

Mass General Incorporated - Massachusetts General Hospital  
DoN# MGB-20121612-HE

**APPLICANT RESPONSES**

Responses should be sent to DoN staff at [DPH.DON@State.MA.US](mailto:DPH.DON@State.MA.US)

While you may submit each answer as available, please

- List question number and question for each answer you provide
- Submit responses as a separate word document, using the above application title and number as a running header and page numbers in the footer
- When providing the answer to the final question, submit all questions and answers in one final document
- Whenever possible, include a table with the response
- Responses must be available in PDF and source document (Excel preferred for data and Word for narrative).

- 1. The Application provides APM/ACO contract percentages for MGB (Application pg.7). Provide APM/ACO contract percentages for MGH.**

	MGH
<b>APM Contract Percentages</b>	
ACO and APM Contracts	
Non-ACO and Non-APM Contracts	

Response: As noted in the Application (page 8), the Applicant reported that its primary care lives covered in risk contracts was 57.9% for CY19. This percentage was derived from the number of primary care lives within the patient panels of the Applicant’s primary care physicians (“PCP”) that are covered under risk contracts. As primary lives for risk contract purposes are attributed to the PCP and not to the hospital, for MGH, the affiliated PCP group is Mass General Physician’s organization (“MGPO”). Utilizing the same analysis that was performed for the Applicant, in CY19 61.4% of MGPO’s primary care lives were in risk contracts.

- 2. Through the Proposed Project, the Hospital will have six conventional ORs dedicated to cardiology; 17 hybrid cardiology ORs that will perform image guided cardiac surgery, cardiac catheterization and electrophysiology; and three procedure rooms dedicated to Cardiology. (Responses pg.2 and Excel Sheet 3b.)**

*The Application states that to support the additional procedure rooms, the Proposed Project expands the number of perioperative bays from 13 to 68 bays (pg.22).*

*Further, the responses state that the original 13 perioperative bays, which includes one (1) in EP and twelve (12) in the cath lab, is sub optimal to support the overall total of 9 procedure rooms. The current number of perioperative bays results in a ratio of 2.9:1. Through the Proposed Project, the Hospital will have a combined total of 68 perioperative bays that will not only support the EP and cath procedure rooms, but will also support all cardiac*

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***OR/Procedure rooms in the Proposed Project and allow for a ratio in line with FGI and DPH requirements (pg.15)***

***FGI and DPH Plan Review require at least two bays per OR and Class 2-3 Imaging room. The increase of perioperative bays is needed to support the 2:1 ratio when taking into consideration the care models and patients described above (Responses pg. 15).***

- a. To better understand how the proposed number of bays aligns with DPH Plan Review requirements, provide the current and proposed ratio of ORs and procedure rooms to bays.

	# of Operating Rooms	# of Procedure Rooms	# of Bays	Ratio
Existing	14	0	18	1.2:1
Proposed	23	3	68	2.9:1

Response: The above table has been completed to show the relevant ratios before and after the project is implemented. To provide some additional context, the existing 14 ORs noted above includes 5 conventional ORs as well as 9 EP and cardiac catheterization rooms which DPH previously categorized as procedure rooms (and thus were not included in the DoN application and responses as ORs). Please note that the statement ***“The current number of perioperative bays results in a ratio of 2.9:1”*** is in reference to what the planned ratio will be when the project is implemented based on current design plans that are under review with the DPH Plan Review office.

3. Given that radiation therapy and surgical services will not be part of the cancer co-located services building (DoN responses, pg.21), provide a list of the cancer services that will be offered in the new building.

Response: The new building will house the following cancer services:

- Outpatient visits
- Inpatient services
- Infusion therapy
- Urgent care
- Ancillary services including lab and imaging
- Supportive care services (e.g., social work, art and music therapy, parenting at a challenging time, etc)

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4. **Table 8 from your response provides different sets of data for IP, OP, ED, and PRR. (Responses pg.14) Please provide the time period for each of the data sets.**

Table 8: Historical Cardiovascular Procedure Wait Times												
	FY17				FY19				FY20			
Wait Times (days)	IP	OP	ED	PPR	IP	OP	ED	PPR	IP	OP	ED	PPR
Cath Lab	1.4	11.5	0.1	14.9	1.4	16.9	0.2	23.9	1.9	12.5	0.1	31.4
EP Lab	1.5	12.6	2.0	40.7	1.6	11.4	0.2	42.2	1.3	9.3	0.2	58.2

Response: The time periods for the above chart have been added and align with the first Table 8 chart that is on page 13 of the responses.

5. **The responses to DoN questions states that MGH’s large CAR-T and Blood and Marrow Transplantation Program will heavily utilize this setting (infusion bays) as treatments require less inpatient times and move towards earlier discharge (Responses, pg. 13). However, the Application states that additional inpatient capacity is needed because CAR T-cell therapy can only be administered in the hospital, as side effects can be severe. Depending on the individual’s reaction to this immunotherapy, the length of stay can range from one week to one month, which can have significant effects on MGH’s inpatient bed capacity. (DoN Application, pg. 21). Briefly explain how infusion bays will address the care needs of CAR-T cell patients.**

Response: As the Response on pg. 13 indicates, MGH’s CAR-T and Blood and Marrow Transplantation Program will heavily utilize inpatient capacity. The responses indicate that the program will utilize the *urgent care* bays, not infusion bays. Currently, CAR-T is used for a limited number of cancer diagnoses and due to the nature of the treatment, patients require long inpatient stays. With time, it is expected that patients with diagnoses for which CAR-T is currently appropriate will be discharged sooner and can be cared for in the outpatient setting as needed following discharge. With earlier discharge, these patients will require access to urgent care services for symptom management such as providing IV hydration. It is important to note that as CAR-T is expanded to treat additional cancers, these new CAR-T patients will require longer lengths of stay. As a result, adequate capacity for both inpatient beds and urgent care will be needed as treatments progress and new treatments are developed.

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**Imaging**

6. The total exam volume in the table below is not equal to the rows directly above it. What does the row Total Exam volume include (Responses pg. 19)?

**Historical CT scan volume and unique patients broken out by cardiac, oncology, and med/surg.**

Specialty Volume	FY18	FY19	FY20
ONCOLOGY	29,395	33,021	31,140
CARDIAC	3,734	4,032	3,619
INTERNAL MEDICINE	14,268	16,067	13,918
SURGERY	5,155	5,939	5,171
TOTAL EXAM	103,733	113,195	106,328

Response: The original table provided at Responses pg. 19 listed scans by service type in the proposed project, along with total scans for the hospital. The following table includes a row for "other" which represents all scan types exclusive of oncology, cardiac, internal medicine and surgery. Illustrative examples of service lines in "other" would be orthopedics, neurology, gynecology, and pediatrics.

**Historical CT Scans**

Specialty Volume	FY18	FY19	FY20
ONCOLOGY	29,395	33,021	31,140
CARDIAC	3,734	4,032	3,619
INTERNAL MEDICINE	14,268	16,067	13,918
SURGERY	5,155	5,939	5,171
OTHER	51,181	54,136	52,480
TOTAL EXAM	103,733	113,195	106,328

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7. Total exam volume in the table below is not equal to the rows directly above it. What does the row Total Exam volume include? (Responses pg.20)

Historical MRI scan volume broken down by specialty broken out by cardiac, oncology, and med/surg.

Specialty Volume	FY18	FY19	FY20
ONCOLOGY	10,989	13,968	12,874
CARDIAC	1,392	1,945	1,454
INTERNAL MEDICINE	9,017	11,163	9,990
SURGERY	1,321	1,639	1,520
TOTAL EXAM	73,212	77,431	78,264

Response: The original table provided at Responses pg. 19 listed scans by service type in the proposed project, along with total scans for the hospital. The following table includes a row for "other" which represents all scan types exclusive of oncology, cardiac, internal medicine and surgery. Illustrative examples of service lines in "other" would be orthopedics, neurology, gynecology, and pediatrics.

**Historical MRI Scans**

Specialty Volume	FY18	FY19	FY20
ONCOLOGY	10,989	13,968	12,874
CARDIAC	1,392	1,945	1,454
INTERNAL MEDICINE	9,017	11,163	9,990
SURGERY	1,321	1,639	1,520
OTHER	50,493	48,716	52,426
TOTAL EXAM	73,212	77,431	78,264

8. The responses states that there are 42,750 prostate cancer ("PCa") diagnoses annually in Massachusetts according to ACS data. In addition, there are currently approximately 52,745 prostate cancer survivors in Massachusetts according to SEER database. The estimated death from prostate cancer is 12,540. On average, at a given time there are approximately 82,950 PCa patients in the State. According to new modeling data approximately 54% of patients benefit from PSMA based imaging (i.e., 44,793 patients annually). Patients require PET/CT imaging for staging, re-staging and PRRT planning for PMSA therapies. For Massachusetts

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alone, this equates to 187 PSMA pet scans in a working day (20 working days per month). Given MGB serves around 10% of the State's population (700,000 patients), this comes out to 19 scans across all MGB sites (Responses p. 21).

- a. **Will scans be accessed across all MGB sites or will they be consolidated at the main campus?**

Response: The PSMA exam (performed on a PET/CT) was just approved by Medicare in Jan 2022. Currently, these scans are performed at MGH (main campus and Chelsea), with the goal for them to also be available at all PET/CTs at MGB facilities. MGH will not be the exclusive location for PSMA scans for the MGB patient panel. However, it is important to note that not all community provides have PET capabilities due to specialized equipment (cyclotron) and staff to operate (physicists and radio pharmacists).

9. **MGH obtained approval in 2019 to operate one PET/MR unit on its main campus and the unit is in the process of being implemented (Application pg. 26)**

- a. **Where are patients who currently need PET/MR scans currently accessing these services?**

Response: Clinical use of PET/MR is not currently available in New England. The 2019 approved PET/MR will be the first PET/MR for clinical use in the region. Today patients are receiving conventional imaging from CT, MRI or PET/CT but PET/MR has proven to be a valuable tool for subspecialty diagnosis, staging and treatment that provides better soft tissue contrast, less radiation dose, and as our research is showing additional findings not seen on PET/CT in many patients.

- b. **Would making the unimplemented unit full time meet Patient Panel need (i.e. if demand exists, why not make it full-time?) If not, will it remain a part-time unit as originally intended?**

Response: The DoN approval issued in 2019 for MGH to acquire a PET/MR was approved for part time clinical PET/MR use, part time research and part time MR only use. There is continuing need to perform research on the approved unit in order to advance potential use of the technology. In addition, there is excess demand for MRI at the hospital and as such, the hospital received approval to use the unit part-time for MRI imaging. Accordingly, and based on MGH's current understanding of future utilization, MGH does not believe it should alter the plan and use the approved unit solely for clinical care.

- c. **What is the scheduled time frame for implementation of the previously approved PET/MR unit?**

Response: Implementation of the unit has been delayed by the pandemic. The current timeline is to license the unit and begin scanning patients in the summer of 2023.

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10. Please confirm that each row represents one imaging unit (Responses pg. 16).

CT	HOURS OF OPERATION
ED	24 X 7
ED	24 X 7
Cardiac/Inpatient	M-F 8a-12a SS 8a-8p
Inpatient	M-F 8a-12a SS 8a-8p
Inpatient/Outpatient	M-F 8a-12a SS 8a-8p
Inpatient/Outpatient	M-F 8a-12a SS 8a-8p
Outpatient	M-F 8a-8p
Outpatient	M-F 8a-8p
Inpatient	M-F 8a-12a SS 8a-8p
OR (IntraOperative)	M-F 8a-12a
Portable	M-F 8a-5p
PET/CT	HOURS OF OPERATION
Inpatient/Outpatient	M-F 7a-5p
Inpatient/Outpatient	M-F 7a-5p
MRI	HOURS OF OPERATIONS
ED	24 X 7
Inpatient/Outpatient/ER	M-F 7a-11:30p SS 7a-730p
Inpatient/Outpatient/ER	M-F 7a-11:30p SS 7a-730p
Inpatient/Outpatient/ER	M-F 7a-11:30p SS 7a-730p
Outpatient	M-F 7a-11:30p SS 7a-730p
Outpatient	M-F 7a-11:30p SS 7a-1130p
Outpatient	M-F 6a-11:30p
Outpatient	M-F 6a-630p
Outpatient	M-F 6a-630p
OR (IntraOperative)	M-F 8a-4:30p

Response: Correct. Each row represents one imaging unit.

11. Responses p.29

**Race, Ethnicity, and Language (REaL) data: MGB created standardization in definitions and developed trainings for staff who collect these data. The Year 1 goal is less than 5% missingness for MGB's 1.1M patients.**

a. Year 1 represents what year?

Response: Year 1 was FY21.

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12. Confirm that the overall is a total of the services listed because the bed day numbers within the high acuity and low acuity areas don't add up (Responses pg.7).

**Inpatient Discharges – Case Mix Index and Acuity**

Actual <sup>1</sup> FY19 MGH IP Discharges: CMI and LOS by Acuity & Service			
Service Line	Average CMI	Average LOS	Count of Bed Days
<b>High Acuity (Tertiary) Overall</b>	<b>4.48</b>	<b>9.48</b>	<b>72,799</b>
Cancer	3.66	8.54	20,764
Cardiovascular	5.97	11.51	21,021
Med/Surg	4.45	9.32	28,323
<b>Low Acuity Overall</b>	<b>1.63</b>	<b>5.57</b>	<b>258,824</b>
Cancer	1.93	5.95	42,030
Cardiovascular	1.87	6.08	29,276
Med/Surg	1.92	5.91	137,750
<b>Total</b>	<b>2.03</b>	<b>6.13</b>	<b>331,623</b>

Response: The highlighted totals in the above table include all hospital bed days which includes more than cancer, cardiovascular and med/surg bed days (e.g., pediatrics and mental health). The following table removes those additional bed days from the totals so that the totals reflect only cancer, cardiovascular and med/surg patient days.

Actual <sup>2</sup> FY19 MGH IP Discharges: CMI and LOS by Acuity & Service			
Service Line	Average CMI	Average LOS	Count of Bed Days
<b>High Acuity (Tertiary) Overall</b>	<b>4.48</b>	<b>9.48</b>	<b>70,108</b>
Cancer	3.66	8.54	20,764
Cardiovascular	5.97	11.51	21,021
Med/Surg	4.45	9.32	28,323
<b>Low Acuity Overall</b>	<b>1.63</b>	<b>5.57</b>	<b>209,056</b>
Cancer	1.93	5.95	42,030
Cardiovascular	1.87	6.08	29,276
Med/Surg	1.92	5.91	137,750
<b>Total</b>	<b>2.03</b>	<b>6.13</b>	<b>279,164</b>

<sup>1</sup> Updated from projections in DoN and Chart for Question #3 that were based on partial year.

<sup>2</sup> Updated from projections in DoN and Chart for Question #3 that were based on partial year.



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- 13. The Applicant explained that while cancer cases decreased by 3.6% from FY16 to FY18, patient acuity increased by 8.1% during this same period which results in longer LOS, as reflected in a 3% increase in patient days during this same period. (Responses pg. 3). Did patient acuity increase by 8% across all patients or specifically among cancer patients?**

Response: Cancer case patient acuity increased 8.1% from FY16 to FY18. The overall hospital patient acuity increased 7% during that same period.

- 14. What does the asterisk next to FY21 indicate? (Responses pg.21).**

**PET/CT scan volume and unique patients by specialty**

Specialty Volume	FY18	FY19	FY20	FY21*
TOTAL ONCOLOGY	3205	3898	3579	2767
TOTAL CARDIAC	0	23	54	65
TOTAL RESEARCH	1045	619	371	233
TOTAL EXAM	4250	4540	4004	3065

Response: The asterisk indicates that FY21 data was based on a partial year (October-June). This is because the chart was provided to the Department before FY21 was complete and June was the latest date for which data was available.

- 15. Some of the historical and projected data that was provided in the application differed from what was provided in the responses to DoN follow-up questions in the highlighted instances below Briefly explain the reason for the change, in general.**

**a. Discharges**

**Application pgs. 17-18**

	FY17	FY18	FY19
Cancer	9,872	9,579	9,675
Heart and Vascular	6,470	6,651	6,718
M/S, all other[1]	25,568	25,195	25,585
<b>Total</b>	<b>41,910</b>	<b>41,425</b>	<b>41,978</b>

	FY25	FY26	FY27	FY28	FY29
Cancer	10,839	11,056	11,277	11,390	11,504
Heart and Vascular	7,345	7,455	7,567	7,870	8,027
M/S, all other	23,477	23,594	23,712	23,831	23,950
<b>Total</b>	<b>41,661</b>	<b>42,105</b>	<b>42,556</b>	<b>43,091</b>	<b>43,481</b>

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**Bed Summary Response pg.4**

	Discharges (FY19)	Discharges (FY29)
<b>Cancer</b> <i>Routine</i> <i>ICU</i>	9,675	11,283
<b>Cardiac</b> <i>Routine</i> <i>ICU</i>	6,718	7,757
<b>All other Med/Surg</b> <i>Routine</i> <i>ICU*</i>	25,194	22,215
<b>Total Med/Surg</b>	41,586	41,255

Response: The discrepancy between FY19 M/S totals reflects an error in the Bed Summary Response. It should have stated 25,585, consistent with the Application.

With respect to FY29 projected discharges, the chart provided in the Bed Summary Response did not align with the actual narrative summary provided. The chart below is consistent with the statements made in the bed response regarding projected growth of approximately 0.5% growth per year.

	Discharges (FY19)	Discharges (FY29)
<b>Cancer</b> <i>Routine</i> <i>ICU</i>	9,675	11,504
<b>Cardiac</b> <i>Routine</i> <i>ICU</i>	6,718	8,027
<b>All other Med/Surg</b> <i>Routine</i> <i>ICU*</i>	25,194	23,950
<b>Total Med/Surg</b>	41,586	43,481

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**b. Infusion Therapy Volume**

Application pg. 20

**Infusion Therapy Volume**

	FY17	FY18	FY19
<b>Visits</b>	40,468	42,660	43,877

Responses pg. 12

<b>Cancer Infusion Areas</b>	<b>FY18</b>
Infusion (Yawkey)	38,968
Infusion (Observation)	6,000
Infusion (Phase I Clinical Research/Complex Phase I)	3,575
<b>Total Cancer Center Infusion Visits</b>	<b>48,543</b>

Response: In the response, the infusion therapy volume in Yawkey and Phase I Clinical/Research totals 42,543 and is slightly different from the original application (42,660). MGH understands this discrepancy to be driven by timing and the different queries used to calculate FY18 actuals. With respect to the additional 6,000 visits noted in the response, this is because the total number of infusion visits provided in the application represents completed visits in MGH's infusion departments at the main campus as recorded in the EHR. This query only looked at infusion visits based on site of care (i.e., within infusion departments at MGH's main campus). However, total volume in the response represents all infusion cases performed at MGH's main campus based on outpatient billing data, regardless of where on the main campus the service was performed. As a result, MGH identified a new subset of patients that received infusion therapy in a licensed bed. These 6,000 observation cases represent a highly acute patient population.