BMC Health System, Inc.
DoN # BMCHS-22080908-HE

APPLICANT QUESTIONS

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

While you may submit each answer as available, please
- List question number and question for each answer you provide
- Submit responses as a separate word document, using the above application title and number as a running header and page numbers in the footer
- We accept answers on a rolling basis however, when providing the answer to the final question, submit all questions and answers in order in one final document.
- Submit responses in WORD or EXCEL; only use PDF's if absolutely necessary. **Whenever possible, include a table in data format (NOT pdf or picture) with the response.**

In order for us to review this project in a timely manner, please provide the responses by September 14th, 2022.

1. Please confirm that Year 1 of project implementation is 2024.

BMC Health System, Inc. ("Applicant" or "BMC Health System") anticipates that fiscal year ("FY") 24 is the year the Proposed Project will open.

2. When describing the scope of the project, "Proposed Project Components" (p1)

a) You state that there will be construction and renovation of the 5th and 6th floors of the existing Yawkey building. Please describe what is currently in that space and what moving those services to an alternative location entails.

The following services are currently located on Boston Medical Center's ("BMC's" or "Hospital's") Yawkey Building 5th floor and will be relocated:

- Women's Health OB/GYN Primary Care – Women's Health OB/GYN Primary Care will be relocated to BMC's Shapiro Building 5th floor, located at 725 Albany Street, Boston, MA 02118. Pursuant to conversations with the Department of Public Health ("DPH" or "the Department"), this relocation does not require architectural plan review or licensure approval.
- Women's Health Antenatal Testing Unit ("ATU") and Nonstress Testing ("NST") Unit – The Women's Health ATU and NST Unit will be relocated to BMC's Shapiro Building 5th floor, located at 725 Albany Street, Boston, MA 02118, which will be renovated to accommodate the relocated units. The Applicant will pursue architectural plan review and licensure approval for the renovations/relocations.
- Women's Health Special Procedures Unit ("SPU") – The Women's Health SPU will be temporarily relocated to BMC's Menino Building 2nd floor, located at 840 Harrison Avenue, Boston, MA 02118, while construction and renovation is underway on BMC's Yawkey Building 6th floor to ensure patient continuity of care. Upon completion of construction and renovation to the Yawkey Building 6th floor, the Applicant plans to relocate the Women's Health SPU to the Yawkey Building 6th floor, where it will remain permanently. The Applicant will pursue architectural plan review and licensure approval for each phase of renovation/relocation.

The following services are currently located on BMC's Yawkey Building 6th floor and will be relocated:

- Dental Clinic – The Dental Clinic will be relocated to BMC's Shapiro Building 6th floor, located at 725 Albany Street, Boston, MA 02118, which will be renovated to accommodate the relocated service. The Applicant will pursue architectural plan review and licensure approval for the renovation/relocation.
- Pediatric Primary Care, Pediatric Psychiatry, Adolescent Primary Care, and STAR (Services for Trauma and Resources for families) Unit – These services will be relocated to the 7th floor of BMC's licensed Crosstown Satellite, located at 801 Massachusetts Avenue, Boston, MA 02118, which will be renovated to accommodate the relocated services. The Applicant submitted a Transfer of Site application to the Department for the relocations on June 24, 2022 and received confirmation from the Department on July 21, 2022 that the relocations do not require a Determination of Need ("DoN") either as a Substantial Capital Expenditure or Substantial Change in Service. The Applicant will pursue architectural plan review and licensure approval for the renovations/relocations.

b) You state that an existing 28-bed observation bed unit will be moved from Menino 2nd to Yawkey 5th. Please explain whether those 28 beds will remain as observation beds or are they part of the 60 M/S beds requested.

As part of the Proposed Project, the existing 28-bed observation unit will be relocated from BMC's Menino Building 2nd floor, located at 840 Harrison Avenue, Boston, MA 02118, to BMC's Yawkey Building 5th floor, located at 850 Harrison Avenue, Boston, MA 02118. The 28 observation beds are not part of the 60 medical/surgical beds requested as part of the Proposed Project; rather, the 28 beds will remain as observation beds after being relocated to BMC's Yawkey Building 5th floor.

3. To better understand Patient Panel need for inpatient capacity at BMC, please complete the tables below for FY22.

Please see the table below, which provides data regarding BMC's inpatient capacity for FY22. Please note that the Applicant has revised the table to separately report Code Yellow beds and COVID-19 Surge beds.

	BMC Total	
Licensed Beds	Medical/Surgical (Yawkey 3W, 4E, 4W, 5W, 6E, 6W, 7E, 7W)	265
	ICU/CCU/SICU (Yawkey 3, 5)	63
	Pediatrics/PICU (Yawkey 5)	26
	Maternity/OB (Yawkey 4)	30
	NICU (Yawkey 4)	15
	Psych (Out of Service)	15
	Chronic Care (Out of Service)	100
	Total	**514**

Operational Beds	Medical/Surgical (Yawkey 3W, 4E, 4W, 5, 5W, 6E, 6W, 7E, 7W and ED Pod E)	327
	ICU/CCU/SICU (Yawkey 3, 5)	63
	Pediatrics/PICU (Yawkey 5)	18
	Maternity/OB (Yawkey 4)	30
	NICU (Yawkey 4)	15
	Psych (Out of Service)	0
	Chronic Care (Out of Service)	0
	Total Beds	**453**
	Nursery Bassinets (Yawkey 4)	21
	Total Beds + Bassinets	**474**
Single Occupancy Rooms[1]		**269**
Double Occupancy Rooms		**90**
Code Yellow Beds	Yawkey 3W	7
	Yawkey 4E	5
	Yawkey 4W	10
	Yawkey 5W	3
	Yawkey 7W	4
	ED Pod E	13
	Total	**42**
Beds Used for COVID-19 Surge	Yawkey 5	8
	Yawkey 5	12
	Total	**20**

4. Patient Panel

a) We note that the BMC System's Patient Panel (see definition in 105 CMR 100) and the utilization data included 4 months of FY 2022. Please update that information with 6-9 months of data, as possible, ensuring that data tables/columns are clearly marked, the numbers where < 11 are aggregated, and that they add up (per b., and c. below).

Please refer to Appendix A, which provides updated FY22 demographic data tables for BMC's patient panel through July 2022, and Appendix B, which provides updated FY22 utilization data tables through July 2022.

b) Table 1: Under the Age demographic sections, the numbers do not add up to the total number of unique patients. Could applicant please account for the difference? For example, use an additional category (such as unknown). Numbers less than eleven should be aggregated into another logical category and identified as such.

The Applicant inadvertently omitted the last row in the Age demographic section of Table 1 in its DoN Narrative. The difference in the Age demographic section totals and the number of BMC Total Unique Patients for each fiscal year is attributable to this omission. The last row is now included in the revised Table 1 at Appendix A, which has also been updated for FY22 through July 2022, and the Age demographic section totals now match the number of BMC Total Unique Patients for each fiscal year.

c) **Table 6: (P. 6) Total Unique ICU Patients for FY19 is expressed at 3,751, however when the breakdown of towns is added, it comes up to 3,781. Please account for the difference. For example, use an additional category (such as unknown). Numbers less than eleven should be aggregated into another logical category and identified as such.**

The difference between the expressed number of Total Unique ICU Patients in FY19 and the summation of the breakdown of cities/towns for FY19 is attributable to a typographical error. Specifically, the Applicant notes that it mistakenly listed the number of ICU patients from "All Other" geographic origins in FY19 as 1,552. This number should have been listed as 1,522. The Applicant has corrected this mistake in the revised Table 6 below. Accordingly, the expressed number of Total Unique ICU Patients now matches the summation of the breakdown of cities/towns for FY19.

Table 6 REVISED: BMC Medical/Surgical and ICU Patient Panel Demographics – Geographic Origin

	FY19		FY20		FY21		FY22 YTD[2]	
	Count	%	Count	%	Count	%	Count	%
Total Unique M/S Patients[3]	**11,719**		**10,541**		**11,002**		**2,970**	
Dorchester	2,242	19.1%	2,243	21.3%	2,361	21.5%	652	22.0%
Boston	1,762	15.0%	1,819	17.3%	1,644	14.9%	468	15.8%
Roxbury	751	6.4%	770	7.3%	762	6.9%	216	7.3%
Brockton	415	3.5%	395	3.7%	387	3.5%	92	3.1%
Mattapan	399	3.4%	361	3.4%	409	3.7%	95	3.2%
Quincy	357	3.0%	314	3.0%	361	3.3%	85	2.9%
Hyde Park	278	2.4%	250	2.4%	264	2.4%	79	2.7%
Revere	219	1.9%	185	1.8%	199	1.8%	43	1.4%
Chelsea	214	1.8%	218	2.1%	199	1.8%	39	1.3%
Jamaica Plain	208	1.8%	217	2.1%	193	1.8%	55	1.9%
All Other	4,874	41.6%	3,769	35.8%	4,223	38.4%	1,146	38.6%
Total Unique ICU Patients[4]	**3,751**		**3,291**		**3,403**		**895**	
Dorchester	715	19.1%	725	22.0%	695	20.4%	186	20.8%
Boston	575	15.3%	510	15.5%	503	14.8%	147	16.4%
Roxbury	251	6.7%	258	7.8%	232	6.8%	64	7.2%
Brockton	150	4.0%	146	4.4%	134	3.9%	32	3.6%
Quincy	132	3.5%	120	3.6%	133	3.9%	29	3.2%
Mattapan	125	3.3%	106	3.2%	126	3.7%	28	3.1%
Hyde Park	84	2.2%	62	1.9%	61	1.8%	16	1.8%
Randolph	69	1.8%	50	1.5%	48	1.4%	15	1.7%
Jamaica Plain & Chelsea	128	3.4%	127	3.9%	100	2.9%	14	1.6%
All Other	1,522	40.6%	1,187	36.1%	1,371	40.3%	364	40.7%

5. In addition to the information provided in Tables 12 and 15, please provide patient days for each year.

Please refer to Appendix B for a revised Table 12, which has also been updated for FY22 through July 2022 as requested by the Department. Please see below for a revised Table 15. Please note that for purposes of this DoN Application, patient days = census days. Please refer to endnotes 4 and 6 for further explanation.

Table 15 REVISED: BMC Inpatient Bed Projected Demand and Utilization					
	FY24	FY25	FY26	FY27	FY28
Medical/Surgical Beds[5,6]					
Unique Patients	13,144	13,776	14,015	14,015	14,015
Visits	17,821	18,542	18,815	18,815	18,815
Discharges	15,072	15,674	15,901	15,901	15,901
Case Weight	24,868	25,861	26,237	26,237	26,237
CMI	1.65	1.65	1.65	1.65	1.65
ALOS	5.28	5.33	5.34	5.34	5.34
Occupancy	83.4%	86.1%	87.1%	87.1%	87.1%
Patient Days	118,118	121,950	123,399	123,399	123,399
ICU Beds[7]					
Unique Patients	3,948	4,105	4,114	4,114	4,114
Visits	4,327	4,497	4,506	4,506	4,506
Discharges	4,046	4,204	4,213	4,213	4,213
Case Weight	13,191	13,706	13,734	13,734	13,734
CMI	3.26	3.26	3.26	3.26	3.26
ALOS	13.13	13.13	13.13	13.13	13.13
Occupancy	79.4%	85.0%	85.2%	85.2%	85.2%
Patient Days	21,163	22,655	22,711	22,711	22,711
Combined Beds					
Unique Patients	17,092	17,882	18,129	18,129	18,129
Visits	22,148	23,039	23,321	23,321	23,321
Discharges	19,118	19,878	20,114	20,114	20,114
Case Weight	38,059	39,567	39,970	39,970	39,970
CMI	1.99	1.99	1.99	1.99	1.99
ALOS	6.95	6.98	6.97	6.97	6.97
Occupancy	82.8%	85.9%	86.8%	86.8%	86.8%
Patient Days	139,282	144,605	146,110	146,110	146,110

6. Explain the following:

a) Case Weight numbers used in tables 11, 12, and 15.

The Centers for Medicare & Medicaid Services ("CMS") assigns a case weight to each Diagnostic Related Grouping ("DRG") and BMC assigns, through documentation and coding review, a DRG to each inpatient account. Total case weight is the aggregate sum of all DRG case weights. The case weight is used to determine Hospital reimbursement rates for Medicare and Medicaid patients but is also an indicator of patient acuity and severity, as more resource intense patients will be assigned a DRG that has a proportionally higher case weight.

b) P. 34 THRIVE if it is an acronym, what does it stand for?

THRIVE is an acronym that stands for Tool for Health & Resilience In Vulnerable Environments.

7. The Application states that BMC requires 325 M/S beds to meet Patient Panel need (pg.16). In addition, the Applicant determined need for the Proposed Project based on the historical utilization metrics, including patient days, increased ED boarding, increased case weight, projected growth of its existing Patient Panel and the aging population.

a) What methodology was used to determine that that number of beds were required? Please provide the calculations the led to this conclusion.

To arrive at the total number for net new inpatient beds required at BMC, the Applicant calculated demand from two sources – unmet surgical demand and unmet emergency department ("ED") demand. The need factors discussed throughout the DoN Narrative – including, but not limited to, historical utilization metrics, patient days, increased ED boarding, increased case weight, and projected growth of the existing patient panel and the aging population – impact these demand calculations. The tables below outline the data discussed herein.

Service	Projected Volume at Ramp	Projected Census Days[8]			ALOS[9]	Historical Patient Days					Historical Patient Days Per Discharge[10]			
		M/S	ICU	Total		Volume	# M/S Days	# IMCU Days	# ICU Days	# Other Patient Days	# M/S Days	# IMCU Days	# ICU Days	# Other Patient Days
Surgical	**1,457**	**8,521**	**2,726**	**11,247**	**7.7**	**3,333**	**5,542**	**4,649**	**3,041**	**5,017**	**1.66**	**1.39**	**0.91**	**1.51**
Bariatric	80	234	1	235	3.0	206	456	84	3	66	2.21	0.41	0.01	0.32
Cardiac Surgery	86	658	428	1,086	12.7	70	115	413	350	11	1.64	5.90	5.00	0.16
Colorectal	84	583	40	623	7.4	132	528	350	63	34	4.00	2.65	0.48	0.26
Neurosurgery	218	2,093	1,423	3,516	16.1	176	55	1,600	1,150	36	0.31	9.09	6.53	0.20
OB/GYN	43	140	1	141	3.3	1,545	386	46	20	4,614	0.25	0.03	0.01	2.99
Orthopaedics	530	2,373	112	2,485	4.7	485	2,000	106	103	67	4.12	0.22	0.21	0.14
Thoracic Surgery	93	516	72	588	6.3	71	37	350	55	7	0.52	4.93	0.77	0.10
General/Trauma	324	1,924	649	2,573	7.9	648	1,965	1,700	1,297	182	3.03	2.62	2.00	0.28
Medical	**1,557**	**9,973**	**1,436**	**11,409**	**7.3**	**6,552**	**33,221**	**5,975**	**6,044**	**2,779**	**5.07**	**0.91**	**0.92**	**0.42**
Total	**3,014**	**18,494**	**4,162**	**22,656**	**7.5**	**9,885**	**38,763**	**10,624**	**9,085**	**7,796**	**3.92**	**1.07**	**0.92**	**0.79**

Service	Inpatient Bed Type		
	M/S[11]	ICU[12]	Total
Medical	27.32	3.93	31.26
Surgical	23.35	7.47	30.81
Total Beds	**50.7**	**11.4**	**62.1**

With regard to these data, the Applicant offers the following comments:

(1) Unmet surgical demand – With regard to unmet surgical demand, the Applicant used market data (from the Advisory Board), internal leakage data from BMC's Health Plan products, and internal access data to triangulate areas where BMC's patients needed further access to treatment (e.g., neurosurgery). The Applicant then sought further detail in these areas from BMC's existing clinical

leaders to identify a short list of priority surgical hires (e.g., neuro/spine within neurosurgery). Based on BMC's existing surgical data within the subspecialties that BMC is hiring in, the Applicant was able to estimate the outpatient visit volume, outpatient/inpatient surgical volume, and ancillary volume for all the new hires. This information could then be used to calculate bed days across the medical/surgical spectrum. Using data regarding the acuity of BMC's anticipated patients based on the existing volume the Hospital does in these specialties, the Applicant was also able to split out the number of bed days by general medical/surgical, IMCU, and ICU (e.g., each surgical case results in X medical/surgical bed days, Y IMCU bed days, and Z ICU bed days). The Applicant applied constraints to this data (e.g., OR availability and demand for the service) to develop a final list of hires that the new beds and ORs could fit.

For surgical cases, the Applicant reviewed the way bed days were broken out by specialty and ran these data against the Hospital's proposed list of hires. For example, as described above, the Applicant calculated the number of neurosurgery cases the Hospital could add if it were to address unmet patient demand and hire more neurosurgeons. The Applicant then looked at the proportion of existing BMC neurosurgery bed days that fell into general medical/surgical, IMCU, and ICU categories. The Applicant did this on a specialty level to ensure that it was being as granular as possible in estimating the breakdown of beds. Applying this proportion to the expected case volume, and therefore the expected beds required, the Applicant could see how many of each type of bed the Hospital would need. This exercise was performed for each specialty in which the Hospital was hiring.

Based on these calculations, the Applicant expects:

- 1,457 additional (annual) surgical cases (across the medical/surgical, IMCU, and ICU spectrum post-surgery);
- A total of 11,247 incremental patient days for these patients, including 8,521 patient days for general medical/surgical patients and 2,756 patient days for ICU patients; and
- A need for ~23.4 additional general medical/surgical and IMCU beds and ~7.5 additional ICU beds to accommodate these patients.

(2) Unmet ED demand – To arrive at this figure, the Applicant reviewed BMC's ED volume and the proportion of patients who visit the ED and leave without being seen ("LWOBS"). The Hospital does not have spare bed capacity and, therefore, cannot see additional patients without adding beds. The Applicant calculated how many more patients the Hospital would need to see if it were to bring its LWOBS rate down to national averages from current rates. The Applicant then used internal research to extrapolate additional admissions from these additionally seen patients (the Applicant has found that acuity does not differ much between patients that leave the ED versus those who stay). Performing these calculations, the Applicant finds there is latent demand for:

- 7,783 additional ED visits; and
- 1,557 additional admissions across the acuity spectrum assuming similar admit rate. These admissions then translate to:
    - 11,409 bed days, of which 9,973 are general or IMCU medical/surgical and 1,436 are ICU; and
    - ~27.3 additional general and IMCU medical/surgical beds and ~3.9 additional ICU beds.

In addition, the Applicant notes that the number and types of beds were influenced in part by the physical layout of the existing campus. As discussed in detail throughout the DoN Narrative, BMC is committed to a measured approach to campus design that prioritizes use of BMC's existing square footage with strategic renovations and additions rather than building new. Consistent with this approach, the Hospital reviewed its current campus layout and determined that it could accommodate the needed inpatient beds through construction and renovation of the 5th and 6th floors of the existing Yawkey Building. Specifically, through this process, the Hospital determined that it could conservatively increase inpatient bed capacity through the addition of 22 medical/surgical beds on the 5th floor and 38 medical/surgical beds and 10 ICU beds on the 6th floor, and that such configuration would allow for maximization of the space on these floors as well as accommodation of patient panel need.

b) What plans do you have for ensuring adequate staffing for the 70 new M/S and ICU beds?

The Applicant appreciates the importance of adequate staffing to the success of the Proposed Project and to the ability of the Hospital to meet the needs of its patient panel. The Hospital is committed to investing in the future of the healthcare workforce in Greater Boston through recruitment efforts and by coordinating with educational training programs and maintaining clinical teaching affiliations with educational institutions to provide clinical and technical rotations as well as residency and fellowship opportunities. Specifically, the Applicant highlights the following:

- BMC is the principal teaching affiliate of Boston University School of Medicine and is devoted to training future generations of healthcare professionals.
- BMC operates 61 residency training programs with 729 resident and fellowship positions.
- BMC is the sponsoring institution for 45 Accreditation Council for Graduate Medical Education accredited specialty and sub-specialty programs, participates in 4 pediatric programs sponsored by Boston Children's Hospital, one neurosurgery program sponsored by Beth Israel Deaconess Medical Center, 2 American Dental Association accredited programs, and one podiatric program accredited by the Council for Podiatric Medical Education. BMC is currently affiliated with 33 participating institutions. In addition, BMC supports 26 active nonstandard programs, programs for which there is no accreditation available.
- BMC maintains affiliations with schools locally, across the country, and online to provide rotations for various students, including nursing, social work, pharmacy, and others. Current examples include, but are not limited to, University of Phoenix, Massasoit Community College, Boston University, Bunker Hill Community College, Smith College and MCPHS University. If a student is enrolled at a school that is not currently affiliated with BMC, the Hospital is willing to establish an affiliation agreement to allow the student to complete their clinical rotation at BMC.
- BMC has a very competitive and highly regarded graduate RN residency program as well as unique programs for nurses who are transitioning from one area to another.
- The Hospital offers the following nursing career development opportunities:
    - Scholarships: Available to assist the nurse in pursuing higher education or taking classes related to nursing, to further achievement of professional goals
    - Up to $5,000 Tuition Reimbursement: Available for courses taken outside the institution, or for the pursuit of advanced degrees in the healthcare arena.
    - Specialty Certification: Staff is encouraged to become certified in their specialty, such as oncology certified nurses, medical/surgical, critical care and emergency nursing.

- Up to $5,000 in Tuition Loan Repayment (pre-tax benefit): After satisfactorily completing 6 months of employment eligible for loan repayment when actively paying RN degree student loans (Associates or Bachelor's degree in nursing).

8. The Applicant states that the Proposed Project will address the demands of an aging population, and that older age cohorts account for a higher percentage of M/S discharges, require a higher level of care and have longer lengths of stay (pg.9).

a) What age-friendly measures will be incorporated into the design of the building?

There are several age-friendly measures that BMC is planning to incorporate into the design of the Proposed Project. Examples include, but may not be limited to, the following:

- A convenient, safe, and age-friendly patient drop-off area close to the front door with staff and wheelchairs available for additional assistance;
- Other exterior features, such as: an accessible ramp, smooth surface concrete rather than brick sidewalks, reconfiguration of the handicap parking lot adjacent to the Menino and Yawkey Building lobbies to ensure Americans with Disabilities Act compliance, and expansion of the Hospital's valet service to meet inpatient demand and accommodate patients, including older patients, with mobility limitations;
- Interior architectural elements to assist with aging patient mobility, such as: patient assist auto-operated doors at all entry points to inpatient suites, wide doors and spacious corridors free of clutter that can accommodate patients with mobility devices, handrails in patient corridors, sound absorption and blocking measures to minimize sound transmission between patient care rooms to ensure privacy and reduce noise, availability of patient lifts (ceiling mounted and portable Hoyer lifts) to assist in the safe transfer of patients, lighting level controls to allow for patient control of ambient and task lighting at bed and to assist with navigation, handrails on footwalls in patient rooms to assist in getting to patient bathrooms, sliding doors to patient bathrooms, grab bars in patient toilet and shower rooms, and strong contrast between wall and floor finishes around toilets in patient bathrooms to assist patients with vision challenges;
- Comfortable accommodations for family members both inside inpatient rooms and in lounges, to ensure that family members can accompany and assist patients as desired and needed; and
- Translation/interpreter services and patient navigators to ensure patients have adequate support and assistance, as well as concierge transportation and prescription delivery services for certain patients, particularly older patients, to maximize patient comfort, safety and access.

The Applicant notes that design of the Proposed Project has been a collaborative effort involving Hospital staff, architectural consultants, and clinical contacts, among others. Three dimensional visual models have been built, reviewed, and revised according to feedback received. The Hospital will continue this iterative design process following DoN approval to ensure the safest, most comfortable, and most holistic care environment for its patients, including those in the older adult cohorts.

9. Please provide the Emergency Department data using the most current definitions for BMC.

Monthly Emergency Department Data CY21 and YTD 22

Month	Number of ED visits by Month	Total number of patients identified in ED with a M/S diagnosis	Median time (in minutes) from ED arrival to ED departure for admitted M/S ED patients by month	ED 5: Total number of patients identified in ED with a behavioral health diagnosis	ED 2: Median time (in minutes) from ED arrival to ED departure for BH patients by month
January 2021	9,240	1,096	421	494	452
February 2021	8,464	988	389	430	457
March 2021	10,063	1,135	395	518	488
April 2021	10,000	1,116	465	524	531
May 2021	10,617	1,103	424	472	446
June 2021	10,719	1,068	477	490	454
July 2021	11,303	1,114	509	485	510
August 2021	11,238	1,140	636	450	460
September 2021	11,027	1,050	585	452	623
October 2021	11,137	1,059	563	488	484
November 2021	10,837	1,034	679	442	427
December 2021	11,930	1,005	668	465	467
January 2022	10,083	860	638	458	709
February 2022	8,979	798	552	447	553
March 2022	11,122	1,002	608	506	487
April 2022	10,925	989	659	458	542
May 2022	11,483	1,018	634	477	500
June 2022	10,975	978	610	442	778
July 2022	11,157	932	746	418	492

10. You state that one consequence of ED backlogs is that patients leave without being seen. Can you provide monthly statistics for FY 22 YTD?

Month	Number of Patients LWOBS
October 2021	1,205
November 2021	1,290
December 2021	1,601
January 2022	1,445
February 2022	1,000
March 2022	1,198
April 2022	1,363
May 2022	1,352
June 2022	1,149
July 2022	1,645

11. Need for expanded Surgical Capacity:

a) Explain what types of visits are included in these numbers. For e.g. is it surgical consults, pre & post-operative visits, other visits? (P. 12)

Tables 16 and 17, revised versions of which are included at Appendix B and have been updated for FY22 through July 2022 as requested by the Department, outline BMC's inpatient surgical patient, visit, and case counts. Both tables represent an account of inpatient surgical care only and do not include any ambulatory pre- or post-operative consults or visits. The tables also only capture those cases that occur within the traditional operating room ("OR") setting and do not include any procedure room activity (e.g., Cardiac Catheterization Lab or Endoscopy).

In terms of how the tables relate to each other, please note: (1) revised Table 16 outlines the number of unique surgical inpatients and the number of inpatient surgical visits by such unique patients at BMC each year, based on discharges; and (2) revised Table 17 represents the counts of individual inpatient OR cases each year by the service of the attending surgeon. During one inpatient admission (i.e., one visit), a unique patient may have multiple surgeries. Accordingly, that patient is counted once for purposes of "patients" and "visits," but multiple times for purposes of "cases."

b) Table 18: Please define the formula used to determine Operating Room occupancy. (p. 18)

OR occupancy = (surgical time + turnover time)/block time. Surgical time is defined as patient in OR to patient out of OR. Turnover time is defined as the delta between patient out of OR to next patient in OR (in this case the same OR). Block time is defined as the amount of time available to schedule into a staffed OR.

c) Provide data on the rate of surgical delays and rescheduled surgeries that have been occurring in the past few fiscal years?

Please see the table below which outlines the average days to inpatient elective surgeries at BMC for FY21 and FY22. Please note that FY21 data are provided for a 6-month period from January – June 2021 and FY22 data are provided for a 6-month period from February – July 2022. The Applicant chose these 6-month periods when the ORs were at "normal" scheduling to demonstrate capacity while controlling for COVID-19; due to COVID-19, BMC's OR scheduling was impacted multiple times due to government mandates and rollbacks.

Service	Average Days to Elective Surgery	
	FY21 (January – June 2021)	FY22 (February – July 2022)
Cardiac	23	41
General	45	63
Gynecology	64	95
Maxillofacial Oral	54	68
Neurosurgery	50	53
Ophthalmology	48	91
Orthopedics	50	54
Otolaryngology	43	55
Plastics	52	32

Podiatry	102	66
Thoracic	28	26
Transplant	16	18
Urology	50	65
Vascular	64	76
Total	**50**	**64**

[1] Please note that the number of single occupancy rooms (269 rooms) + double occupancy rooms (90 rooms) does not total the number of operational beds at BMC (453 beds). The difference of 4 beds is attributable to the fact that the Hospital operates 4 COVID-19 Surge beds in alternate care space that would not accurately be categorized as being single or double occupancy. Nonetheless, the beds in such space are appropriate for inpatient care and meet the required criteria, including being equipped with medical gas, being spaced appropriately, having access to hand washing sinks, and having privacy partitions.
[2] BMC's fiscal year is 10/1 – 9/30. FY22 data is provided YTD through 12/2021 and, therefore, is subject to change.
[3] Corresponding zip codes are as follows: Dorchester (02121, 02122, 02124, 02125); Boston (02104, 02108 – 02118, 02123, 02127, 02128, 02133, 02163, 02196, 02199, 02201, 02205, 02206, 02210, 02212, 02215 – 02217, 02241); Roxbury (02119, 02120); Brockton (02301, 02302, 02303, 02304); Mattapan (02126); Quincy (02169 – 02171, 02269); Hyde Park (02136); Revere (02151); Chelsea (02150); and Jamaica Plain (02130).
[4] Corresponding zip codes are as follows: Dorchester (02121, 02122, 02124, 02125); Boston (02104, 02108 – 02118, 02123, 02127, 02128, 02133, 02163, 02196, 02199, 02201, 02205, 02206, 02210, 02212, 02215 – 02217, 02241); Roxbury (02119, 02120); Brockton (02301 – 02304); Quincy (02169 – 02171, 02269); Mattapan (02126); Hyde Park (02136); Randolph (02368); and Jamaica Plain (02130) & Chelsea (02150).
[5] The Applicant notes that the discharge, case weight, CMI, and ALOS metrics provided herein are based on medical/surgical discharges (i.e., based on discharge days). However, to provide the most accurate understanding of BMC's occupancy rates, the occupancy data provided herein are based on midnight census reporting (i.e., patient days), which also includes observation patients and bedded outpatients who occupy a medical/surgical bed but are not reflected as inpatient medical/surgical discharges.
[6] Through the Proposed Project, the Applicant seeks to increase BMC's licensed medical/surgical capacity by 60 beds, for a total new licensed medical/surgical capacity of 325 beds. The Applicant anticipates that this addition of beds will help curtail some of the Hospital's projected inpatient capacity constraints and will allow the Hospital to decrease utilization of some of its alternate spaces (e.g., Code Yellow beds). Additionally, the Applicant notes that the Hospital will vacate its COVID-19 surge spaces pursuant to the timeline outlined within the Department's *Updated Guidance Regarding Implementation of Alternate Acute Inpatient Care Space*. Accordingly, the Applicant anticipates that BMC's change in operating medical/surgical beds will be less than its change in licensed medical/surgical beds (i.e., less than 60 beds) and that its projected occupancy rate for its operating medical/surgical beds will be higher than the 87% provided herein. However, given the unpredictable nature of the COVID-19 pandemic, the fluid status of the Public Health Emergency, anticipated further extensions in the authorized use of alternate acute inpatient care space, and projected increases in BMC's medical/surgical patient panel, the Hospital is uncertain at this time as to the exact number of alternate beds it will vacate and when. Given this uncertainty, the Applicant has provided the projections data in revised Table 15 to reflect the proposed addition of 60 licensed medical/surgical beds only.
[7] The Applicant notes that the discharge, case weight, CMI, and ALOS metrics provided herein are based on ICU discharges (i.e., based on discharge days). However, to provide the most accurate understanding of BMC's occupancy rates, the occupancy data provided herein are based on census days (i.e., patient days), which is lower as it accounts for time that patients spend in different levels of care (e.g., medical/surgical, step-down, ICU, etc.).
[8] Projected Census Days = Projected Volume at Ramp * Historical # Patient Days Per Discharge:
(a) Projected M/S Census Days = Projected Volume at Ramp * (Historical # M/S Patient Days Per Discharge + Historical # IMCU Patient Days Per Discharge + Historical # Other Patient Days Per Discharge)
(b) Projected ICU Census Days = Projected Volume at Ramp * Historical # ICU Patient Days Per Discharge
[9] ALOS = Total Projected Census Days / Projected Volume at Ramp
[10] Historical Patient Days Per Discharge = Historical Patient Days / Historical Patient Day Volume:
(a) Historical # M/S Patient Days Per Discharge = Historical # M/S Patient Days / Historical Patient Day Volume
(b) Historical # IMCU Patient Days Per Discharge = Historical # IMCU Patient Days / Historical Patient Day Volume
(c) Historical # ICU Patient Days Per Discharge = Historical # ICU Patient Days / Historical Patient Day Volume
(d) Historical # Other Patient Days Per Discharge = Historical # Other Patient Days / Historical Patient Day Volume
[11] # Medical/Surgical beds calculated as follows:
(a) # M/S Medical Beds = Projected M/S Medical Census Days / 365

(b) # M/S Surgical Beds = Projected M/S Surgical Census Days / 365
(c) # M/S Total Beds = Projected M/S Total Census Days / 365

[12] # ICU beds calculated as follows:
(a) # ICU Medical Beds = Projected ICU Medical Census Days / 365
(b) # ICU Surgical Beds = Projected ICU Surgical Census Days / 365
(c) # ICU Total Beds = Projected ICU Total Census Days / 365