

**Analysis of the Reasonableness of  
Assumptions Used For and  
Feasibility of Projected Financials of:**

Dana-Farber Cancer Institute, Inc.

For the Years Ending September 30, 2025  
Through September 30, 2037



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November 17, 2025

Elizabeth Hanlon  
Vice President of Finance  
Dana-Farber Cancer Institute, Inc.  
450 Brookline Avenue  
Boston, MA 02215

**RE: Analysis of the Reasonableness of Assumptions and Projections Used to Support  
the Financial Feasibility and Sustainability of the Proposed Project**

Dear Ms. Hanlon:

Enclosed is a copy of our report on the reasonableness of assumptions used for and feasibility of the financial projections for Dana-Farber Cancer Institute, Inc. Please contact me to discuss this report once you have had an opportunity to review.

Sincerely,

*BDO USA, P.C.*

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**RE: Analysis of the Reasonableness of Assumptions and Projections Used to Support the Financial Feasibility and Sustainability of the Proposed Project**

Dear Ms. Hanlon:

We have performed an analysis related to the reasonableness and feasibility of the financial projections (the “Projections”) of Dana-Farber Cancer Institute, Inc. (“Dana-Farber Cancer Institute”, “Dana-Farber”, “DFCI” or “the Applicant”), related to the construction and operation of a proton therapy center located at 35 Binney Street, Boston, MA (the "Proposed Project"). This report details our analysis and findings regarding the reasonableness of assumptions used in the preparation of the Projections and feasibility of the projected financial results prepared by the management of DFCI (“Management”). This report is to be used by DFCI in connection with its Determination of Need (“DON”) Application - Factor 4(a) and should not be distributed or relied upon for any other purpose.

**I. EXECUTIVE SUMMARY**

The scope of our review was limited to an analysis of DFCI’s thirteen-year financial projections for the Applicant for the fiscal years ending September 30, 2025 through 2037 prepared by Management and the supporting documentation in order to render an opinion as to the reasonableness of assumptions used in the preparation and feasibility of the Projections.

The Projections exhibit a cumulative operating earnings before interest, depreciation and amortization (“EBIDA”) surplus of approximately 5.2 percent of cumulative projected revenue for DFCI for the thirteen years from FY 2025 through 2037. Based upon our review of the relevant documents and analysis of the Projections, we determined the anticipated operating EBIDA surplus is a reasonable expectation and based upon feasible financial assumptions. Accordingly, we determined that the Projections are reasonable and feasible, and not likely to have a negative impact on the Applicant’s patient panel or result in a liquidation of DFCI’s major assets. A detailed explanation of the basis for our determination of reasonableness and feasibility is contained within this report.

## II. RELEVANT BACKGROUND INFORMATION<sup>1</sup>

The Dana-Farber Cancer Institute, Inc., located in Boston, Massachusetts, is a globally acclaimed acute care cancer hospital and research institute. Since its establishment in 1947 by Dr. Sidney Farber, a pioneer in modern chemotherapy, Dana-Farber has been at the forefront of excellence in cancer care and research innovation. For over 75 years, the institute has been dedicated to alleviating the impact of cancer on both adults and children through rigorous scientific research, exceptional clinical care, comprehensive education, active community engagement, and strong advocacy efforts. Consistently recognized by U.S. News & World Report, Dana-Farber ranks among the top cancer care institutions in the nation and is uniquely distinguished as the only U.S. hospital with both adult and pediatric cancer care programs ranked in the top five.

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<sup>1</sup> Portions of this section of the report were adapted directly from the Project Description section of the Draft DFCI DON Narrative as of May 20, 2025, provided by the Applicant.

The Applicant's research accomplishments are equally distinguished. In 1973, it became one of the first National Cancer Institute ("NCI")-designated Comprehensive Cancer Centers providing adult and pediatric cancer care services. Further, the Applicant's investigators have contributed to more than a third of all new cancer-related treatments approved by the United States Food and Drug Administration ("FDA") in the last five years. Currently, more than 166 Principal Investigators lead 1,100+ clinical trials each year. The Applicant is also internationally renowned for its blending of research and clinical excellence; in Fiscal Year 2022 the Applicant was awarded 276 NIH-sponsored research grants and is the top academic recipient of the National Cancer Institute (NCI) grant funding.

The Applicant proposes the construction and operation of a proton therapy center within the Commonwealth of Massachusetts, responding to the burden of cancer in Massachusetts by providing patients with access to the highest quality cancer treatment for certain patient cases, improved health outcomes, and better quality of life. Proton beam therapy is a type of external beam radiation therapy that uses protons rather than photons (x-rays), as in conventional radiation therapy, to treat and kill cancer cells. Unlike conventional radiation therapy which may deliver higher doses of radiation to surrounding healthy tissue, proton therapy can avoid exposing healthy tissues to significant amounts of radiation and collateral injury associated with such exposures. For some patients, proton beam radiotherapy allows more effective anti-cancer doses to be delivered to the tumor, as doses to surrounding tissues are limited, compared to photon-based radiotherapy. With traditional radiation, a higher dose to the tumor would increase the dose received by surrounding normal, healthy tissue. The ultimate promise of proton beam therapy is to achieve better tumor control, while minimizing damage to normal tissues and critical organs. These properties allow patients with varied diagnoses to benefit from proton beam therapy.

Consistent with its mission, the Applicant plans to develop the proposed proton therapy center in a manner that ensures the greatest access to effective cancer care for all patients within the Commonwealth of Massachusetts. The Applicant selected the site of the proposed proton therapy center at 35 Binney Street, Boston, MA to reduce barriers to accessing comprehensive treatment, particularly for vulnerable populations and throughout New England. The site of the proposed proton therapy center is easily accessible by public transportation and will utilize existing parking to patients and their caregivers. The site's design will ensure accessibility for disabled, mobility-impaired, and pediatric patients. Further, the unique location adjacent to Boston Children's Hospital will ensure accessibility for pediatric patients. The location is close to patients' current oncology practices and allows for multi-disciplinary care. Additionally, the site's layout will foster an inclusive environment for patients of all gender identities and sexual orientation. The Applicant recognizes the profound burden that cancer has on the residents of the Commonwealth of Massachusetts, and its proposed proton beam therapy center reflects its efforts to lessen this burden by ensuring every patient who requires proton therapy receives the highest quality of equitable and culturally appropriate care.

### **III. SCOPE OF REPORT**

The scope of this report is limited to an analysis of the thirteen-year Projections for the fiscal years ending September 30, 2025 through 2037, prepared by Management, and the supporting documentation in order to render an opinion as to the reasonableness of assumptions used in the preparation and feasibility of the Projections. Reasonableness is defined within the context of this report as supportable and proper, given the underlying information. Feasibility is defined as based on the assumptions used, the Proposed Project is not likely to result in a liquidation of the underlying major assets or the need for reorganization.

This report is based on prospective financial information provided to us by Management. BDO understands the prospective financial information was developed as of April 24, 2025 and is still representative of Management's expectations as of the drafting of this report. BDO has not audited or performed any other form of attestation services on the projected financial information related to the operations of DFCI.

If BDO had audited the underlying data, matters may have come to our attention that would have resulted in our using amounts that differ from those provided. Accordingly, we do not express an opinion or any other assurances on the underlying data or projections presented or relied upon in this report. We do not provide assurance on the achievability of the results forecasted by the Applicant because events and circumstances frequently do not occur as expected, and the achievement of the forecasted results is dependent on the actions, plans, and assumptions of Management. We reserve the right to update our analysis in the event that we are provided with additional information.

#### **IV. SOURCES OF INFORMATION UTILIZED**

In formulating our conclusions contained in this report, we reviewed documents produced by Management as well as third party industry data sources. The documents and information upon which we relied are identified below or are otherwise referenced in this report:

1. Financial model for DFCI on consolidated basis, including the operation of Proton Therapy Service for the periods ending September 30, 2025 through September 30, 2037;

2. Financial model for DFCI proton on stand-alone basis for the periods ending September 30, 2025 through September 30, 2068;
3. Multi-Year financial plan presented to DFCI dated as of April 7, 2025;
4. DFCI revenue analysis by payor for the period ending September 30, 2023 through September 30, 2032;
5. Draft DON narrative report as of May 20, 2025;
6. Proton lease financing proposal dated as of March 5, 2025;
7. Factor 4 capacity staffing for Proposed Project;
8. Future Cancer Hospital Debt Bridge;
9. Term Sheet between Mevion Medical Systems and DFCI dated as of February 11, 2025 for Mevion Proton System;
10. Proton Budget Development Summary Construction Costs as of May 29, 2025;
11. Audited Financial Statements for Dana-Farber Cancer Institute, Inc. and its subsidiaries for Fiscal Years Ended September 30, 2023 and 2024;
12. Management discussion and analysis quarterly statement for the quarter ended December 31, 2024;
13. Philanthropy Projection as of February 27, 2025;
14. Definitive Healthcare data as of January 2024;
15. Data obtained from Integra Information, A Division of Microbilt Corporation as of February 5, 2025; and,
16. IBISWorld Industry Report, Hospitals in the US, dated March 2025.

## V. REVIEW OF THE PROJECTIONS

This section of our report summarizes our review of the reasonableness of the assumptions used and feasibility of the Projections.

The following table presents the Key Metrics, as defined below, which compare the forecasted operating results of the performance of DFCI to market information from Integra Reports (“Integra”), IBISWorld, and Definitive Healthcare to assess the reasonableness of the Projections.

### Projected Key Financial Metrics and Ratios

DFCI	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Profitability: Operating Margin (%)	3.5%	1.3%	1.2%	1.0%	2.2%	2.8%	2.2%	2.9%	2.8%	2.7%	2.6%	2.5%	2.5%
Profitability: Excess Margin (%)	5.3%	3.0%	3.7%	3.3%	2.5%	3.8%	4.1%	4.8%	4.7%	4.7%	4.7%	4.7%	4.6%
Profitability: Debt Service Coverage Ratio (x)	6.6x	2.7x	2.0x	2.1x	3.0x	3.5x	3.3x	4.1x	4.1x	4.2x	4.4x	4.5x	4.7x
Liquidity: Days Available Cash and Investments on Hand (#)	236	219	211	203	209	220	215	209	212	213	213	212	210
Liquidity: Operating Cash Flow (%)	6.1%	5.4%	3.1%	2.9%	4.6%	4.7%	4.3%	4.5%	4.8%	4.2%	4.1%	3.6%	3.5%
Solvency: Ratio of Long-Term Debt to Total Capitalization (%)	10.9%	28.0%	26.1%	24.2%	22.3%	22.0%	19.8%	17.7%	15.8%	14.1%	12.5%	11.2%	10.0%
Solvency: Ratio of Cash Flow to Long Term Debt (%)	44.2%	12.7%	8.3%	8.7%	15.4%	15.8%	16.8%	21.7%	26.2%	26.9%	30.4%	31.2%	35.0%
Solvency: Unrestricted Net Assets (\$ in million)	2,222	2,362	2,554	2,745	3,015	3,442	3,791	4,239	4,715	5,224	5,770	6,357	6,995
Solvency: Total Net Assets (\$ in million)	4,313	4,679	5,137	5,633	6,098	6,657	7,275	7,950	8,663	9,419	10,238	11,127	12,091

## Historical Data and Industry Data Key Financial Metrics and Ratios

DFCI	2021	2022	2023	2024	Integra - General Medical and Surgical Hospitals	IBIS - Hospitals in the US (3-year)	Definitive Healthcare
Profitability: Operating Margin (%)	2.0%	2.5%	3.5%	2.5%	2.5%	19.1%	-10.7%
Profitability: Excess Margin (%)	12.7%	-0.3%	12.0%	7.1%	0.8%	NA	-3.7%
Profitability: Debt Service Coverage Ratio (x)	4.3x	5.0x	6.0x	5.2x	1.5x	2.3x	NA
Liquidity: Days Available Cash and Investments on Hand (#)	251	207	230	233	NA	NA	NA
Liquidity: Operating Cash Flow (%)	6.3%	4.9%	2.0%	3.6%	4.2%	49.6%	NA
Solvency: Ratio of Long-Term Debt to Total Capitalization (%)	16.4%	16.9%	14.1%	10.3%	43.4%	NA	NA
Solvency: Ratio of Cash Flow to Long Term Debt (%)	25.1%	22.9%	11.5%	27.7%	15.0%	NA	NA
Solvency: Unrestricted Net Assets (\$ in million)	1,311	1,320	1,735	2,005	NA	NA	NA
Solvency: Total Net Assets (\$ in million)	2,900	2,759	3,361	3,911	NA	NA	NA

Footnote:

- Industry data ratios based on each data source's respective definitions and may differ from the ratio definitions listed below.
- Net income margin from Integra and Definitive Healthcare data treated as an equivalent to excess margin.

The Key Metrics fall into three primary categories: profitability, liquidity, and solvency.

Profitability metrics are used in the evaluation of management performance in how efficiently resources are utilized. Liquidity metrics, including common ratios such as “days of available cash and investments on hand”, measure the quality and adequacy of assets to meet current obligations as they come due. Solvency metrics measure the company’s ability to take on and service debt obligations. Additionally, certain metrics can be applicable to multiple categories.

The table below shows how each of the Key Metrics is calculated.

### Ratio Definitions for Key Financial Metrics and Ratios

Ratio	Definitions
Profitability: Operating Margin (%)	Operating Profit (Loss) Divided by Total Operating Revenue
Profitability: Excess Margin (%)	Excess of Revenue Divided by (Total Operating Revenue + Total Non-operating Gains)
Profitability: Debt Service Coverage Ratio (x)	(Excess of Revenue + Depreciation and Amortization + Interest) Divided by (Interest + Scheduled Debt Repayment)
Liquidity: Days Available Cash and Investments on Hand (#)	(Cash and Cash Equivalents + Unrestricted Net Assets) Multiplied by 365 Divided by (Total Operating Expenses Less Depreciation and Amortization)

Ratio	Definitions
<b>Liquidity:</b> Operating Cash Flow (%)	(Operating Profit (Loss) + Depreciation and Amortization + Changes in working capital) Divided by Total Operating Revenue
<b>Solvency:</b> Ratio of Long-Term Debt to Total Capitalization (%)	Long Term Debt Divided by Total Capitalization (Long Term Debt + Long Term Lease Obligations + Total Net Assets)
<b>Solvency:</b> Ratio of Cash Flow to Long Term Debt (%)	(Operating Profit (Loss) + Depreciation and Amortization + changes in working capital) Divided by (Long Term Debt + Long Term Lease Obligations)
<b>Solvency:</b> Unrestricted Net Assets (\$ in million)	Total Unrestricted Net Assets
<b>Solvency:</b> Total Net Assets (\$ in million)	Total Net Assets

## 1. Revenue

We analyzed the projected revenue within the Projections. Revenue for the Applicant includes patient service revenue, direct grants and contracts revenue, gift related research revenue, indirect grants and contracts, unrestricted gifts and other operating revenue. We note that the cumulative patient service revenue comprises approximately 84.7 percent of the cumulative total operating revenue from FY 2025 through FY 2037. Projected patient service revenue for DFCI is expected to grow by 11.2 percent in FY 2025 when compared to FY 2024. We note that Management has projected growth in patient service revenue for each fiscal year from FY 2026 to FY 2037 with growth rates ranging from 7.9% to 17.7%. The revenue growth strategy, as discussed in planning sessions and with Management, is focused on achieving steady increases over the coming years. This approach is supported by anticipated growth across key operational areas and additional revenue streams. While some sources of funding may experience slower growth compared to previous periods, ongoing efforts in various areas are expected to contribute to overall revenue expansion.

In order to determine the reasonableness of the projected revenue, we reviewed the underlying assumptions upon which Management relied. Our review, based on the provided information and previous discussions, reveals that Management relied on historical operating results, specific market assumptions, and expected demographic trends within the DFCI service area.

For FY 2025, the anticipated consolidated total operating revenue growth for DFCI falls below the three-year compounded annual growth rate (CAGR) but remains within the range of annual revenue growth rates observed between FY 2022 and FY 2024, as detailed in the table below. Looking ahead to the remainder of the Projection Period (FY 2026 to FY 2037), the anticipated revenue growth for DFCI is expected to be more moderate compared to the higher growth rates experienced during the historical period from 2022 to 2024.

	Annual Growth Range (2022 - 2024)	CAGR (2021 - 2024)	2025 Growth	Annual Growth Range (2026-2037)
Revenue Projection	11.0% - 18.7%	14.9%	11.3%	7.4% - 15.7%

Based upon the foregoing, it is our opinion that the revenue growth projected by Management is based on reasonable assumptions and is feasible for the combined operations of DFCI.

## 2. Operating Expenses

We analyzed each of the categorized operating expenses for reasonableness and feasibility related to the Projections. The operating expenses in the analysis include direct patient care expenses, direct research / restricted gifts, institute supported research (including fringe), general, administrative and plant, depreciation and amortization, and interest expenses.

Operating expenses are anticipated to grow within a range of 6.2% to 14.8% during the projected period, which relatively aligns with the expected revenue growth. According to the Multi-Year Financial Plan, the primary drivers of changes in operating expenses during the initial years of the projections include growth in staffing, increased operational costs, investments in technology, and additional expenses related to patient care and general

administration. The plan also accounts for anticipated increases in compensation, adjustments for market competitiveness, and ongoing investments in new initiatives. For non-salary expenses, the projections assume continued growth across various categories such as technology, professional services, and other operational needs.

The following table indicates the growth in FY 2025 is below the three-year CAGR and within the range of annual expense growth rate between FY 2022 and FY 2024.

	Annual Growth Range (2022 - 2024)	CAGR (2021 - 2024)	2025 Growth	Annual Growth Range (2026- 2037)
Expense Projection	12.1% - 17.5%	14.7%	10.1%	6.2% - 14.8%

Additionally, we observed that the projected total operating expenses for DFCI, expressed as a percentage of total operating revenue, are expected to range from 96.5% to 99.0% between FY 2025 and FY 2037. This projection aligns with DFCI's historical operating expenses, which ranged from 96.5% to 98.0% of total operating revenue from FY 2021 to FY 2024.

Based upon the foregoing, it is our opinion that the operating expenses within the Projections reflect reasonable estimation of future expenses of the Applicant.

### **3. Capital Expenditures**

We have reviewed the project costs associated with the Proposed Project. As stated in the Draft DoN, the maximum capital expenditure for the Proposed Project is estimated to be \$50.5 million.

Description	Capital Cost (\$USD Actuals)
Construction Project	\$25,500,663
Proton Equipment	\$25,000,000
<b>Total</b>	<b>\$50,500,663</b>

In addition to capital expenditures, we engaged in discussions with Management regarding the anticipated financing for the Proposed Project. It is understood that the cost of the Proton Equipment will be funded through a financing lease arrangement, while the remaining expenses for the Proposed Project will be funded through DFCI's operating cash flows. These costs are incorporated into the Applicant's consolidated financial Projections.

The projections include total capital expenditures and major projects over a multi-year period, with the proposed project's costs incorporated into this overall amount. The proposed project represents a small percentage of the total projected capital expenditures for the period. As of the FY 2024 balance sheet, the Applicant held \$81.1 million in cash. Furthermore, the financial model projects that over the thirteen-year period, the average annual cash balance will be approximately \$202.6 million, excluding the Applicant's various assets available to fund the Proposed Project.

## VI. FEASIBILITY

We analyzed the Projections and Key Metrics for the Proposed Project. In preparing our analysis we considered multiple sources of information including industry metrics, historical results, and Management expectations. It is important to note that the Projections do not account for any anticipated changes in accounting standards. These standards, which may have a material

impact on individual future years, are not anticipated to have a material impact on the aggregate Projections.

Within the projected financial information, the Projections exhibit a cumulative operating EBIDA surplus of approximately 5.2 percent of cumulative projected operating revenue for the thirteen years from FY 2025 through FY 2037. Based upon our review of the relevant documents and analysis of the Projections, we determined the anticipated EBIDA surplus is a reasonable expectation and based upon feasible financial assumptions. Accordingly, we determined that the Projections are reasonable and feasible, and not likely to have a negative impact on the patient panel or result in a liquidation of major assets of DFCI.

Respectively submitted,

*BDO USA, P.C.*

BDO USA P.C.