

STAFF REPORT TO THE PUBLIC HEALTH COUNCIL FOR A DETERMINATION OF NEED	
Applicant Name	Cape Cod Healthcare, Inc.
Applicant Address	27 Park Street, Hyannis, MA 02601
Filing Date	March 25, 2022
Type of DoN Application	Hospital/Clinic Substantial Capital Expenditure
Total Value	\$137,048,632.00
Project Number	CCHC-22021416-HE
Ten Taxpayer Groups (TTG)	No
Community Health Initiative (CHI)	\$6,852,431.60
Staff Recommendation	Approval with Conditions
Public Health Council	July 13, 2022
<u>Project Summary and Regulatory Review</u> Cape Cod Healthcare, Inc. (the Applicant), submitted an Application for a Proposed Project to construct a new facility on the main campus of Cape Cod Hospital (the Hospital or CCH). This new facility will consist of 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. Additionally, the Hospital's outpatient obstetrics and gynecology department will be relocated to accommodate the new facility. This Proposed Project falls within the definition of Substantial Capital Expenditure, which is reviewed under the DoN regulation 105 CMR 100.000. The Department must determine that need exists for a Proposed Project, on the basis of material in the record, where the Applicant makes a clear and convincing demonstration that the Proposed Project meets each Determination of Need Factor set forth within 105 CMR 100.210.	

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Background: Cape Cod Healthcare, Inc. and Application Overview

Cape Cod Healthcare, Inc. (Applicant), is located at 27 Park Street, Hyannis, MA 02601. The Applicant is the primary provider of healthcare services for residents and visitors of Cape Cod. It provides the majority of care for Barnstable County's year-round residents as well as for the more than 5 million seasonal tourists who vacation there each summer. With more than 450 physicians, 5,300 employees, and 790 volunteers, Cape Cod Healthcare includes 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), an ambulatory surgery center, and numerous primary and specialty care physician practices along with many other health programs. Cape Cod Hospital (the Hospital or CCH) 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.

Proposed Project

The Applicant filed a Notice of Determination of Need 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 include:

- Relocated and expanded outpatient oncology service and relocated radiation therapy services:
 - increase number of exam rooms from 12 to 16 and number of infusion bays from 19 to 36
 - co-locating exam rooms, infusion therapy, pharmacy services, and the oncology laboratory in one location in the new building
 - vaults for two linear accelerators (LINACs) (one replacement unit and one relocated unit), one designated brachytherapy vault with control room, and a larger scanner room to accommodate one replacement CT simulator;
- a relocated, 32-bed cardiac medical-surgical unit; and
- shell space for future services as needed.

In addition, the Hospital's outpatient obstetrics and gynecology department will be relocated to accommodate the new facility.¹ The Proposed Project is needed to co-locate and centralize cardiac and cancer services, which is not feasible on the existing campus because of the current aged infrastructure and limited footprint of the building. Further, this will allow the Hospital to offer an improved patient care experience in an updated facility close to home, reducing the need for patients to travel to Boston to seek care.

¹ The OB/GYN department will be relocated because the new facility will be built on the site of the existing OB/GYN building located at 40 Quinlan Way, Hyannis MA. Cape Cod Hospital will relocate the OB/GYN department to 43 Lewis Bay Road, Hyannis MA. The new location is a standalone building adjacent to the Hospital Campus.

Patient Panel²

Table 1 shows the unique number of patients served in fiscal years 2019 through 2021. The Applicant notes that its Patient Panel slightly decreased during the pandemic, following state and national trends, and has mostly returned to pre-pandemic levels³.

Table 1: Overview of Patient Panel, FY19-FY21

	2019	2020	2021
Number of Unique Patients Served	167,432	148,994	224,079

The Applicant provided demographic and payer mix data for the Patient Panel, which is presented in Table 2, respectively. Staff notes the following observations about these data below:

- **Gender:** More than half of the Applicant's Patient Panel are female (55%).
- **Age:** The majority of patients are aged 18-64 (54%).
- **Race/Ethnicity:** Most patients self-identified as white (81%). A small proportion of patients also self-identified as Black/African American (3.3%), Asian (0.65%), 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.
- **Patient Origin:** A majority of the Patient Panel is from Barnstable County (80%).
- **Payer Mix:** Many patients served have Medicare (43%) followed by some type of Commercial (41%) insurance, including HMO/POS, PPO/Indemnity, and Medicare Advantage. Three percent of the Patient Panel had MassHealth.
- **Payer:** The payment categories for ACO and APM contracts account for 4% of payments.

Table 2: Overview of Patient Panel, FY21

	Total	Percent
Total Unique Patients	224,079	
Gender		
Female	100,209	55%
Male	124,327	45%
Other/Unknown*	173	0%
Age		
0-17	21,917	10%
18-64	120,259	54%
65+	82,533	37%
Race		
American Indian or Alaska Native	387	0%
Asian	1,471	1%

² As defined in 105 CMR 100.100, Patient Panel is the total of the individual patients regardless of payer, including those patients seen within an emergency department(s) if applicable, seen over the course of the most recent complete 36-month period by the Applicant or Holder.

³ When accounting for utilization attributed solely to COVID-19 testing, which the System provided exclusively at Cape Cod Hospital.

Black or African American	7,479	3%
Hispanic or Latino	0	0%
Native Hawaiian or Other Pacific Islander	57	0%
White or Caucasian	182,514	81%
Other/Unknown [#]	32,801	15%
Patient Origin		
Barnstable County	179,753	80%
Other MA	27,717	12%
Outside MA	16,205	7%
Unknown	1,034	0%
Payer Mix		
Commercial HMO/POS		23%
Commercial PPO/Indemnity		9%
MassHealth		3%
Medicaid MCO		9%
Medicare		43%
Medicare Advantage		9%
All Other		4%
Payer Mix		
ACO and APM Contracts		4%
Non-ACO and Non-APM Contracts		96%

*option available to nonbinary and gender-neutral ("X") patients

#represents races and ethnicities not specifically listed for selection

Factor 1a: Patient Panel Need

In this section, staff assesses if the Applicant has sufficiently demonstrated need for the Proposed Project components by the Applicant's Patient Panel.

The Applicant asserts due to its aging Patient Panel and aging population in its service area, there will be increased need for outpatient oncology services and inpatient cardiac care, and this Proposed Project will enable the Hospital to meet that future need. The Applicant noted that as of 2010, the percentage of Cape Cod residents aged 45-69 years old was 39% compared to 32% of Massachusetts residents, and the percentage of Cape Cod residents over 70 years was 17% compared to 10% of the state's residents.⁴ The percentage of patients covered by Medicare and Medicare Advantage is also an indication of the Applicant's older Patient Panel. Further, the Applicant states that by 2035, 35% of the population is projected to be 65 years or older compared to 24% in 2010.

There are two primary components to this application, and each will be discussed separately, with analysis immediately following. The elements addressed in this section are:

- Outpatient Oncology Services
- Cardiac Medical-Surgical Unit

⁴ UMASS DONAHUE INSTITUTE. Long-term Population Projections for Massachusetts Regions and Municipalities. March 2015.

Outpatient Oncology Services

The new cancer center will have all outpatient cancer services in one location, including exam rooms, infusion therapy, pharmacy services, and the oncology laboratory. The center will have 16 exam rooms (up from 12 rooms) and 36 infusion bays (up from 19 bays). There will be space for wrap-around services and integrative wellness therapies, as well as more space for clinical staff, including workstations and conference rooms. Additionally, to ensure patient privacy, the infusion bays will be enclosed by wall structures on both sides of the patient chair and provide in-suite access to six bathrooms.⁵

The Applicant attributes the need for the outpatient oncology services to two factors:

- a) increased future demand for services, and
- b) limited space for services, including the radiation therapy department, impacting patient access.

a) Increased future demand

The Hospital has experienced an increase in the utilization of its cancer services. There was an 18%⁶ increase in the number of unique patients between FY19 and FY21, a 12.5% increase in provider visits, and 8.4% increase in nonchemotherapy infusions and injections (Table 3). The Applicant notes that there was a significant increase in FY21 in its cancer services and anticipates this will steadily increase due to the Hospital's aging Patient Panel.

The Applicant anticipates that there will be increased demand for cancer care services between FY21 and FY27 (the projected year of opening): a 16% increase in provider visits and a 20% increase in infusions and injections. Table 4 highlights the projected volume, which has been based on Sg2 demand forecasts, additional physician capacity, and operational efficiency as a result of the Proposed Project.

Table 3: Historic Outpatient Oncology Volume

	FY19	FY20	FY21
Unique Patients	4,363	3,150	5,064
Unique Patients by Age*			
0-17	1	0	5
18-64	1,337	882	1,473
65+	3,025	2,268	3,586
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

* Not mutually exclusive – if a patient was seen multiple times per year with an age group change, they are counted in each group

⁵ Currently, curtains are used to separate the bays.

⁶ Note that due to the EHR conversion in FY21, unique patients by age prior to FY21 are not mutually exclusive in FY19 and FY20, resulting in slightly higher totals. The correct number of unique patients is 4,287, which was used to calculate the percentage.

Table 4: Projected Medical Oncology Volume

	FY23	FY24	FY25	FY26	FY27	%Change FY21-27
Provider Visits	14,709	14,958	15,751	15,931	16,069	16%
Total Infusion and Injections	28,964	29,392	30,792	32,128	32,128	20%
Chemotherapy	12,819	13,009	13,628	14,220	14,220	
Non-Chemotherapy Treatments	16,145	16,383	17,164	17,909	17,909	

Currently, with respect to infusion chairs, the Hospital sees 3.1 patients per chair per day and for the projected volume in FY25, 30 infusion bays will be needed. Sg2 benchmarking recommends an average of 2.5 patients per chair per day. Thus, to meet the long-term demand, the Cancer Center plans for 36 bays.

The number of unique patients for radiation therapy has also increased 33% between FY19 and FY21, while radiation oncology visits and treatments have remained relatively similar during the same time period.

Table 5: Historic Radiation Therapy Volume

	FY19	FY20	FY21
Unique Patients	2,801	1,842	3,735
Unique Patients by Age*			
0-17	0	0	3
18-64	723	509	860
65+	2,078	1,333	2,872
Visits	5,131	4,904	5,646
Total Treatments and Procedures	19,351	19,343	18,336
	77	98	81
Brachytherapy Treatments	18,062	18,025	17,044
LINAC Treatments	1,212	1,220	1,211
CT Simulation Procedures			

* Not mutually exclusive – if a patient was seen multiple times per year with an age group change, they are counted in each group

The Applicant also estimates, based on Sg2, that radiation therapy volume will increase by 2% by FY27.

Table 6: 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 Simulation Procedures	1,222	1,220	1,218	1,217	1,236

Further, the Applicant noted with more availability of outpatient oncology options, there is a decreased demand for inpatient oncology care. Also, new screening recommendations and increasing survivorship has led to more demand for outpatient oncology services.

b) Limited space

The current facility does not provide adequate space needed for services and equipment and does not align with the current Facility Guidelines Institute (FGI) standards for infusion bays. Further, the fragmentation of location of services has resulted in inefficiencies.

The radiation therapy department needs to be relocated because the current vaults, built in 1979 and 1996, are undersized and cannot support upgraded current technology and required storage, specifically the existing linear accelerator (LINAC) and computed tomography (CT). There is also lack of space for clean and dirty utility rooms or designated waiting rooms. The Applicant states that because of size limitations, the CT simulator vault cannot accommodate a replacement machine and the distance between the vault and control does not currently allow for maintenance of sightlines with the patient. Presently, brachytherapy procedures are done in the LINAC vaults because of limited space to build a brachytherapy vault, which requires switching between external and internal radiation treatments, disrupting the patient flow.

The existing pharmacy does not have sufficient space for drug and supply storage and does not have a redundant double negative pressure clean room so if there is a disruption, the pharmacists have to relocate to the Hospital's main pharmacy. There is no room in the existing space for wrap-around services, such as rehabilitation therapy and medical nutrition. The Applicant states that according to FGI guidelines, the infusion bays are undersized and do not allow for the required clearance between chairs and walls/partitions.

The Applicant reports that there is inadequate space between chairs in the infusion bays, limiting the visual and acoustical privacy for patients. Also, patients have to leave the suite and have go through obstacles (e.g., infusion equipment wires) to access the bathrooms. The current layout of services leads patients to travel to different parts of the hospital, as the oncology exam rooms and the infusion therapy suite are located in separate, non-adjacent areas of the Hospital. Patients have to travel from the exam room suite to the infusion suite and infusion patients have to travel from the infusion suite to have blood drawn at the Hospital's outpatient laboratory, which is needed for same-day infusions. Also, the current space of the radiation therapy department does not allow to provide patient friendly services.

The limited space in the existing facility has also impacted efficiency of services. The Applicant noted that the larger clinician work area is currently also used for patient education, which limits the private space available for care teams to collaborate. The current workaround of using the existing vaults for radiation treatments disrupts delivery of care as result of switching between external and internal radiation treatments leading to inefficiencies.

Analysis

There is a general shift away from inpatient care in the healthcare landscape and recommendation to invest in outpatient services.^a As such, this Proposed Project will enable the Hospital to expand and

enhance their outpatient oncology services to meet the Patient Panel demand. Historical and projected volume for medical oncology and radiation therapy demonstrate there has been an increased demand, which will continue in the future. Moreover, the new facility will improve access and care for patients by providing space needed for therapy vaults for the two LINACs and brachytherapy as well as the CT simulator, which the existing building does not allow.

Cardiac Medical-Surgical Unit

The new inpatient cardiac unit will combine the current smaller two units in the existing facility into one unit. The new unit will meet and exceed the current FGI standards for inpatient care.⁷ The unit will also have dedicated clinical workstations outside of the adjoining rooms to limit cross-contamination.

The Applicant attributes the need for the cardiac medical-surgical unit to two factors:

- a) increased utilization of services, and
- b) limited space for cardiac inpatient services and reduced access to inpatient beds.

a) Increased utilization of services

The Applicant notes that heart disease was the leading cause of death in the U.S in 2021.⁸ Further, the Applicant notes that heart disease is most prevalent in older adults, and aging adults will more likely need inpatient cardiac care.

As Table 7 shows, the demand for the Hospital's inpatient cardiac medical-surgical services has remained consistent over the past few years. The table highlights that a majority of the patients are in the 65+ age category.

Table 7: Historic Inpatient Cardiac Volume

	FY19	FY20	FY21
Total Discharges	2,908	2,264	2,783
Discharges by Age			
0-17	0	1	1
18-64	658	500	616
65+	2,250	1,763	2,166
Days	10,590	8,629	10,596
Average Daily Census (ADC)	29	24	29

While the Applicant does not anticipate significant increase in demand, it expects that inpatient cardiac discharges and patient days will increase by approximately 4% through FY27 (Table 8) based on Sg2's proprietary forecast.

⁷ This includes the 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.

⁸ CDC, Leading Causes of Death. Available at <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>; American Heart Association, Massachusetts Fact Sheet. Available at <https://www.heart.org/-/media/files/about-us/policy-research/fact-sheets/quality-systems-of-care/quality-systems-of-care-massachusetts.pdf?la=en>.

Table 8: Projected Inpatient Cardiac Volume

	FY23	FY24	FY25	FY26	FY27	% Change FY21-27
Discharges	3,019	3,021	3,027	3,027	3,024	9%
Days	10,992	11,003	11,024	11,024	11,014	4%
Average Daily Census (ADC)	30	30	30	30	30	3%

b) Limited space

The current cardiac medical-surgical unit is located in a building from the 1950s, which has physical plant limitations. In the existing space, the unit is in two smaller, separate units. These units have been renovated to maintain compliance with facility standards but cannot be further renovated because of the building's limited footprint. The rooms remain undersized, are inadequate for transfer side clearance around patient beds, and cannot accommodate equipment needs. The rooms also have insufficient space for sleeping areas for family members. If the existing space is renovated to support clinical team collaboration, provide amenities to families, and accommodate new technologies, it would lead to 12 fewer beds.

Analysis

As evidenced by the growing aging Patient Panel and Cape Cod residents, there will be an increased demand for cardiac services, particularly because aging is a factor associated with prevalence of heart disease. In order to meet the future Patient Panel demand and provide enhanced quality care locally to the patients as well as the design limitations of the existing units, a new facility housing cardiac medical-surgical unit is needed.

Factor 1: b) Public health value, improved health outcomes and quality of life; assurances of health equity

In this section staff will assess if the Proposed Project adds measurable public health value in terms of improved health outcomes and quality of life for the Applicant's existing patient panel, while providing reasonable assurances of health equity.

Public Health Value, Health Outcomes, and Quality of Life

The Applicant cites several studies demonstrating improved health outcomes with access to timely care for cancer treatment and multiple modes of cancer treatment, the benefit of proximity of services, and the need for cardiovascular inpatient care. Additionally, CCHC worked with a human-centered design firm to facilitate a number of exercises to ensure that the new facility is designed with patient outcomes at the center

The Applicant states that timely access to chemotherapy is essential and notes that efficacy of cancer treatment is dependent on timely initiation. Delays in chemotherapy initiation can increase

mortality,^{9,10} and additionally, for some cancers, delayed chemotherapy has been correlated with incomplete treatment courses that can impact life expectancy¹¹. Access to same-day acute care appointments has also been shown to decrease utilization of emergency department,¹² which leads to improved patient experience and health outcomes^{12,13}.

In addition to having access to appropriate care, proximity to services and minimal travel time to healthcare facilities is also essential. These factors are particularly important for aging adults due to potential transportation barriers.¹⁴ The Applicant cites evidence showing that proximity of care is associated with care utilization and health outcomes, including a study indicating that greater distance between the healthcare facilities and patients' homes resulted in poorer health outcomes¹⁴ and reduced rates of radiation therapy¹⁵. Infusion and radiation therapies are often done over a period of time, requiring patients to go to healthcare facilities multiple times, so having access to care locally will improve treatment completion rates. Greater travel time is also related to delayed diagnosis,¹⁵ traveling costs, and physical impact on individuals and source of added stress¹⁶.

The Applicant asserts it is crucial for patients to have access to high-quality cardiovascular inpatient care, and the new accommodations proposed will contribute to better quality of life of patients who require inpatient care. The Applicant notes the importance of access to high-quality inpatient cardiovascular care. Heart disease is one of the top causes for death both nationally and in the state¹⁷. Patients requiring surgical interventions, such as coronary bypass surgery and open heart surgeries, need inpatient care for post-procedure recovery. Each room of the proposed cardiac inpatient unit will have acoustic requirements to mitigate the exterior noise and isolate sound within each room. This has been shown to improve sleep, ultimately supporting patient recovery and emotional well-being.

Analysis

The Applicant has demonstrated through evidence that better health outcomes can be achieved when individuals live close to the health care facilities and when comprehensive health care services are available.

⁹ 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>.

¹⁰ 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-tripneg#:~:text=Effect%20on%20survival,to%2060%20days%20after%20surgery>.

¹¹ "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>.

¹² THE JOURNAL OF URGENT CARE MEDICINE. New Urgent Care Models Help Cancer Patients. <https://www.jucm.com/new-urgentcare-models-help-cancer-patients/>.

¹³ <https://www.healthleadersmedia.com/clinical-care/cancer-urgent-care-clinics-slow-growth-er-utilization>.

¹⁴ 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>.

¹⁵ 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/>.

¹⁶ 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.

¹⁷ CDC, Leading Causes of Death. Available at <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>;

American Heart Association, Massachusetts Fact Sheet. Available at <https://www.heart.org/-/media/files/about-us/policy-research/fact-sheets/quality-systems-of-care/quality-systems-of-care-massachusetts.pdf?la=en>.

Health Equity and Social Determinants of Health (SDoH)

The Applicant asserts they value “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.” They stated they do not “discriminate on the ability to pay or payer source, physical ability, sensory or speech limitation, or religious, spiritual and cultural beliefs.”

The Applicant highlights two specific examples of its health equity efforts. The hospital’s interpreter services¹⁸ include Hospital trained medical interpreters available in-person, by phone, and by video 24 hours per day, 7 days per week. There are also American Sign Language interpreter services available in-person and through video. Another example cited is commitment to cultural competency to ensure that patients’ social, cultural and linguistic needs are met. The Applicant is committed to reducing racial and ethnic care disparities, specifically citing staff training. All new hires are required to complete a culturally competency training, and the Applicant also provides in-service trainings on cultural competence to its clinical departments, including the oncology, rehabilitation, behavioral health, psychiatric, and emergency departments.

The Hospital has ACO Navigators that assess patients’ social determinants of health (SDoH) needs¹⁹ for all ACO emergency department and ACO inpatients.²⁰ This assessment is done either by phone during the discharge process or in person in the emergency department. Additionally, the Hospital’s Care Management Team (case managers and ED navigators) works with patients enrolled in all risk contracts (e.g., BCBS HMO, HPHC, Tufts, Medicare Advantage) and provides referrals to appropriate community resources if an SDoH need is identified during their discussions. Based on the screening results, the Care Management Team will assist with connecting patient and families to the appropriate resources and/or provide them with information on connecting to the right resources.

Analysis: Health Equity and SDoH

The DoN staff review assessed the Proposed Project’s impact on equitable access to care. The Applicant recognizes the importance of access for all patients demonstrated through its non-discriminatory efforts and language interpreter services. Additionally, it strives to reduce healthcare disparities through workforce trainings on cultural competency. The Applicant has a SDoH screening process for its ACO patients. Staff finds that the Applicant has sufficiently generally outlined a case for improved health outcomes and health equity at a high level.

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

The Applicant notes that the co-location of services will enable clinical coordination and collaboration and foster continuity of care. Through the Proposed Project, co-located cancer services will allow patients to receive all their care in one place. Patients will also have access to broad range of services for their physical and emotional well-being, such as the integrative wellness services that will be

¹⁸ The Hospital provides in-house interpreter services for Spanish and Portuguese speakers. For all other languages, the Hospital contracts with both Stratus Video/AMN and CryaCom, and it also utilizes the services of the Massachusetts Commission for the Deaf and Hard of Hearing.

¹⁹ SDoH Screening Questions: 1. I am worried about my/my child’s housing; 2. I cannot always pay for utilities like gas or electricity for myself/my child; 3. I have a hard time finding rides to my/my child’s healthcare appointments; 4. Sometimes I do not/my child does not have enough food; 5. I/my child could use support for clothes or other household costs; 6. I/my child need(s) support with employment/education; 7. I/my child do not have enough support from family, friends, and/or community; 8. Other areas I/my child could use help with are:.

²⁰ Assessments are currently not done for non-Medicaid ACO patients and Medicaid ACO outpatients, with the exception of Medicaid ACO patients on their initial engagement as an outpatient of the hospital.

available in the new facility. As all these services will be provided by the Hospital, so the patient's care team, including their primary care provider (PCP), will have access to patient's medical records. For inpatient cardiac patients, the Hospital will enable medical record sharing between the hospital and the patient's PCP and discharge planning will be done in coordination with the patient's PCP and cardiologist.

Analysis

Staff finds that the Applicant's care coordination and discharge processes will contribute positively to efficiency, continuity, and coordination of care. The co-location of cancer services will make them more efficient, which will contribute to increased patient satisfaction and support continuity and coordination of care. Additionally, medical record sharing between patients' providers (e.g., PCP, care team, and cardiologist) will foster collaboration and allow for better care coordination.

Factor 1: d) Consultation

The Applicant has provided evidence of consultation, both prior to and after the Filing Date, with all government agencies that have licensure, certification, or other regulatory oversight.

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

The Department's Guideline²¹ for community engagement defines "community" as the Patient Panel and requires that, at minimum, the Applicant must "consult" with groups representative of the Applicant's Patient Panel. Regulations state that efforts in such consultation should consist of engaging "community coalitions statistically representative of the Patient Panel."²²

To reach and inform the Patient Panel about the Proposed Project, in early 2022, the Hospital presented to three groups: (1) the Hospital's Community Health Committee (19 committee members and 5 hospital representatives); (2) neighbors and community members in an open forum (4 neighbors); and (3) the Patient and Family Advisory Council (5 members). The presentations highlighted the need for the Proposed Project and design considerations for the new facility. The Applicant received positive feedback, particularly for considering the patient experience. The input from this process was used to help inform the design process for the new facility, including aesthetics, integrative wellness services, and clinical workspace.

Analysis

Staff reviewed the information on the Applicant's community engagement and finds that the Applicant has met the required community engagement standard of Consult in the planning phase of the Proposed Project.

Factor 1: f) Competition on price, total medical expenses (TME), costs and other measures of health care spending

The Proposed Project will compete on the basis of price, total medical expenses, and provider costs. The improvements resulting from the Project, such as enhanced environment for inpatient cardiac

²¹ Community Engagement Standards for Community Health Planning Guideline. <https://www.mass.gov/doc/community-engagement-guidelines-for-community-health-planning-pdf/download>.

²² DoN Regulation 100.210 (A)(1)(e). <https://www.mass.gov/files/documents/2018/12/31/jud-lib-105cmr100.pdf>.

patients and expanded outpatient cancer services, will help ensure residents have access to high-quality cancer and cardiac services close to home on Cape Cod. The Applicant is not adding inpatient beds, but rather creating a facility that can provide more advanced inpatient cardiac care locally for patients on the Cape and meet all contemporary facility guidelines.

Additionally, the Proposed Project will promote operational and clinical efficiencies and improve care delivery that will lead to positive health and quality outcomes for the Patient Panel, and thus compete on the basis of price and health care spending. Centralized services will enable better communication and collaboration among care team members and co-location of clinical services²³ allowing for patient-centered experience. The expanded access to cancer care will contribute to cost containment goals with timely treatment that may reduce patient burden of disease and mitigate costs related to later diagnosis. The new facility will also have other design considerations including updated technology and space for integrative services. The Project will help advance the Applicant's mission in providing "high-quality, comprehensive health care in the community."

Analysis

It has been established that early diagnosis of cancer can reduce treatment costs.^b Further, there is evidence that complementary and integrative medicine, used for reducing physical and emotional side-effects related to cancer treatment, may reduce healthcare utilization^c, thus reducing costs. In CHIA's 2021 report on statewide relative prices (S-RP) for hospitals in 2019 show that Cape Cod Hospital's S-RP, that compares payer relative prices, is slightly lower than most major hospitals in Boston.^d

Staff finds that the Proposed Project will likely compete on the basis of price, TME provider costs, and other measures of health care spending have been met.

Summary, FACTOR 1

As a result of the information provided by the Applicant and additional analysis, staff finds that the Applicant has demonstrated that the Proposed Project meets Factors 1(a-f). The Applicant proposed specific outcome and process measures to track the impact of the Proposed Project which Staff has reviewed, and which will become a part of the reporting requirements.

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

Cost Containment

The Applicant asserts several elements collectively will contribute to the Commonwealth's goals for cost containment. First, the Proposed Project will encourage earlier treatment for cancer with increased availability of appointments and chemotherapy. Additionally, the Applicant expects the Proposed Project to reduce costs related to preventable emergency room and inpatient admissions by increased availability of same-day appointments. The Proposed Project will also include a relocated new cardiac medical-surgical unit, which proposes to improve environmental factors in patient space, such as noise levels and lighting.

²³ Co-locate exam rooms, physician offices, infusion bays, radiation therapy, pharmacy, laboratory, and patient and family education space.

The Applicant also states that increased service capacity in other preventive and restorative services in the new facility, such as rehabilitation, nutrition, and social work, will reduce overall costs of cancer care. Wrap-around services may alleviate long-term impacts of diagnosis and treatment, as well as the emotional and financial burden of living with cancer may prevent future, higher-cost emergency care. Finally, increased case management services as a result of the Proposed Project will enhance discharge planning and post-discharge care, and this improved coordination can contribute to cost containment.

Analysis: Cost Containment

Earlier treatment is likely to reduce overall treatment costs compared to later-stage treatment for cancer.^e There is evidence in the US that approximately one quarter of cancer-related emergency room visits are preventable.^f This cost-saving effort feed directly into the quality measure set by the Centers for Medicare and Medicaid Services (OP-35) to quantify and reduce emergency department visits and inpatients admission related to cancer.^g

The staff finds that the Proposed Project will achieve overall cost savings for cancer patients by preventing emergency department utilization and inpatient admissions by increasing the availability of outpatient appointments and wrap-around social, nutrition, and rehabilitation services. Lack of services available in local hospitals, which may result in transfers to other facilities that can be costly.^{h,i} Thus, patients having access to appropriate level of cardiac services care locally can contribute to cost savings.

Improved Public Health Outcomes

In addition to the extended service capacity in same-day services, which will prevent emergency department utilization, the Applicant proposes to use the space to build patient education and community outreach programs. The Applicant asserts that these programs will add to treatment adherence and health outcomes.

The Applicant has clarified that the Hospital has moved away from in-person patient education programs since the start of the COVID-19 pandemic. The Hospital has several programs in place presently, including free online risk assessments and resources for breast health, lung cancer, stroke, and cardiovascular health. Another initiative is in place in collaboration with National Park Services to host a series of educational webinar series featuring a Cardiologist from the Facility and a National Park Ranger conducting a trail walk and discussion on the benefits of exercise, nutrition, and mindfulness on cardiovascular health.

The Applicant also lists some programs that are underway, including additional online resources and risk assessments for orthopedic health, prostate cancer, and vascular health, which are all scheduled to be launched in May 2022. Physician seminars are due to be made public for venous disease and neurosurgery in future months. Other events include Breast Cancer Awareness Month in October 2022, where the Hospital will facilitate an online education campaign on risk screening, routine mammography, and current guidelines. Lastly, the Applicant has plans to partner with Cape Cod Health News to provide multidisciplinary education for stroke care using a patient perspective.

Analysis: Public Health Outcomes

Staff finds that the Applicant provided context in which public health outcomes will be prioritized via patient education programs and community outreach efforts as a result of the Proposed Project. Community-facing efforts for cancer-related education and communication will positively impact public health in the community by encouraging cancer screening, thus earlier diagnosis and treatment, leading to improved health outcomes. Additionally, timely access to outpatient cancer treatment can improve public health outcomes.

Delivery System Transformation

The Applicant described how it will transform its delivery systems in several ways through the Proposed Project. First, the Proposed new center will provide more space for integrative medicine and comprehensive wrap-around services, which is lacking in the current oncology space at the Hospital. The Hospital has plans to evaluate the needs of its Patient Panel to determine what integrative wellness services to implement. Some examples of these services include acupuncture, message therapy, and meditation.

Second, the Applicant proposes to add a dedicated space for discharge planning and care coordination. Care coordination will specifically involve management by the inpatient care team, ambulatory care team, and the case management team. The workflow of these teams will be improved in this new space due to closer physical proximity and new space dedicated for joint meetings. The Proposed Project will allow the technological infrastructure for coordinated discharged planning and care continuation. This space will also facilitate patient education for the first 30 days after their discharge. Finally, the space will be used for work between patient navigators, case managers, and social workers to enhance efforts towards health equity for patients cared for in the Hospital.

Additionally, the Applicant plans to increase the capacity of their in-house patient navigators (CCHC ACO's Navigators) who guide the patients to addressing social determinants of health, and when needed, provide connection to necessary community resources to help the patient achieve their best possible lived environment for recovery, which may include coordinating appointments, guiding the patient through paperwork, and more.

Analysis: Delivery System Transformation

Central to the goal of Delivery System Transformation is the integration of social services and community-based expertise. Staff finds that the Applicant has provided sufficient evidence of delivery system transformation in this Proposed Project. The Applicant's plan to enhance their patient navigation program holds particular importance towards improving delivery systems to ensure holistic patient care and coordination that they may achieve optimal medical care experience and outcomes. The use of patient navigators in cancer care is well-established as a beneficial, patient-centered intervention, which is associated with better patient retention, lower burnout of clinical staff, and improved health equity.^{j,k}

Summary, FACTOR 2

In summary, the Applicant proposes to reduce preventable emergency visits and inpatient admissions by strengthening the Hospital's outpatient capacity and community-based education programs, which will lead to overall cost savings. The Proposed Project aims transform their delivery system with

integrative care solutions involving wrap-around services and patient navigation. As a result of information provided, staff finds that the Proposed Project has sufficiently met the requirements of Factor 2.

Factor 3: Relevant Licensure/Oversight Compliance

The Applicant has provided evidence of compliance and good standing with federal, state, and local laws and regulations. As a result of information provided by the Applicant, staff finds the Applicant has reasonably met the standards of Factor 3.

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

Under factor 4, the Applicant must demonstrate that it has sufficient funds available for capital and operating costs necessary to support the Proposed Project without negative effects or consequences to the existing Patient Panel. Documentation sufficient to make such finding must be supported by an analysis by an independent CPA.

The Applicant submitted a CPA report compiled by BDO. The CPA analysis was limited to five-year financial projections for the Applicant (FY2023-2027). The Applicant's revenue comes from Cape Cod Hospital (63.5%) and Falmouth Hospital (17.5%). Findings from this analysis should be interpreted with consideration of COVID-19 related revenue growth in FY2022.²⁴

The Proposed Project will cost \$173 million, of which \$137 million meets the criteria for DoN's maximum capital expenditure. The Applicant's cash flow has been supplemented with some liquidation of the Applicant's investment pool in order to fund the Proposed Project.

BDO presented several benchmarking metrics with projections to demonstrate the financial feasibility of the Proposed Project:

1. Revenue
 - a. Net Patient Service Revenue (NPSR) – projected to grow between 2.9 and 4.0 percent
 - i. Inpatient and outpatient discharges – projected to grow annually; additional discharges expected from new Level III Trauma certification in FY2023 at Cape Cod Hospital
2. Operating Expenses
 - a. Salaries and wages account for 47% of total operating expense and is projected to grow significantly (7% in FY2022, approximately 3% for other projected years)
3. Key Financial Ratio
 - a. Earnings Before Interest, Depreciation and Amortization (EBIDA) – surplus of approximately 5.4 percent of the projected revenue

²⁴ Growth in FY 2022 relates to patients who had put off care due to the COVID pandemic as well as increases in laboratory volumes related to testing and vaccinations

With the CPA analysis, staff has determined that the Applicant has provided sufficient documentation of 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 Patient Panel.

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

The Applicant has provided sufficient evidence that the Proposed Project, on balance, is superior to alternative and substitute methods for meeting the existing Patient Panel needs identified by the Applicant pursuant to 105 CMR 100.210(A)(1). Evaluation of 105 CMR 100.210(A)(5) takes 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.

The Applicant considered and rejected one alternative to the Proposed Project: renovate existing space. The Applicant asserts that this alternative does not provide the equivalent quality and efficiency to the Proposed Project as this will not allow the Hospital more room to operate and maintain/increase patient care services. In order to maintain hospital design requirements, the Applicant would have to decrease the number of exam rooms, beds, and infusion bays to meet the square footage requirements. The alternative to renovate will cause the Applicant to incur significant costs to renovate physical spaces that are more than two decades old to meet the current standards set by the Facility Guidelines Institute (FGI). Further, this would reduce access on Cape Cod and lead to Patient Panel potentially getting care in Boston at higher costs.

Analysis

The Applicant has considered renovating its existing space as an alternative to the Proposed Project. Staff agrees that simply maintaining existing space while renovating to comply with FGI standards will cause a reduction of available services, leading to delays in cancer care, thereby negatively impacting the health outcomes of the patient panel.

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

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

To fulfill Factor 6 requirements, the Applicant submitted its existing Community Health Needs Assessment (CHNA), a Self-Assessment and Supplement, Stakeholder Assessments, a Community Engagement Plan, and a CHI Narrative.

The Community Health Needs Assessment was released in 2020 (for 2020-2022 activities) by the applicant, Cape Cod Healthcare. The Community Health Needs Assessment was developed through data collection and analysis methods including a community wide survey, focus groups, community stakeholder interviews, and community stakeholder dialogs. The Applicant used the findings to develop a Strategic Implementation Plan (SIP). The Needs Assessment identified priority populations, and describes key findings and themes from the service area and participating communities. The priority populations include Geographically Isolated Residents, Adults Over 65, Transitional-aged Youth, Low Income Individuals and Families, Populations with Mental Health and Substance Use Issues,

and Non-English Speaking Individuals. The priority areas identified are Housing, Transportation, Seasonal Economy, Behavioral Health, Aging, Physical Health Conditions, and Healthcare Access. The Applicant will release a new Community Health Needs Assessment in 2022, and will employ similar strategies for engagement. Using the upcoming CHNA, the Applicant will engage its CHI Advisory Board (CAB) to select priorities and identify strategies for implementation with the funds associated with this proposed project.

The Self-Assessment and Supplement provided a summary of community engagement processes and socio-demographic information, data and highlights related to topics and themes of community needs related to the existing CHNA and Implementation Plan. Through primary data collection such as community stakeholder interviews and dialogs, focus groups, and community wide surveying, data analysis, the Applicant and participating community groups and residents identified the key concerns outlined in the 2020-2022 Community Health Needs Assessment. The Supplement provides detail on plans for engaging the community at large as part of the 2023-2025 CHNA.

Stakeholder Assessments submitted provided information on the individuals' engagement levels (e.g. their personal participation and role) and their analysis of how the Applicant engaged the community in community health improvement planning processes. The information provided in these forms were largely consistent with the self-assessment conducted by the Applicant.

The Community Engagement Plan provided background information for, and explanation of existing CHNA/SIP planning processes. The Plan outlines the lessons learned from the 2020-2022 Community Health Needs Assessment and how the Applicant is using these in designing and implementing the 2023-2025 CHNA for Cape Cod Healthcare. The Applicant describes engagement across the geography and identifies the level of engagement in all activity areas.

The CHI Narrative provided background and overview information for the CHI processes. The narrative also outlines advisory duties for the advisory and allocation committees, and planned use of funding for evaluation and administrative activities. Additionally, the narrative outlines the CHI funds breakdown and the anticipated timeline for CHI activities.

The timeline, RFP processes, and use of evaluation and administrative funds are all appropriate and in line with CHI planning guidelines. In the 2020-2022 CHNA, the Applicant highlights Social Determinants of Health Issues, and should do the same in the 2023-2025 CHNA to ensure selection of strategies that meet Health Priority Guideline principles. This will help the Applicant to focus on the priority areas in the upcoming final assessment that allow for implementation at the root cause level. In the existing CHNA, these areas are Employment, education, and economic opportunities, Housing, Transportation, and Access to Healthy Food, Nutrition. The Applicant will work with its robust CBAC to select priorities and approve implementation strategies. DPH staff have determined that if the Applicant agrees to address community conditions and root causes while engaging in ongoing work with their CAB, CHI investment will align appropriately with the Health Priorities Guideline. The Applicant will also have additional touchpoints with DPH staff to share lessons learned and the final 2022 Community Health Needs Assessment to ensure sound processes for planning and implementation work moving forward.

The anticipated timeline for CHI activities includes a meeting of the CHI Advisory Board six weeks post approval, identifying the Health Priorities Strategies 3-4 months post approval, releasing an RFP to support transparent investment fix to six months later, with funding disbursed about ten months thereafter.

With the administrative funds, the applicant's early plans are to develop and disseminate communication materials, and support participation through meeting promotion and engagement barrier reduction activities.

Summary Analysis: As a result of information provided by the Applicant and additional analysis, staff finds that with the conditions outlined below, and the ongoing communication on items outlined above, the Applicant will have demonstrated that the Proposed Project has met Factor 6.

Conditions to the DoN

Based upon a review of the materials submitted, Staff finds that the Applicant has met each DoN Factor for the Proposed Project and recommends that the Department approve this Determination of Need, subject to all applicable Standard Conditions.

Condition 1 – CHI Contribution

1. Of the total required CHI contribution of \$6,852,431.60
 - a. \$1,678,845.74 will be directed to the CHI Statewide Initiative
 - b. \$5,036,537.23 will be dedicated to local approaches to the DoN Health Priorities
 - c. \$137,048.63 will be designated as the administrative fee.
2. To comply with the Holder's obligation to contribute to the Statewide CHI Initiative, the Holder must submit a check for \$1,678,845.74 to Health Resources in Action (the fiscal agent for the CHI Statewide Initiative).
 - i. The Holder must submit the funds to HRiA within 30 days from the date of the Notice of Approval.
 - ii. The Holder must promptly notify DPH (CHI contact staff) when the payment has been made.

Condition 2 – The Holder shall provide, in its annual report to the Department, the following outcome measures. These metrics will become part of the annual reporting on the approved DoN, required pursuant to 105 CMR 100.310(A)(12). Reporting will include a description of numerators and denominators.

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

- a. 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.

Numerator: # of responses with highest score; *Denominator:* Total # of responses

- b. Baseline: 69.78% of patients responded with the highest score (“Top Box Score”)
- c. Projections: Year 1: 71%; Year 2: 73%; Year 3: 74%
- d. Monitoring: Results will be reviewed annually by oncology leadership.

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

- a. 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.

Numerator: # of patient admitted within 30 days of receiving chemotherapy; *Denominator:* # of patient receiving chemotherapy

- b. Baseline: 5.6%
- c. Projections: Year 1: ≤5.0%; Year 2: ≤4.5%; Year 3: ≤3.9%
- d. Monitoring: Results will be reviewed annually by oncology leadership.

RADIATION ONCOLOGY QUALITY MEASURES

3. 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

- a. 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.

Numerator: # of responses with highest score; *Denominator:* Total # of responses

- b. Baseline: 81.12% of patients responded with the highest score (“Top Box Score”)
- c. Projections: Year 1: ≥82%; Year 2: ≥83.5%; Year 3: ≥85%
- d. Monitoring: Results will be reviewed annually by oncology leadership.

INPATIENT CARDIAC MEDICAL-SURGICAL QUALITY MEASURES²⁵

4. 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.

- a. 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

Numerator: # of responses with highest score; *Denominator:* Total # of responses

- b. Baseline: 60% of patients responded with the highest score (“Top Box Score”).
- c. Projections: Year 1: 62%; Year 2: 64%; Year 3: 65%
- d. Monitoring: Scores are reviewed quarterly.

5. Fall Prevention: This measure will monitor the rate of patient falls resulting in injury.

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

Numerator: # of patient falls with injury; *Denominator:* patient days/1000

²⁵ These projections are limited to the care to be provided in the proposed cardiac medical-surgical inpatient unit.

- b. Baseline: 0.29
- c. Projections: Year 1: 0; Year 2: 0; Year 3: 0
- d. Monitoring: The Department of Nursing will review falls data on a monthly basis.

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

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

Numerator: # of patient admitted within 30 days; *Denominator:* # of patient discharges

- b. Baseline: 0.7754
- c. Projections: Year 1: ≤ 1 ; Year 2: ≤ 1 ; Year 3: ≤ 1
- d. Monitoring: Scores are reviewed quarterly.

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