA/CHIP submitted to Massachusetts AGO's Office Community Engagement Stakeholder Assessment form

Community Engagement-Self Assessment form

**Document Ready for Filing**

## This document is ready to file:

When document is complete click on "document is ready to file". This will lock in the responses and date and time stamp the form.

To make changes to the document un-check the "document is ready to file" box. Edit document then lock file and submit Keep a copy for your records. Click on the "Save" button at the bottom of the page.

To submit the application electronically, click on the"E-mail submission to Determination of Need" button.

Date/time Stamp:

E-mail submission to Determination of Need

**Application Number: CCHC-22021416-HE**

**Use this number on all communications regarding this application.**

Community Engagement-Self Assessment form

**APPENDIX 2 NARRATIVE**

**2. Project Description**

Cape Cod Healthcare, Inc (the “Applicant” or the “System”), located at 27 Park Street, Hyannis, MA 02601, is filing a Notice of Determination of Need (“Application”) with the Massachusetts Department of Public Health for the construction of a new facility on the main campus of Cape Cod Hospital (the “Hospital” or “CCH”) at the same address. The proposed facility will contain the following: (1) relocated and expanded medical oncology department; (2) relocated radiation oncology department; (3) relocated medical/surgical unit consisting of 32 beds; and (4) shell space for future projects (collectively, the “Proposed Project”). In addition, the Hospital’s outpatient obstetrics and gynecology department will be relocated to accommodate the new facility.

The Applicant is the predominant provider of healthcare services for residents and visitors of Cape Cod. With more than 450 physicians, 5,300 employees and 790 volunteers, Cape Cod Healthcare includes two acute care hospitals, homecare and hospice services, a skilled nursing and rehabilitation facility, an assisted living facility, an ambulatory surgery center, and numerous primary and specialty care physician practices along with many other health programs. Cape Cod Hospital is a not-for-profit regional medical center located in Hyannis, Massachusetts. In addition to emergency services, the Hospital also provides Barnstable County residents and visitors with access to a full complement of hospital services including cardiovascular surgery, medical and radiation oncology services, and inpatient psychiatric care.

In order to meet the needs of the Hospital’s Patient Panel, the Applicant requests DoN approval to construct a four-story facility on the Hospital’s main campus that will include a relocated and expanded outpatient oncology service, a relocated radiation therapy service, and a relocated, 32-bed medical-surgical unit, as well as shell space for future services as demand warrants. The Proposed Project is necessary to co-locate and centralize cardiac and cancer services, provide an improved patient care experience through modern facilities and technology, and expand capacity to medical oncology services. Due to the aged infrastructure of the Hospital’s current campus, further renovations to bring the Hospital’s oncology services and cardiac medical-surgical units are not feasible given the limited footprint of the building. In addition to prohibitive costs, the necessary renovations to bring the space into compliance would result in fewer beds and would not include space to support clinical team collaboration, to accommodate new technologies, or to provide amenities to families. Moreover, the Hospital’s current oncology departments are located in multiple, non- adjacent areas. Through the Proposed Project, existing cancer services will be centralized in one building, in addition to expanded integrative services allowed by the new facility’s larger space. Not only will centralized services improve patient satisfaction and provide more efficient care delivery, but the Applicant anticipates this model will promote improved care coordination and continuity of care, in turn further improving health outcomes and quality of life.

Finally, the Proposed Project will meaningfully contribute to Massachusetts’ goals for cost containment by providing high-quality services within the community. First, increased capacity for medical appointments and chemotherapy will reduce delays to beginning and receiving treatment. Second, the proposed cancer center will offer same-day acute appointments which has been shown to reduce emergency room utilization and inpatient admissions. Lastly, the proposed cancer center will expand its integrative services offerings to promote wholistic well-being and improved health outcomes. Moreover, the relocated services will not be reimbursed at different rates. Therefore, the Proposed Project will further The Commonwealth’s goals of containing the rate of growth of total medical expenses (“TME”) and total healthcare expenditures (“THCE”) by providing access to outpatient oncology services and inpatient cardiac services on Cape Cod.

In sum, the Proposed Project is necessary to ensure access to high-quality outpatient cancer and inpatient cardiac care that is accessible to the Hospital’s Patient Panel, without increasing health care costs. Through the centralization of services and facility improvements afforded by the new facility, the Applicant will improve care delivery as well as health outcomes and quality of life. Accordingly, the Proposed Project meets the factors of review for Determination of Need approval.

1

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

**F1.a.i Patient Panel:**

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

1. Cape Cod Healthcare

Cape Cod Healthcare is the largest provider of healthcare services for residents and visitors of Cape Cod. With more than 450 physicians, 5,300 employees and 790 volunteers, the System has two acute care hospitals (Cape Cod Hospital and Falmouth Hospital), homecare and hospice services, a skilled nursing and rehabilitation facility (JML Care Center), an assisted living facility (Heritage at Falmouth), and numerous health programs. It provides the majority of care for Barnstable County’s year-round residents as well as the more than 5 million seasonal tourists who vacation there each summer.

*Patient Panel*[*1*](#_bookmark0)

Consistent with state and national trends due to the COVID-19 pandemic, CCHC’s patient panel decreased slightly during the height of the pandemic but has largely returned to pre-pandemic levels when accounting for utilization attributed solely to COVID-19 testing, which the System provided exclusively at Cape Cod Hospital.

In FY21, approximately 55% of the Applicant’s Patient Panel are female and 45% are male. The majority of patients are aged 18-64. 37% of patients are aged 65 and older as well as 10% of patient who are under the age of 18. 81% of patients self-identified as White. Patients also self-identified as Black/African American – 3.3%, Asian - .65%, and American Indian/Alaska Native - .17%. An additional 14% of patients self-reported as a race or ethnicity other than the options available or either declined to report their race or ethnicity.

1 CCHC converted to a new electronic health record in FY2021. Panel data reflects differences in system reporting.

**TABLE 1: CAPE COD HEALTHCARE DEMOGRAPHICS**[**2**](#_bookmark1)

|  |  |  |  |
| --- | --- | --- | --- |
| Demographic Measure | FY19 | FY20 | FY21 |
| Count (n) | Pct. (%) | Count (n) | Pct. (%) | Count (n) | Pct. (%) |
| Unique Patients | 167,432 |  | 148,994 |  | 224,079 |  |
| GENDER |
| Male | 70,481 | 42% | 63,151 | 42% | 100,209 | 45% |
| Female | 96,914 | 58% | 85,785 | 58% | 124,327 | 55% |
| Other/Unknown | 37 | 0% | 58 | 0% | 173 | 0% |
| Total | 167,432 | 100% | 148,994 | 100% | 224,709 | 100% |
| AGE |
| 0-17 | 19,223 | 11% | 14,330 | 10% | 21,917 | 10% |
| 18-64 | 89,083 | 53% | 80,732 | 54% | 120,259 | 54% |
| 65+ | 61,218 | 36% | 55,772 | 37% | 82,533 | 37% |
| Total[3](#_bookmark2) | 169,524 | 100% | 150,834 | 100% | 224,709 | 100% |
| RACE/ETHINICITY |
| American Indian or Alaska Native | 0 | 0.00% | 0 | 0.00% | 387 | 0.17% |
| Asian | 767 | 0.46% | 654 | 0.44% | 1,471 | 0.65% |
| Black or African American | 3,967 | 2.37% | 3,372 | 2.26% | 7,479 | 3.33% |
| Hispanic or Latino | 190 | 0.11% | 186 | 0.12% | 0 | 0.00% |
| Native Hawaiian or Other Pacific Islander | 0 | 0.00% | 0 | 0.00% | 57 | 0.03% |
| White or Caucasian | 84,541 | 50.49% | 71,472 | 47.97% | 182,514 | 81.22% |
| Other/Unknown | 77,967 | 46.57% | 73,310 | 49.20% | 32,801 | 14.60% |
| Total | 167,432 | 100% | 148,994 | 100% | 224,709 | 100% |

2 Included entities for FY19 and FY20 are Cape Cod Hospital and Falmouth Hospital. Medical Affiliated of Cape Cod is included in reported beginning in FY21.

3 CCHC converted to a new electronic health record in FY2021. The former system counted patients before and after their birthday if they had multiple visits. Due to this counting system, the totals for FY19 and FY20 reflect a slightly higher number of patients than true unique patients.

The majority of CCHC’s patients reside in Barnstable County, though a sizeable number of patients originated from elsewhere in Massachusetts (12%) as well as outside of Massachusetts (7%).

**TABLE 2: CAPE COD HEALTHCARE GEOGRAPHIC ORIGIN**

|  |  |  |  |
| --- | --- | --- | --- |
| Geographic Origin | FY19 | FY20 | FY21 |
| Count (n) | Pct. % | Count (n) | Pct. % | Count (n) | Pct. % |
| Barnstable | 33,220 | 19% | 30,110 | 20% | 42,288 | 19% |
| Bourne | 8,443 | 5% | 7,461 | 5% | 10,887 | 5% |
| Brewster | 6,312 | 4% | 5,653 | 4% | 8,174 | 4% |
| Chatham | 4,466 | 3% | 4,034 | 3% | 5,629 | 3% |
| Dennis | 9,315 | 5% | 8,405 | 6% | 11,895 | 5% |
| Eastham | 3,262 | 2% | 2,978 | 2% | 4,250 | 2% |
| Falmouth | 20,985 | 12% | 19,096 | 13% | 26,076 | 12% |
| Harwich | 9,107 | 5% | 8,231 | 5% | 11,233 | 5% |
| Mashpee | 9,522 | 6% | 8,611 | 6% | 11,946 | 5% |
| Orleans | 4,601 | 3% | 4,017 | 3% | 5,469 | 2% |
| Provincetown | 1,455 | 1% | 1,224 | 1% | 1,930 | 1% |
| Sandwich | 11,979 | 7% | 10,922 | 7% | 15,293 | 7% |
| Truro | 999 | 1% | 900 | 1% | 1,383 | 1% |
| Wellfleet | 1,686 | 1% | 1,536 | 1% | 2,222 | 1% |
| Yarmouth | 16,351 | 10% | 14,916 | 10% | 21,078 | 9% |
| Barnstable County | 141,703 | 83% | 128,094 | 85% | 179,753 | 80% |
| Other MA | 17,100 | 10% | 14,692 | 10% | 27,717 | 12% |
| Outside MA | 11,441 | 7% | 7,973 | 5% | 16,205 | 7% |
| Unknown | 727 | 0% | 344 | 0% | 1,034 | 0% |
| TOTAL[4](#_bookmark3) | 170,971 | 100% | 151,103 | 100% | 224,709 | 100% |

The majority of the Applicant’s Patient Panel received insurance coverage through Medicare Fee-for- Service (42.6%) and an additional 9.2% of patients were insured by a Medicare Advantage plan. In addition, 32% of patients were covered by a commercial plan, as well as MassHealth (2.8%) and managed Medicaid (9.3%).

**TABLE 3: CAPE COD HEALTHCARE PAYER MIX**

|  |  |
| --- | --- |
| APM Contract Percentages | Non-ACO and Non-APM Contracts |
|  | FY19 | FY20 | FY21 |  | FY19 | FY20 | FY21 |
| ACO and APM Contracts | 3.8% | 4.2% | 3.8% | Commercial HMO/POS | 22.7% | 22.1% | 22.8% |
| Commercial PPO/Indemnity | 8.7% | 8.8% | 9.2% |
| MassHealth | 2.6% | 2.6% | 2.8% |
| Non-ACO and Non-APMContracts | 96.2% | 95.8% | 96.2% | Medicaid MCO | 9.3% | 10.1% | 9.3% |
| Medicare | 44.2% | 43.6% | 42.6% |
| Medicare Advantage | 8.0% | 8.3% | 9.2% |
| All Other | 4.4% | 4.5% | 4.2% |
| TOTAL | 100% | 100% | 100% | TOTAL | 100% | 100% | 100% |

1. CCHC converted to a new electronic health record in FY2021. For FY19 and FY20 only, if a patient was seen multiple times per year and reported a different town, they are counted in each town
2. Cape Cod Hospital

Cape Cod Hospital’s Patient Panel is largely reflective of that of the System’s panel. In FY21, 56% of patients were female and 44% were male. The majority of patients were aged 18-64 (53%), followed by ages 65 and older (38%), and ages 0-17 (9%). Approximately 82% of patients self-identified as White, as well as 3% Black/African American, and 0.65% Asian. As noted above, race and ethnicity measures are self-reported by patients and as such, approximately 14% of patients either identified as a race or ethnicity other than the options listed or declined to provide their racial/ethnic information.

**TABLE 4: CAPE COD HOSPITAL DEMOGRAPHICS**

|  |  |  |  |
| --- | --- | --- | --- |
| Demographic Measure | FY19 | FY20 | FY21 |
| Count (n) | Pct. (%) | Count (n) | Pct. (%) | Count (n) | Pct. (%) |
| Unique Patients | 120,234 | 100% | 109,079 | 100% | 184,655 | 100% |
| GENDER |
| Male | 50,263 | 42% | 45,914 | 42% | 80,763 | 44% |
| Female | 69,940 | 58% | 63,114 | 58% | 103,733 | 56% |
| Other/Unknown | 31 | 0% | 51 | 0% | 159 | 0% |
| Total | 120,234 | 100% | 109,079 | 100% | 184,655 | 100% |
| AGE |
| 0-17 | 12,877 | 11% | 9,892 | 9% | 15,756 | 9% |
| 18-64 | 63,206 | 52% | 58,761 | 53% | 97,989 | 53% |
| 65+ | 45,602 | 37% | 41,680 | 38% | 70,910 | 38% |
| Total[5](#_bookmark4) | 121,685 | 100% | 110,333 | 100% | 184,655 | 100% |
| RACE/ETHNICITY |
| American Indian or Alaska Native | 0 | 0.00% | 0 | 0.00% | 272 | 0.15% |
| Asian | 521 | 0.43% | 464 | 0.43% | 1,174 | 0.64% |
| Black or African American | 3,100 | 2.58% | 2,694 | 2.47% | 6,181 | 3.35% |
| Hispanic or Latino | 173 | 0.14% | 163 | 0.15% | 0 | 0.00% |
| Native Hawaiian or Other Pacific Islander | 0 | 0.00% | 0 | 0.00% | 41 | 0.02% |
| White or Caucasian | 60,133 | 50.01% | 52,067 | 47.73% | 151,098 | 81.83% |
| Other/Unknown | 56,307 | 46.83% | 53,691 | 49.22% | 25,889 | 14.02% |
| Total | 120,234 | 100% | 109,079 | 100% | 184,655 | 100% |

1. CCHC converted to a new electronic health record in FY2021. The former system counted patients before and after their birthday if they had multiple visits. Due to this counting system, the totals for FY19 and FY20 reflect a slightly higher number of patients than true unique patients.

More than 80% of Cape Cod Hospital’s Patient Panel resides in Barnstable County. The Hospital also provides care to a significant number of patients (17%) who visit Cape Cod or reside there during the summer months.

**TABLE 5: CAPE COD HOSPITAL GEOGRAPHIC ORIGIN**

|  |  |  |  |
| --- | --- | --- | --- |
| Patient Residence | FY19 | FY20 | FY21 |
| Count (n) | Pct. (%) | Count (n) | Pct. (%) | Count (n) | Pct. (%) |
| Barnstable | 31,270 | 25% | 28,474 | 26% | 39,030 | 21% |
| Bourne | 1,922 | 2% | 1,985 | 2% | 7,164 | 4% |
| Brewster | 6,278 | 5% | 5,637 | 5% | 7,790 | 4% |
| Chatham | 4,442 | 4% | 4,009 | 4% | 5,359 | 3% |
| Dennis | 9,213 | 7% | 8,332 | 8% | 11,112 | 6% |
| Eastham | 3,247 | 3% | 2,971 | 3% | 4,051 | 2% |
| Falmouth | 3,077 | 2% | 3,587 | 3% | 16,999 | 9% |
| Harwich | 9,058 | 7% | 8,169 | 7% | 10,639 | 6% |
| Mashpee | 3,686 | 3% | 3,543 | 3% | 8,643 | 5% |
| Orleans | 4,579 | 4% | 3,991 | 4% | 5,210 | 3% |
| Provincetown | 1,445 | 1% | 1,213 | 1% | 1,828 | 1% |
| Sandwich | 6,234 | 5% | 6,066 | 5% | 11,730 | 6% |
| Truro | 966 | 1% | 895 | 1% | 1,288 | 1% |
| Wellfleet | 1,673 | 1% | 1,529 | 1% | 2,106 | 1% |
| Yarmouth | 16,133 | 13% | 14,776 | 13% | 19,654 | 11% |
| Barnstable County Total | 103,223 | 84% | 95,177 | 86% | 152,603 | 83% |
| Other MA | 10,504 | 9% | 9,316 | 8% | 18,336 | 10% |
| Outside MA | 8,854 | 7% | 6,256 | 6% | 12,920 | 7% |
| Unknown | 564 | 0% | 278 | 0% | 796 | 0% |
| TOTAL | 123,145 | 100% | 111,027 | 100% | 184,655 | 100% |

More than 50% of Cape Cod Hospital’s patients were insured through the Medicare program in FY21 (43.4% are covered by Medicare Fee-for-Service and an additional 9.8% receive coverage through a Medicare Advantage plan). 29.9% of patients are insured by commercial plans. Additionally, 9.7% of patients were insured by a Medicare MCO as well as 2.6% of patients who received coverage through MassHealth.

**TABLE 6: CAPE COD HOSPITAL PAYER MIX**

|  |  |
| --- | --- |
| APM Contract Percentages | Non-ACO and Non-APM Contracts |
|  | FY19 | FY20 | FY21 |  | FY19 | FY20 | FY21 |
| ACO and APM Contracts | 4.2% | 4.6% | 4.2% | Commercial HMO/POS | 21.7% | 21.1% | 21.8% |
| Commercial PPO/Indemnity | 8.2% | 8.1% | 8.7% |
| MassHealth | 2.3% | 2.4% | 2.6% |
| Non-ACO and Non-APMContracts | 95.8% | 95.4% | 95.8% | Medicaid MCO | 9.7% | 10.6% | 9.7% |
| Medicare | 45.6% | 44.8% | 43.4% |
| Medicare Advantage | 8.6% | 8.8% | 9.8% |
| All Other | 4.0% | 4.2% | 4.0% |
| TOTAL | 100% | 100% | 100% | TOTAL | 100% | 100% | 100% |

**F1.a.ii Need by Patient Panel:**

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

The Applicant requests DoN approval to construct a four-story facility on the main campus of Cape Cod Hospital that will include a relocated and expanded medical oncology service, a relocated radiation oncology service, and relocate 32 medical-surgical beds, as well as shell space for future services as demand warrants. The Proposed Project seeks to address care delivery constraints created by the aged infrastructure of the Hospital’s current facilities. Cape Cod Hospital opened in 1920 and its main campus is comprised of several buildings built throughout the 20th century. Through the Proposed Project, the Applicant seeks to ensure that the Hospital will be able to meet future demand on Cape Cod for medical oncology, radiation therapy and inpatient cardiac care. The Proposed Project will offer an improved patient care experience in a state-of-the-art facility close to home, limiting the need for patients to travel to Boston to seek care.

The new facility will ensure that the Hospital can meet future demand for outpatient oncology services and inpatient cardiac. As of 2010, the percentage of Cape Cod residents aged 45-69 years old was 39%, compared to 32% of Massachusetts residents, and 30% of U.S residents.[6](#_bookmark5) Furthermore, the percentage of Cape Cod residents aged 70 years and older was 17%, compared to 10% of Massachusetts residents and only 9% of U.S. residents.[7](#_bookmark6) The age of the Hospital’s Patient Panel is further evidenced by the percentage of patients covered by Medicare and Medicare Advantage.[8](#_bookmark7) This older age cohort is anticipated to increase in size by 2035, when 35% of the population is projected to be aged 65-years or older, compared to 24% in 2010.[9](#_bookmark8) Accordingly, the Hospital’s Patient Panel will require access to outpatient oncology services and inpatient cardiac care in facilities that can meet demand and facilitate the provision of high-quality care.

*HISTORICAL AND PROJECTED UTILIZATION*

* 1. Outpatient Oncology Services

The CDC estimates that more than two-thirds of all new cancers are diagnosed in patients aged 60 years and older.[10](#_bookmark9) More than 1.7 million people were diagnosed with cancer in 2018, but that number is projected to climb to 2.2 million by 2050 with additional cancer prevention measures. Moreover, the largest increase in new diagnoses is expected to impact adults ages 75 and over.[11](#_bookmark10) These increases are believed to be attributed to the body’s decreasing ability to repair DNA cells as adults age.[12](#_bookmark11) As a result of increased life expectancy, the number of cancer cases is expected to increase among adults over the age of 65.[13](#_bookmark12)

The increasing incidence of cancer in the Hospital’s Patient Panel is evidenced by the growth in utilization of the Hospital’s cancer services in recent years. Between FY19 and FY21, the number of unique patients receiving care from Cape Cod Hospital’s medical oncology service increased by 18%. This includes a 12.5% increase in the number of physician visits, as well as an 8.4% increase in the number of non- chemotherapy infusions and injections. Moreover, utilization of cancer services at CCH significantly increased in FY21 and is expected to steadily increase due to the aging population within the Hospital’s

6 UMASS DONAHUE INSTITUTE. Long-term Population Projections for Massachusetts Regions and Municipalities. March 2015.

7 *Id.*

8 The percentage of Hospital patients covered by Medicare and Medicare in FY21 was 53.2%.

9 *Supra note 5.*

10 CDC, Cancer Prevention During Older Adulthood. *Available at* <https://www.cdc.gov/cancer/dcpc/prevention/older-adulthood.htm>

11 *Id.*

12 Browner, Ilene. Applications in Geriatric Oncology. *Available at* <https://www.hopkinsmedicine.org/gec/series/cancer_aging.html>

13 *Id.*

Patient Panel and on Cape Cod. The following table details the Hospital’s historical medical oncology volume.

**TABLE 7: HISTORIC OUTPATIENT ONCOLOGY VOLUME**

|  |  |  |  |
| --- | --- | --- | --- |
|  | FY19 | FY20 | FY21 |
| Provider Visits | 12,286 | 11,544 | 13,824 |
| Total Infusion and Injections | 25,780 | 25,479 | 26,720 |
| Chemotherapy | 12,045 | 11,704 | 11,826 |
| Non-Chemotherapy Treatments | 13,735 | 13,775 | 14,894 |

The number of radiation oncology visits and treatments have remained relatively stable in recent years as detailed in the following table.

**TABLE 8: HISTORIC RADIATION THERAPY VOLUME**

|  |  |  |  |
| --- | --- | --- | --- |
|  | FY19 | FY20 | FY21 |
| Visits | 5,131 | 4,904 | 5,646 |
| Total Treatments and Procedures | 19,351 | 19,343 | 18,336 |
| Brachytherapy Treatments | 77 | 98 | 81 |
| LINAC Treatments | 18,062 | 18,025 | 17,044 |
| CT Simulation Procedures | 1,212 | 1,220 | 1,211 |

The Hospital anticipates its Patient Panel will continue to seek services for cancer care as demonstrated by the following projections. Specifically, the Applicant anticipates demand for medical oncology will increase between 16% and 20% in FY27. This includes a 16% increase in provider visits and a 20% increase in infusions and injections. The following projections are based on Sg2 demand forecasts, additional physician capacity, and operational efficiency anticipated to result from the Proposed Project.

**TABLE 9: PROJECTED MEDICAL ONCOLOGY VOLUME**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | FY23 | FY24 | FY25 | FY26 | FY27 |
| Provider Visits | 14,709 | 14,958 | 15,751 | 15,931 | 16,069 |
| Total Infusion and Injections | 28,964 | 29,392 | 30,792 | 32,128 | 32,128 |
| Chemotherapy | 12,819 | 13,009 | 13,628 | 14,220 | 14,220 |
| Non-Chemotherapy Treatments | 16,145 | 16,383 | 17,164 | 17,909 | 17,909 |

Based on Sg2 forecasts, demand for radiation therapy procedures is expected to grow by approximately 2% from FY21 to FY27.

**TABLE 10: PROJECTED RADIATION THERAPY VOLUME**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | FY23 | FY24 | FY25 | FY26 | FY27 |
| Visits | 5,691 | 5,686 | 5,674 | 5,669 | 5,759 |
| Total Treatments and Procedures | 18,484 | 18,466 | 18,429 | 18,410 | 18,704 |
| Brachytherapy Treatments | 82 | 82 | 81 | 81 | 83 |
| LINAC Treatments | 17,180 | 17,164 | 17,130 | 17,112 | 17,385 |
| CT Simulator Procedures | 1,222 | 1,220 | 1,218 | 1,217 | 1,236 |

* 1. Cardiac Medical-Surgical Unit

In 2021, as with prior years, heart disease was the leading cause of death in the United States for both men and women, and for most ethnic and racial groups.[14](#_bookmark13) Approximately 18.2 million adults aged 20 and older have coronary artery disease (about 6.7%), resulting in approximately 360,900 deaths each year.[15](#_bookmark14) Of those deaths, only 20% occurred in people under the age of 65.[16](#_bookmark15) This is because aging causes changes to the heart and its blood vessels; similarly, with age, the heart cannot beat as fast during physical exertion or stress.[17](#_bookmark16) Additionally, many adults will experience buildup of fatty deposits in the walls of arteries which occurs over a person’s lifetime.[18](#_bookmark17) As a result of these age-related factors, heart disease is most prevalent in older adults and is more likely to warrant hospital-level care as adults age.

As shown in the following table, demand for the Hospital’s inpatient cardiac medical-surgical services has remained relatively consistent since FY19, notwithstanding reduced demand due to hospital avoidance during the coronavirus pandemic.

**TABLE 11: HISTORIC INPATIENT CARDIAC VOLUME**

|  |  |  |  |
| --- | --- | --- | --- |
|  | FY19 | FY20 | FY21 |
| Discharges | 2,908 | 2,264 | 2,783 |
| Days | 10,590 | 8,629 | 10,596 |
| ADC | 29 | 24 | 29 |

Based on Sg2’s cardiology and medical-surgical forecasts, in conjunction with historical volume, demand for inpatient cardiac medical-surgical services on Cape Cod is not expected to increase significantly. The Applicant anticipates inpatient cardiac discharges and patient days will increase by approximately 4%.

Project utilization of the Hospital’s inpatient cardiac services is detailed in the following table

**TABLE 12: PROJECTED INPATIENT CARDIAC VOLUME**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | FY23 | FY24 | FY25 | FY26 | FY27 |
| Discharges | 3,019 | 3,021 | 3,027 | 3,027 | 3,024 |
| Days | 10,992 | 11,003 | 11,024 | 11,024 | 11,014 |
| ADC | 30 | 30 | 30 | 30 | 30 |

*EXPANDED ACCESS AND IMPROVED PROVISION OF CARE THROUGH THE PROPOSED PROJECT*

1. Outpatient Oncology Services

To meet the projected demand for outpatient cancer services by the Patient Panel, the Proposed Project will address a number of physical plant limitations of the current outpatient oncology departments. The Hospital’s existing oncology exam rooms are located in a separate, non-adjacent area of the Hospital from the infusion therapy suite. Patients must travel from the exam room suite to the infusion suite if they have both appointments on the same day. Similarly, infusion patients must travel from the infusion suite to have blood drawn at the Hospital’s outpatient laboratory which is required for same-day infusions. Additionally, the infusion bays are undersized per Facility Guidelines Institute (“FGI”) standards and do not afford the required clearance between chairs and walls/partitions. Moreover, the current infusion therapy suite utilizes an open floor plan, which in addition to insufficient spacing between chairs, further reduces visual and acoustical privacy for patients. Another limitation of the infusion suite is that one of the two bathrooms available is located outside of the suite, requiring patients to leave the unit and traverse a number of

14 CDC, Heart Disease Facts. *Available at* <https://www.cdc.gov/heartdisease/facts.htm>

15 *Id.*

16 *Id.*

17 NATIONAL INSTITUTE ON AGING, Heart Health and Aging. *Available at* <https://www.nia.nih.gov/health/heart-health-and-aging>

18 *Id.*

obstacles, including wires from infusion equipment and accompanying family members who spill-over from their designated areas.

Further impacting the efficiency of the existing services is that larger clinician work areas are frequently also used for patient education, reducing or eliminating space available for care teams to collaborate due to social distancing requirements. Space is also an issue for the services’ pharmacy, which does not have adequate room for drug and supply storage. Furthermore, the existing pharmacy does not have a redundant double negative pressure clean room so that if a disruption occurs, pharmacists must relocate to the Hospital’s main pharmacy. Also lacking from the existing space is room to provide patients and their families with wrap-around services, such as rehabilitation therapy and medical nutrition.

To meet project demand, the new cancer center will increase the number of exam rooms from 12 to 16 and the number of infusion bays from 19 to 26. Additionally, the Proposed Project will centralize medical oncology services by co-locating exam rooms, infusion therapy, pharmacy services, and the oncology laboratory in one location in the new building. Further contributing to enhanced patient-centered care, the proposed cancer center will include space for wrap-around services and integrative wellness therapies that will allow the Hospital to support patients’ physical and emotional well-being in a location that is accessible for patients. To ensure patient privacy, infusion bays will be enclosed by wall structures on both sides of the patient chair and will provide in-suite access to six (6) bathrooms. Lastly, the Center will also provide significantly more space for clinical staff, including workstations, conference rooms, and a dedicated pharmacy that will facilitate oncology staff communication, triple the amount of space available for medication preparation, and will provide for redundant double negative pressure clean rooms. The overall objective is to provide all outpatient cancer services in one location.

The proposed facility will also include the Hospital’s relocated radiation therapy department. This service must be relocated due to the current size of the existing linear accelerator (“LINAC”) and computed tomography (“CT”) simulator vaults. Built in 1979 and 1996, the vaults are undersized to support current technology and required storage. Moreover, size of the vaults limits the ability to provide efficient services in patient-friendly space. Similarly, the existing CT simulator vault cannot accommodate a replacement machine due to size limitations, nor can sightlines be maintained due to the distance between the vault and the control room.[19](#_bookmark18) Further contributing to the need to expand the unit’s footprint, the existing unit does not have space to provide equipment storage, clean and dirty utility rooms, or designated waiting rooms. Lastly, brachytherapy procedures are currently performed in the LINAC vaults because there is insufficient space to construct a dedicated brachytherapy vault. The current workaround is inefficient because of the disruption to care delivery caused by switching between external and internal radiation treatments.

Through a significantly larger footprint in the new facility, the radiation therapy service will have appropriately sized radiation therapy vaults for the two LINACs (including one (1) replacement unit and one relocated unit) and one (1) designated brachytherapy vault with control room. Similarly, the new facility will include a larger scanner room to accommodate one (1) replacement CT simulator. Storage for gurneys will be available, eliminating the use of storage in the waiting room. Additional space will also be provided for clean and dirty utility rooms in furtherance of infection control. Furthermore, the department will include multiple, adjacent waiting rooms for men, women, and patients with a companion, a necessary and requested element to ensuring patient privacy. Another key feature of the relocated radiation therapy suite is the inclusion of infusion and hydration capability so that those services can be provided as needed in order to eliminate the need to transfer patients from radiation therapy to medical oncology. Lastly, the proposed facility includes designated clinical workspaces for the radiation therapy department, including a conference room with advanced technology needed to run multi-disciplinary case discussion and treatment plan reviews. The new cancer center was designed not only to meet future demand, but importantly, it was designed to ensure care-delivery is patient-centered.

1. Inpatient Cardiac Services

The Proposed Project will ensure the Hospital will be able to provide access such services on Cape Cod by addressing physical plant limitations of the Hospital’s existing cardiac medical-surgical service that is located in a building built in the 1950s. The Hospital’s current inpatient cardiac medical-surgical service is

19 Currently, in order to safely monitor patients, closed-circuit television is used. This method is allowed under FGI guidelines, but it not a best practice.

located in two smaller, separate units. Despite several renovations to the units, the rooms are undersized and do not provide sufficient transfer-side clearance around patient beds. Additionally, the limited room size cannot accommodate a sleeping area for family members, nor a dedicated workspace for providers requiring computers to be brought from room to room, contributing to infection control issues. The current configuration of the units and rooms also is not designed to optimally accommodate equipment needs. The units in the 70-year-old building have been renovated over the years to maintain compliance with facility standards to the extent possible; however, further renovations are not feasible given the limited footprint of the building. In addition to being cost prohibitive, the necessary renovations would result in 12 fewer beds (a 33% reduction) and would not include space to support clinical team collaboration, to accommodate new technologies, or to provide amenities to families. Due to current design limitations and the difficulty with renovating the existing units to provide quality care, the Hospital determined that a new facility would best accommodate future demand and the needs of its patient panel.

The new inpatient cardiac unit will combine the existing smaller units into one unit, which will enable better clinical team collaboration. To ensure the provision of patient-centered care, the unit is designed to meet and exceed the current FGI standards for inpatient care including required bed clearance, non-slip flooring, space for family visitation, including sleeping accommodations, handwashing sinks in addition to the toilet area sink, and in-room showers. Additionally, each room will conform to acoustic requirements to mitigate exterior noise, isolate sound within each room, and use materials that will provide sound absorption. These features have been shown to improve sleep, and in turn promote recovery and emotional well-being. Furthermore, patients will be able control their lighting, entertainment, and nurse call system from an easy- to-use, centralized panel. Lastly, the new unit will have dedicated clinical workstations built outside of adjoining rooms to limit cross-contamination. By improving the design of the cardiac medical-surgical unit, staff will be able to provide more efficient, patient-centered care.

*CONCLUSION*

For the reasons discussed above, the Proposed Project is necessary to ensure the Hospital’s existing and future Patient Panel has access to cancer and cardiac services close to home. Given the advanced age of the Applicant’s current Patient Panel coupled with population projections for Cape Cod, the Proposed Project will ensure continued access to high-quality cancer and cardiac services close to home for the Hospital’s Patient Panel. As a result of the Hospital’s severely undersized cancer and cardiac units, the proposed new facility in needed to address the physical plant limitations that cannot be remedied through additional renovations. In addition to the significantly larger footprint that will be provided through the Proposed Project, the new facility will include elements determined by patients, family, and providers to be necessary for a truly patient-centered, accessible, and coordinated care experience. To that end, the Proposed Project will facilitate the provision of high-quality, patient-centered care within the community with expanded access to outpatient cancer services and an improved environment for inpatient cardiac services.

**F1.a.iii Competition:**

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

The Proposed Project will compete on the basis of price, total medical expenses, provider costs, and other recognized measures of health care spending by providing an improved environment for inpatient cardiac patients and expanded outpatient cancer services on Cape Cod, facilitating the delivery of high-quality, accessible care in the community. These improvements are necessary to ensure access to high-quality cancer and cardiac services remain available to residents close to home.

The Applicant is committed to improving operational efficiencies and similarly improving care delivery. With this overarching goal in mind, the Proposed Project will centralize currently physically fragmented services in order to promote enhanced communication and collaboration amongst care teams and ensure continuity for patients, leading to quality outcomes. With respect to the proposed cancer center, the new facility will co-locate exam rooms, physician offices, infusion bays, radiation therapy, pharmacy, laboratory, and patient and family education space to provide a patient-centered experience and promote clinical efficiencies in

the delivery of care. This model for co-located, comprehensive care delivery will lead to positive health outcomes and in turn, cost containment. Additional oncology exam rooms, as well as additional oncologists, will reduce wait times for appointments thereby reducing treatment wait times. Moreover, the new facility will include access to same-day urgent care appointments for cancer patients which the Hospital anticipates will further emergency department avoidance efforts and help to reduce health care costs. To that end, the Proposed Project seeks to expand access to cancer care at Cape Cod Hospital that will advance cost containment goals through timely treatment which may lessen the burden of disease on the patient and avoid costs associated with later diagnoses.

Furthermore, the Proposed Project is necessary for the provision of care in an environment that meets or exceeds current design standards for hospital facilities. As previously noted, the Hospital’s existing services are located within aging buildings that cannot be renovated to meet these standards. Notably, each of the existing services proposed for the new facility do not meet the current square footage requirements. In order to meet the square footage requirements, the Hospital would need to reduce the number of exam rooms, infusion bays, and beds, which would further reduce access to care on Cape Cod, leading the Patient Panel to seek care in Boston at higher costs. Through the Proposed Project, the Hospital will be able to meet demand and provide care in the community where its Patient Panel resides.

To that end, the Proposed Project will further the Applicant’s mission to provide high-quality, comprehensive health care in the community through the construction of a facility designed to accommodate clinical collaboration, co-located services, updated technology, and space for integrative services. Through these design considerations, including expanded access to medical oncology services, the Applicant anticipates the Proposed Project will improve health outcomes for the Applicant’s Patient Panel and therefore will compete on the basis of price and health care spending.

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

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

Evidence-based literature supports the Proposed Project as necessary to providing high-quality care and promoting timely access to cardiac and cancer services.

*CANCER AND ACCESS TO OUTPATIENT MEDICAL ONCOLOGY CARE*

Cancer refers to a disease in which some of the body’s cells grow uncontrollably and spread to other parts of the body.[20](#_bookmark19) When cells grow old or become damaged, they should die and be replaced by new, healthy cells.[21](#_bookmark20) However, if this process is interrupted and damaged cells multiply instead of dying, the cells may form a tumor which can be cancerous or not (known as a benign tumor).[22](#_bookmark21) Chemotherapy is a drug treatment commonly used to treat cancer because of its ability to kill cells that grow and multiply quickly, including cancerous cells.[23](#_bookmark22) It can be used as a stand-alone treatment, as a follow-up to surgery, or in preparation for other treatments, such as radiation and surgery.[24](#_bookmark23) As a drug treatment, chemotherapy is most often administered intravenously and can last between a few minutes and a few hours.[25](#_bookmark24)

While chemotherapy has been demonstrated to be an effective component of cancer treatment, its efficacy is dependent on timely initiation. Delays of as little as four weeks have been shown to increase mortality

20 NATIONAL CANCER INSTITUTE, What is Cancer? *Available at* <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>

21 *Id.*

22 *Id.*

23 MAYO CLINIC, Chemotherapy. *Available at* <https://www.mayoclinic.org/tests-procedures/chemotherapy/about/pac-20385033>

24 *Id.*

25 AMERICAN CANCER SOCIETY, Getting IV or Injectable Chemotherapy. *Available at*

[https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy/getting-](https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy/getting-chemotherapy.html#%3A%7E%3Atext%3DWith%20chemo%20infusions%2C%20chemotherapy%20drugs%2Cdifferent%20types%20of%20injectable%20chemo) [chemotherapy.html#:~:text=With%20chemo%20infusions%2C%20chemotherapy%20drugs,different%20types%20of%20injectable](https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy/getting-chemotherapy.html#%3A%7E%3Atext%3DWith%20chemo%20infusions%2C%20chemotherapy%20drugs%2Cdifferent%20types%20of%20injectable%20chemo)

[%20chemo.](https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy/getting-chemotherapy.html#%3A%7E%3Atext%3DWith%20chemo%20infusions%2C%20chemotherapy%20drugs%2Cdifferent%20types%20of%20injectable%20chemo)

compared to no delay in treatment.[26](#_bookmark25) One study of patients with recent breast cancer diagnoses found that the risk of death when compared to people who started chemotherapy within 30 days of surgery increased 94% for people who started chemotherapy 31 to 60 days after surgery, 145% for people who started chemotherapy 61 to 90 days after surgery, and 179% for people who started chemotherapy more than 90 days after surgery.[27](#_bookmark26) In addition to decreased survival rates, delayed chemotherapy for some cancers has been associated with incomplete chemotherapy courses, further impacting life expectancy.[28](#_bookmark27) Therefore, adequate access to chemotherapy is necessary to ensure patients have timely access to treatment close to home.

In addition to timely access to cancer treatment, a growing body of evidence supports access to same-day, acute care appointments for cancer patients. The provision of cancer-focused urgent care decreases the need for patients to seek care through the emergency department for cancer-related presentations such as nausea, vomiting, dehydration, weakness, and headache.[29](#_bookmark28) Same-day appointments can be used by providers to re-direct clinically appropriate away from the emergency department to a more convenient space that provides dedicated cancer care.[30](#_bookmark29) This model has been shown to reduce avoidable emergency department utilization and hospital admissions, in turn providing an improved patient experience and health outcomes.[31](#_bookmark30)

Another form of cancer treatment is the use of radiation therapy. Prior to initiating radiation therapy, a CT simulator is often used to acquire three-dimensional imaging for treatment planning. These images allow the radiation care team to precisely locate the tumor and surrounding areas that will be targeted during radiation therapy. One such radiation device is a LINAC, which is most commonly used to provide external beam radiation therapy.[32](#_bookmark31) LINACs deliver high-energy x-rays to the patient's tumor so that cancer cells are damaged while nearby healthy tissue is unaffected.[33](#_bookmark32) Through a series of ongoing treatments, the damaged cancer cells will die and therefore will stop spreading and multiplying.[34](#_bookmark33) Radiation therapy can also be delivered internally through a treatment called brachytherapy.[35](#_bookmark34) This treatment works similar to external radiation therapy in that cancer cells will be destroyed and killed over time, but the radiation source (a seed, ribbon, or capsule) is implanted in or near the tumor.[36](#_bookmark35) Once implanted, the source will continue to give off radiation until removed, which may be hours or days, or until the radiation wears off in the case of permanent implants.[37](#_bookmark36) Which treatment plan is pursued is dependent on a number of factors, including the type and stage of the cancer, the patient’s general health, and their preferences.[38](#_bookmark37) As a result, it is necessary to ensure access to a variety of treatment options in order to provide care to the most patients.

*CARDIOVASCULAR DISEASE AND ACCESS TO INPATIENT CARE*

Cardiovascular disease is a general term used to describe several conditions affecting the heart.[39](#_bookmark38) In 2020, heart disease was the number one cause of death in the United States and the number two cause of death

26 Timothy P Hanna, Will D King, Stephane Thibodeau, Matthew Jalink, Gregory A Paulin, Elizabeth Harvey-Jones, Dylan E O’Sullivan, Christopher M Booth, Richard Sullivan, Ajay Aggarwal. *Mortality due to cancer treatment delay: systematic review and meta-analysis*. <https://www.bmj.com/content/371/bmj.m4087>

27 BREASTCANCER.ORG, Delaying Chemotherapy More Than 30 Days Linked to Worse Outcomes for Triple-Negative Breast Cancer. *Available at* https://[www.breastcancer.org/research-news/chemo-delay-30-days-plus-worse-for-trip-](http://www.breastcancer.org/research-news/chemo-delay-30-days-plus-worse-for-trip-) neg#:~:text=Effect%20on%20survival,to%2060%20days%20after%20surgery

28 “Although the benefit of chemotherapy is unclear in stage II colon cancer patients, delay in initiation of chemotherapy is associated with an incomplete chemotherapy course and poorer survival, especially cancer-specific

survival.” <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0107993>

29 THE JOURNAL OF URGENT CARE MEDICINE. *New Urgent Care Models Help Cancer Patients*. [https://www.jucm.com/new-urgent-](https://www.jucm.com/new-urgent-care-models-help-cancer-patients/) [care-models-help-cancer-patients/](https://www.jucm.com/new-urgent-care-models-help-cancer-patients/)

30 *Id. See also* <https://www.healthleadersmedia.com/clinical-care/cancer-urgent-care-clinics-slow-growth-er-utilization>

31 *Id.*

32 Linear Accelerator, *available at* <https://www.radiologyinfo.org/en/info/linac>

33 *Id.*

34 NATIONAL CANCER INSTITUTE, Radiation Therapy to Treat Cancer. *Available at* [https://www.cancer.gov/about-](https://www.cancer.gov/about-cancer/treatment/types/radiation-therapy#%3A%7E%3Atext%3DRadiation%20therapy%20(also%20called%20radiotherapy%2Cyour%20teeth%20or%20broken%20bones) [cancer/treatment/types/radiation-](https://www.cancer.gov/about-cancer/treatment/types/radiation-therapy#%3A%7E%3Atext%3DRadiation%20therapy%20(also%20called%20radiotherapy%2Cyour%20teeth%20or%20broken%20bones) [therapy#:~:text=Radiation%20therapy%20(also%20called%20radiotherapy,your%20teeth%20or%20broken%20bones.](https://www.cancer.gov/about-cancer/treatment/types/radiation-therapy#%3A%7E%3Atext%3DRadiation%20therapy%20(also%20called%20radiotherapy%2Cyour%20teeth%20or%20broken%20bones) 35 *Id.*

36 *Id.*

37 NATIONAL CANCER INSTITUTE, Brachytherapy to Treat Cancer. *Available at* [https://www.cancer.gov/about-](https://www.cancer.gov/about-cancer/treatment/types/radiation-therapy/brachytherapy?redirect=true) [cancer/treatment/types/radiation-therapy/brachytherapy?redirect=true](https://www.cancer.gov/about-cancer/treatment/types/radiation-therapy/brachytherapy?redirect=true)

38 MAYO CLINIC, Cancer Treatment. *Available at* <https://www.mayoclinic.org/tests-procedures/cancer-treatment/about/pac-20393344>

39 AMERICAN HEART ASSOCIATION, What is Cardiovascular Disease? *Available at*

in Massachusetts.[40](#_bookmark39) Coronary artery disease, caused by plaque buildup in the walls of the arteries, is the most common form of heart disease.[41](#_bookmark40) Over time, the arteries narrow as a result of plaque buildup, which will partially or fully block the blood flow.[42](#_bookmark41) Coronary artery disease is the main cause of a heart attack, but often goes undiagnosed until the individual experiences a heart attack.[43](#_bookmark42), and requires medical attention. [44](#_bookmark43) While some individuals diagnosed with cardiovascular disease are able to receive emergency treatment without an inpatient admission, some patients will require surgical intervention to clear the blocked artery and resume blood flow. One such surgery is coronary bypass surgery which redirects blood around the blocked artery.[45](#_bookmark44) During the procedure, a healthy blood vessel is taken from elsewhere in body and connected above and below the blocked artery.[46](#_bookmark45) In order to perform the procedure, the chest cavity must be opened, and accordingly, coronary bypass surgery is considered open-heart surgery and requires inpatient care while the individual recovers immediately following the procedure.[47](#_bookmark46) Due to the prevalence of heart disease in the U.S, high-quality inpatient cardiovascular services are an important component of hospital care.

*PROXIMITY OF CARE*

In addition to timely access to care, there is evidence that proximity to care is associated to with care utilization and health outcomes. In a review of a number of studies, further distances between a patient’s home and their healthcare facilities demonstrated poorer health outcomes.[48](#_bookmark47) Moreover, there is evidence of reduced rates of radiation therapy for patients living farther away from radiation facilities than those living nearby.[49](#_bookmark48) Similarly, greater travel time has been associated with delayed diagnosis.[50](#_bookmark49) In addition to poorer health outcomes related to the patient’s specific diagnosis, there is evidence that the time spent traveling to receive health care services, as well as costs associated to traveling, physically impacts individuals and is a source of additional stress.[51](#_bookmark50) Proximity to care and minimal travel time to health care facilities become increasingly important factors for access to care as adults age because of potential barriers to transportation for those adults who no longer drive or do not have a support system for reliable transportation to appointments.[52](#_bookmark51) As discussed above, infusion and radiation therapies are often performed over a period of time and will require the patient to return for treatment multiple times a week, month, or over longer periods of time. Therefore, access to care within the patient’s community is necessary for improving treatment completion rates. In conclusion, health outcomes are better when individuals live close to the health care facilities that can address the full spectrum of health care needs.

<https://www.heart.org/en/health-topics/consumer-healthcare/what-is-cardiovascular-disease>

40 CDC, Leading Causes of Death. *Available at* <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>; [https://www.heart.org/-/media/files/about-us/policy-research/fact-sheets/quality-systems-of-care/quality-systems-of-care-](https://www.heart.org/-/media/files/about-us/policy-research/fact-sheets/quality-systems-of-care/quality-systems-of-care-massachusetts.pdf?la=en) [massachusetts.pdf?la=en](https://www.heart.org/-/media/files/about-us/policy-research/fact-sheets/quality-systems-of-care/quality-systems-of-care-massachusetts.pdf?la=en)

41 CDC, Coronary Artery Disease (CAD). *Available at* <https://www.cdc.gov/heartdisease/coronary_ad.htm> (last reviewed Feb. 14, 2022).

42 *Id.*

43 *Id.*

44 MAYO CLINIC. Coronary Health Disease. [https://www.mayoclinic.org/diseases-conditions/coronary-artery-disease/symptoms-](https://www.mayoclinic.org/diseases-conditions/coronary-artery-disease/symptoms-causes/syc-20350613#%3A%7E%3Atext%3DCoronary%20artery%20disease%2C%20also%20called%2Care%20almost%20always%20to%20blame) [causes/syc-20350613#:~:text=Coronary%20artery%20disease%2C%20also%20called,are%20almost%20always%20to%20blame.](https://www.mayoclinic.org/diseases-conditions/coronary-artery-disease/symptoms-causes/syc-20350613#%3A%7E%3Atext%3DCoronary%20artery%20disease%2C%20also%20called%2Care%20almost%20always%20to%20blame) 45 MAYO CLINIC. Coronary Bypass Surgery. [https://www.mayoclinic.org/tests-procedures/coronary-bypass-surgery/about/pac-](https://www.mayoclinic.org/tests-procedures/coronary-bypass-surgery/about/pac-20384589#%3A%7E%3Atext%3DBecause%20coronary%20bypass%20surgery%20is%2CAn%20irregular%20heart%20rhythm) [20384589#:~:text=Because%20coronary%20bypass%20surgery%20is,An%20irregular%20heart%20rhythm](https://www.mayoclinic.org/tests-procedures/coronary-bypass-surgery/about/pac-20384589#%3A%7E%3Atext%3DBecause%20coronary%20bypass%20surgery%20is%2CAn%20irregular%20heart%20rhythm)

46 *Id.*

47 *Id.*

48 Mattson, Jeremy. Transportation, Distance, and Health Care Utilization for Older Adults in Rural and Small Urban Areas. *Available at* <https://www.ugpti.org/resources/reports/downloads/dp-236.pdf>

49 Rocque GB, Williams CP, Miller HD, et al. Impact of Travel Time on Health Care Costs and Resource Use by Phase of Care for Older Patients With Cancer. J Clin Oncol. 2019;37(22):1935-1945. doi:10.1200/JCO.19.00175. *Available at* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6804875/>

50 *Id*.

51 Winters, Charlene A., Shirley A. Cudney, Therese Sullivan, and Alta Thuesen. "The Rural Context and Women's Self- Management of Chronic Health Conditions." *Chronic Illness* 2 (2006): 273-289.

52 *Supra note 48.*

* + - 1. **Public Health Value /Outcome-Oriented:**

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

The Applicant anticipates that the Proposed Project will provide patients with improved health outcomes and quality of life through expanded access to outpatient cancer services in improved facilities. To assess the impact of the Proposed Project, the Applicant developed the following projections for quality indicators that will measure patient satisfaction and quality of care for the services to be provided in the proposed facility.

*OUTPATIENT MEDICAL ONCOLOGY QUALITY MEASURES*

* + - * 1. **Patient Satisfaction**: Patients that are satisfied with their care are more likely to seek additional treatment when necessary. CCH staff will review patient satisfaction scores from the Hospital Consumer Assessment of Healthcare Providers and Systems related to overall patient satisfaction

*Measure*: Staff will review responses pertaining to registration, wait times, changing room privacy, facility navigation, staff communication, and personal needs. Response options include Very Poor, Poor, Fair, Good, and Very Good.

*Baseline:* 69.78% of patients responded with the highest score (“Top Box Score”)

*Projections:* Year 1: 71% Year 2: 73% Year 3: 74%

*Monitoring:* Results will be reviewed annually by oncology leadership.

* + - * 1. **Hospital Readmissions:** This measure will monitor the rate of patients who receive non-routine inpatient care at the Hospital within 30 days of chemotherapy.

*Measure:* The percent of Medical Oncology patients who are admitted within 30 days of receiving chemotherapy (number of patients admitted/number of chemotherapy patients within last 30 days). This is a rolling measure.

*Baseline:* 5.6%

*Projections:* Year 1: ≤5.0% Year 2: ≤4.5% Year 3: ≤3.9%

*Monitoring*: Results will be reviewed annually by oncology leadership.

*RADIATION ONCOLOGY QUALITY MEASURES*

* + - * 1. **Patient Satisfaction**: Patients that are satisfied with their care are more likely to seek additional treatment when necessary. CCH staff will review patient satisfaction scores from the Hospital Consumer Assessment of Healthcare Providers and Systems related to overall patient satisfaction

*Measure*: Staff will review responses pertaining to registration, wait times, changing room privacy, facility navigation, staff communication, and personal needs. Response options include Very Poor, Poor, Fair, Good, and Very Good.

*Baseline:* 81.12% of patients responded with the highest score (“Top Box Score”)

*Projections:* Year 1: ≥82% Year 2: ≥83.5% Year 3: ≥85%

*Monitoring*: Results will be reviewed annually by oncology leadership.

*INPATIENT CARDIAC MEDICAL-SURGICAL QUALITY MEASURES*[*53*](#_bookmark52)

* + - * 1. **Patient Satisfaction**: Patients that are satisfied with their care are more likely to seek additional treatment when necessary. CCH staff will review patient satisfaction scores from the Hospital Consumer Assessment of Healthcare Providers and Systems specific to the hospital environment.

*Measure*: Staff will review responses to “During this hospital stay, how often was the area around your room kept quiet at night?”. Response options include: Never,

Sometimes, Usually, and Always

*Baseline:* 60% of patients responded with the highest score (“Top Box Score”).

*Projections:* Year 1: 62% Year 2: 64% Year 3: 65%

*Monitoring:* Scores are reviewed quarterly.

* + - * 1. **Fall Prevention:** This measure will monitor the rate of patient falls resulting in injury.

*Measure:* The number of patient falls with injury per 1000 acute patient days.

*Baseline:* 0.29

*Projections:* Year 1: 0 Year 2: 0 Year 3: 0

*Monitoring:* The Department of Nursing will review falls data on a monthly basis.

* + - * 1. **Hospital Readmissions:** This measure will monitor the rate of patients who are re-admitted to the Hospital within 30 days of discharge.

*Measure*: The number of re-admissions/the number of discharges within a 30-day period. This is a rolling measure.

*Baseline*: 0.77[54](#_bookmark53)

*Projections:* Year 1: ≤1 Year 2: ≤1 Year 3: ≤1

*Monitoring*: Scores are reviewed quarterly.

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

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

Through the Proposed Project, the Applicant will improve access to comprehensive, high-quality inpatient cardiac care and outpatient cancer services for the Hospital’s Patient Panel. The Applicant values diversity, equity, and inclusion, and is committed to developing systems and an organizational culture that fosters an inclusive and equitable environment for patients, visitors, and staff. The Applicant does not discriminate based on ability to pay or payer source, physical ability, sensory or speech limitations, or religious, spiritual and cultural beliefs. The following measures are two examples of how the Applicant promotes health equity at the Hospital.

53 These projections are limited to the care to be provided in the proposed cardiac medical-surgical inpatient unit.

54 CY2020

1. Ensuring Language Accessibility

The Applicant is committed to clearly and thoroughly communicating with all patients and their families. Trained medical interpreters are available in-person, by phone, and by video 24 hours per day, 7 days per week to provide accurate and complete interpretation services. American Sign Language interpreter services are also available in-person and through video. Admitted patients may request a portable videophone or a TTY to be delivered to their room. All interpreter services are provided free of charge.

1. Promoting Cultural Competency

A culturally competent workforce is necessary to ensuring the delivery of care is tailored to meet patients' social, cultural and linguistic needs. To that end, Cape Cod Healthcare requires all new hires to complete a cultural competency training upon hire. The training is currently offered virtually via the System’s Learning Management System, HealthStream. In addition, the Applicant provides in-service trainings on cultural competence to its clinical departments, including the oncology, rehabilitation, behavioral health, psychiatric, and emergency departments. The Applicant is committed to ensuring its staff are trained in cultural competency in order to contribute to the reduction of racial and ethnic disparities in healthcare.

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

The Proposed Project will improve public health outcomes by providing care in facilities that facilitate quality care. Through expanded access to oncology services, the Hospital will be able to provide services to more individuals as well as reduce wait times as the older age cohort of its Patient Panel grows. As further described in Section F1.b.i, delaying chemotherapy by as little as four weeks can reduce an individual’s life expectancy. To that end, the Proposed Project seeks to increase timely access to oncology care for the Patient Panel close to home thereby improving health outcomes. Similarly, public health outcomes will be improved for the Hospital’s inpatient cardiac patients through accommodations for in-room family support and sleeping as well as patient control over sound and light levels, all of which will promote rest and recovery, and in turn, improve health outcomes.

Additionally, the Proposed Project will improve quality of life by constructing a facility designed to provide patient-centered care, including treatment space that can accommodate family and visitors as well as additional space for patient and family education. Involving family in a patient’s hospital care has shown to reduce stress and promote psychological well-being because of the emotional and physical support that family can provide, including decision-making, daily activities, and social connectivity. Also contributing to quality of life, the Proposed Project will expand on-site access to integrative services for cancer patients, allowing patients to receive care beyond their medical appointments in the same location. This co-location of integrative services in the proposed cancer center will make it possible for patients to enjoy more robust wellness services without requiring the patient to drive to multiple locations. Furthermore, both the proposed cancer center and inpatient cardiac unit will provide for co-located clinical staff space to enable and promote clinical collaboration. Through these design features, the Proposed Project will provide an enhanced patient care experience, which the Applicant anticipates will improve patient satisfaction as well as health outcomes.

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

One of the central features of the Proposed Project is the co-location of comprehensive cancer services. By re-locating the Hospital’s outpatient cancer services, patients will be able to receive all of their care in one location. This co-location of services will also enhance clinical coordination and collaboration. Moreover, the proposed cancer center will provide space for integrative wellness services to ensure patients have access to a broad range of services to address their physical and emotional well-being. The Applicant anticipates that the co-location of medical and integrative services will improve coordination of care and promote continuity of care. Furthermore, because such services will be provided by the Hospital,

medical records will be accessible to the patient’s care team, including their primary care provider (“PCP”). Similarly, the Hospital will facilitate medical record sharing for inpatient cardiac patients between the Hospital and the patient’s PCP, as well as facilitating discharge planning in coordination with the patient’s PCP and cardiologist.

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

As a broad range of input is valuable in the planning of a project, the Applicant consulted with individuals at various regulatory agencies regarding the Proposed Projects. The following individuals were consulted regarding this Project:

* Lara Szent-Gyorgyi, Director, Determination of Need Program, Department of Public Health
* Jennica Allen, Office of Community Health Planning and Engagement, Department of Public Health
* Elizabeth Maffei, Office of Community Health Planning and Engagement, Department of Public Health
* MassHealth
* Health Policy Commission
* Center for Health Information and Analysis
* The Centers for Medicare & Medicaid Services

**F1.e.i Process for Determining Need/Evidence of Community Engagement:**

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

The Applicant proposes to construct a new facility to provide expanded capacity and more comprehensive care based upon the growing demand for cancer and cardiac services by Cape Cod Hospital’s Patient Panel, the aged infrastructure of existing buildings, and the need for a more patient-centered environment. In order to ensure the new facility was designed with patient outcomes at the center, CCHC engaged a human-centered design firm to facilitate a number of exercises including stakeholder interviews, patient and caregiver interviews, participatory workshops with staff, patients and volunteers. This input was collected and resulted in a set of Experience Principles which in turn informed the design process. Some of the resulting Experience Principles include:

1. Foster a sense of control and empowerment.
2. Meet people where they are (physically, cognitively, emotionally, and procedurally).
3. Provide for both privacy and connectedness.
4. Ever-present support.
5. Empower staff to collaborate and take ownership of the experience.
6. Care for the whole patient
7. Maintain flexibility to address shifting needs.

These Principles helped inform the design process for the new facility, including aesthetics, integrative wellness services, and clinical workspace.

In addition, the Applicant sought to inform the Hospital’s Patient Panel on the need for the Proposed Project as well as solicit feedback on the design, layout, and experience of the Proposed Project. To that end, the Applicant took the following actions:

* Presented to the Hospital’s Community Health Committee on January 26, 2022.
* Presented to the Hospital’s Neighbors on January 31, 2022
* Presented to the Hospital’s Patient and Family Advisory Council on February 10, 2022.

First, the Proposed Project was presented the Hospital’s Community Health Committee on January 26, 2022, with 19 members of the Committee and five (5) Hospital representatives. Next, the Hospital hosted

an open forum for neighbors and community members on January 31, 2022. This forum was attended by four (4) neighbors. Lastly, the Hospital spoke with five (5) members of its Patient and Family Advisory Council on February 10, 2022. During each meeting, Hospital representatives spoke about the need for the Proposed Project, design considerations, and how the Proposed Project is necessary for the Hospital’s provision of high-quality, patient-centered care to the Hospital’s Patient Panel. Feedback was overwhelming positive, with a clear appreciation for the consideration paid to the patient experience, including patient privacy, centralization of services, and the inclusion of family and visitors in the facility’s layout.

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

For materials related to the activities described in Factor F1.e.i, please refer to Appendix 3, which includes meeting agendas and presentations.

**Factor 2: Health Priorities**

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

## F2.a. Cost Containment:

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

The Proposed Project will meaningfully contribute to The Commonwealth’s goals for cost containment by providing expanded access to comprehensive cancer services. Expanded access will contribute to cost containment goals in three ways. First, by increasing access to medical appointments and chemotherapy, the Proposed Project will reduce delays to beginning treatment, when treatment is most likely to be successful and less costly. Second, the Proposed Project’s cancer center will expand access to same-day acute appointments which the Applicant anticipates will reduce emergency room utilization and inpatient admissions. Lastly, the proposed cancer center will offer wrap-around services, including rehabilitation, medical nutrition, and social work services, that will provide additional support to patients and families during treatment and through survivorship. In conjunction with expanded access to physician and infusion services, the Proposed Project believes that more patients will be able to receive care on Cape Cod, avoiding more costly care in Boston.

Additional cost savings will be realized through improved recovery outcomes as a result of the new cardiac medical-surgical unit. The proposed unit is designed to maximize patient well-being beyond the provision of direct care in order to improve health outcomes and promote recovery. Specifically, the new rooms will significantly reduce the amount of noise patients hear through both internal and external mechanisms. Additionally, patients will be provided full control over the lighting in their rooms. Collectively these efforts have been shown to reduce sleep disturbances and promote more restful sleep. Without such interventions, inpatients frequently experience poor sleep, which can contribute to a weakened immune system and may adversely affect cardiovascular and respiratory functions.[55](#_bookmark54) To that end, a hospital’s ability to ensure a tranquil environment may contribute to better health outcomes and lower hospital costs overall. Lastly, as further discussed below in Section F2.c., the Proposed Project will result in additional case management services, in turn improving the facilitation and coordinator of discharge planning and post-discharge care.

55 Getting a better night’s sleep in the hospital to improve healing. Available at [https://www.uclahealth.org/vitalsigns/getting-a-better-](https://www.uclahealth.org/vitalsigns/getting-a-better-night-s-sleep-in-the-hospital-to-improve-healing) [night-s-sleep-in-the-hospital-to-improve-healing](https://www.uclahealth.org/vitalsigns/getting-a-better-night-s-sleep-in-the-hospital-to-improve-healing)

As a result of improved coordination post-discharge, the Hospital anticipates additional case management capacity will contribute to cost containment in The Commonwealth.

## F2.b. Public Health Outcomes:

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

As noted above, the Proposed Project will improve public health outcomes by expanding access to cancer services, allowing Cape Cod Hospital to provide more timely access to services, including same-day appointments for patients seeking urgent care. Same-day appointments have been shown to reduce emergency department utilization and has the potential to improve health outcomes.[56](#_bookmark55) Additionally, the proposed cancer center will include dedicated space to communicate and educate patients and families which will promote patient education, further contributing to treatment adherence and improved health outcomes. Health outcomes will also be improved through the relocation of cardiac medical-surgical beds as a result of noise reduction efforts that will improve sleep and patient well-being, in turn, promoting recovery and immunity.

## F2.c. Delivery System Transformation:

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

One of the core elements of the proposed cancer center is to build upon the Hospital’s existing integrated care model. Though the Hospital currently offers integrative medicine, the current oncology spaces do not have room to adequately provide comprehensive wrap-around services. In addition to co-located pharmacy and laboratory services, the new center will include a larger footprint for integrative wellness services. The Hospital anticipates that it will be able to provide additional services as a result of the space provided by the Proposed Project. Integrative wellness care allows the Hospital to address patients’ wholistic needs beyond medical oncology.

Furthermore, the cardiac unit will include a dedicated space with the necessary technology infrastructure for discharge planning and care coordination which will facilitate more effective collaboration between the inpatient care team, the ambulatory care team and the ACO case management team. This model will promote continuity of care and essential follow up support and education for the first 30 days post hospital discharge. The space and infrastructure will also enhance the Applicant’s efforts toward health equity by increasing the capacity of CCHC ACO’s Navigators to address any social determinants of health that are positively screened during discharge planning. If a need is identified, the ACO Navigator will coordinate appropriate follow-up between the patient and available community resources, including assistance with paperwork and documentation as necessary.

## Factor 5: Relative Merit

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

**Proposal:** The Proposed Project is for the construction of a new building on the Hospital’s main campus in order to relocate certain medical-surgical beds and provided expanded cancer services in one location.

56 Impact of a Dedicated Cancer Urgent Care Center on Acute Care Utilization. <https://ascopubs.org/doi/abs/10.1200/OP.21.00183>

**Quality:** The Proposed Project is superior because the new building will provide sufficient space for each of the relocated services to be in compliance with current FGI Guidelines, allowing for an improved patient experience and care delivery

**Efficiency:** The Proposed Project is similarly the most efficient proposal because the new space will be constructed in accordance with the spatial requirements needed for patient care, privacy, infection control measures, and radiation equipment.

**Capital Expense:** $137,048,632

**Operating Costs:** $4,898,000

**Alternative Proposal:** An alternative to the Proposed Project would be to renovate the existing spaces.

**Alternative Quality:** This alternative does not provide equivalent quality to the Proposed Project due to the space constraints noted above and in Section F1.a.ii.. As a result, patient care services would be reduced (fewer beds and fewer infusion bays) in order to meet current hospital design requirements.

**Alternative Efficiency:** This alternative is not an efficient option because of the extensive improvements needed to modernize the 20- and 40-year-old spaces and meet current FGI standards.

**Alternative Capital Expenses:** Due to the diminished quality and efficiency outcomes described above, a budget was not developed for this alternative.

**Alternative Operating Costs:** Due to the diminished quality and efficiency outcomes described above, a budget was not developed for this alternative.