APPLICANT RESPONSES

Overall Questions

1. **Payor mix is not included in your description of the patient panels. Provide the payor mix for the Partners patient panel, the MGH patient panel, and for each of the patient panels associated with the four components of this Application. As much as possible, separate out payors in both ways:**

Managed Care Contracts List percentages	Payor Mix-List percentages
• ACO and Managed Care Contracts • Non- ACO and Managed Care Contracts	• MassHealth (Private Medicaid/Medicaid MCOs) • Private Medicare/Medicare Advantage • Private Medicaid/Medicaid MCOs • Commercial PPO/Indemnity • Commercial HMO/POS • Other

Partners ACO and Managed Care Contracts

The percentage of Partners' primary care lives covered in risk contracts is 57.9%[1] This percentage is derived from the number of **primary care lives** within the patient panels of the Partners' primary care physicians ("PCP") that are covered under risk contracts (Partners bears risk). This data **does not include** referral patients as such patients are not managed by a Partners PCP and are not included in Partners' risk contracts.

Of note, the data used to determine the percentage of lives covered in Partners' risk contracts differ from the Partners' patient panel data that is included in the DoN narrative as the risk contract data is based on primary care lives; whereas patient panel data is a standard report of all of Partners' patients that received care over the last three fiscal years from one of the five Partners acute care hospitals and or hospital physicians, including referral patients.

Moreover, in regard to the methodology for collecting system-wide patient panel data, as well as data associated with primary care lives, this process is evolving at Partners, particularly with the system-wide adoption of Epic (Partners' electronic health record system). Previously, each regional service organization ("RSO") would have to manually pull the data in order to calculate a system wide total primary care lives. The implementation of Epic has changed the manual process of data extraction, allowing for a more centralized and standardized way of obtaining aggregate data. Currently, there are some Partners' affiliates that are not on Epic and some RSOs have just converted to Epic; typically, it

[1] The number of risk members is for CY2018 and includes members from the following risk contracts:
Medicare ACO - NextGen, BCBS AQC and BCBS PPO, HPHC, TAHP, AllWays Commercial, and Medicaid ACO.
The total number of patients within a PCP's panel are for FY 2017 adult and pediatric patients.

takes approximately one year for the Epic data to be "clean." Given that there are some gaps in the Epic data and that some RSOs are still ramping up on the system, **historical FY17 primary care covered lives data** is being used for this calculation. Accordingly, as Partners' staff develop additional data and methods for providing this information, the percentage may change.

In regard to non-ACO and/or non-managed care contracts, Partners staff are working on how best to provide this information. From a Partners' primary care perspective, all lives are managed by a PCP, leading to no non-managed lives. However, if "non-managed lives" are defined as primary care lives that are in external risk contracts, there are numerous factors to consider when developing this calculation and Partners staff are working through how this information may be reported to the Department of Public Health. Although it would seem an inverse calculation of the ACO/managed care contracts could be conducted to provide this data point, there are other factors that require additional consideration.

Payor Mix List Percentages

Please refer to the tables below for the payer mix of the Partners HealthCare System ("Partners HealthCare" or "the Applicant") and the Massachusetts General Hospital ("MGH" or "the Hospital") patient panels for FY15, FY16, and FY17.

Table 1: Partners HealthCare Payer Mix Percentages[2]

Payers by Category / Category	FY15	FY16	FY17
Commercial	60.9%	61.2%	59.6%
Managed Medicaid	4.4%	4.5%	5.3%
MassHealth	4.0%	3.5%	3.8%
Commercial Medicare	2.7%	3.4%	3.8%
Medicare FFS	23.1%	22.9%	22.7%
Other	4.9%	4.6%	4.8%

[2] Please note the following regarding the Partners HealthCare data: (1) Reflects aggregate Partners HealthCare revenue for the 2016, 2017 & 2018 Cost Hearing Submissions for P4P Contracts, Risk Contracts, FFS Arrangements and Other Revenue; (2) Data includes MGH, BWH, NSMC, NWH, BWFH, MGPO, BWPO, NSPG & NWMG. Payer specific information for other PHS providers (McLean, Spaulding Network, MVH, and NCH) is not available; and (3) Revenue based on payments minus denials, bad debt, free care surcharge, and uncompensated care assessment.

Table 2: MGH Payer Mix Percentages

Mass General Hospital			
Payers by Category / Category	FY'15	FY'16	FY'17
Commercial	51%	50%	50%
Managed Medicaid	8%	9%	8%
MassHealth	10%	9%	9%
Commercial Medicare	3%	3%	4%
Medicare FFS	27%	28%	28%
Other	2%	2%	2%
Commercial	Allways Health Commercial		
	Blue Cross Blue Shield		
	Commercial National Carriers		
	Commercial Other		
	Connector Care Plans		
	Harvard Pilgrim Health Plan		
	International		
	Qualified Health Plans		
	Tufts Health Plan		
Other	Government Other		
	Other Payor		
	Self Pay		
	Workers Comp		
	Unknown Summary Payor		

Please note, that the Health Policy Commission and the Center for Health Information and Analysis ("CHIA") require annual payer mix reports from the Applicant; however, revenue for these reports is broken down via a standard template, which contains the following categories: commercial (specifically naming plans), Medicaid and Medicare.

2. **You state that you have a Population Health Management strategic plan and that each clinical department at MGH has a PHM strategy.**
    a. **Please describe the specific strategies for each of the four PHM proposed projects included in this Application, and how they will be implemented and measured. If the strategy is not used for the specific project, state why.**

As discussed within the Determination of Need narrative, the Applicant and MGH are committed to developing and implementing population health management ("PHM") strategies to ensure high quality

outcomes and an exceptional care experience for all patients. As stated, currently, MGH is in the midst of a ten-year strategic plan aimed at improving patient experience and clinical quality outcomes, as well as reducing the costs associated with care. Every clinical department at MGH has a PHM strategy. These strategies are aimed at improving quality, efficiency and patient experience, such as care models that are rooted in collaboration, including patient-centered medical homes, care integration and other care initiatives specifically designed by MGH clinicians. Consequently, MGH offers a number of programs and strategies to ensure quality care for patients, which were outlined in the various components of the Determination of Need narrative. The medical management of patients through the following strategies provides population health management to MGH's patients.

First, MGH staff participate in the eConsult Program. Through the eConsult program, PCPs and specialists consult (as needed) through a non-face-to-face electronic interaction that seeks to ensure patients receive appropriate services, while avoiding any unnecessary higher cost consultations. Through this program, primary care physicians ("PCPs") initiate an eConsult order through the hospital's electronic health record ("EHR"). For most specialties within three business days, a PCP will be provided with structured guidance from the specialist on a particular question about a specific patient. Through this program, clinical decision support in the EHR and physician-level variation reporting minimize inappropriate ordering of radiology and other high-cost diagnostic tests by a PCP and ensure patients receive the right care.

Second, for MGH's highest risk and most complex patients, clinical staff offer the Integrated Care Management program ("iCMP"). iCMP provides eligible patients with a care manager who develops a care plan in collaboration with the patient and other members of the clinical team. The care manager works in-person and telephonically to coordinate a patient's care to reduce hospital readmissions when possible. Additionally, the care manager connects patients with community-based resources that facilitate recovery. MGH also offers the Patients Linked to Urgent Supports ("PLUS"). This program provides intensive wrap-around services (psycho-social supports) to a small number of patients. Services include acute community paramedicine, crisis stabilization units, and coordinated transportation. All of these programs work to assure that MGH's patients have the highest quality care coordination along the care continuum and reduced health care costs.

Third, MGH offers alternative care pathways to patients, so they may avoid unnecessary visits to the emergency department or inpatient hospitalizations. The Partners Mobile Observation Unit ("PMOU") is a program that provides home-based urgent care for patients experiencing at-risk medical events that can be addressed with enhanced home care. Additionally, MGH's Home Hospital Program offers daily hospital-level care at home through team-based care.

Through the Proposed Project, these programs will be offered to patients, thereby ensuring improved quality outcomes for patients and overall patient experience. For all patients access to these critically needed services will allow them to receive appropriate and timely care, as well as address any social determinant of health challenges. By providing access to these PHM strategies, MGH provides holistic care, which in turn ensures higher quality outcomes, satisfaction, and continuity for patients.

3. **With respect to health equity, what specific efforts are in place to ensure that MGH adheres to CLAS standards, in particular with relation to these 4 proposed projects? Be sure to explain**
    a. **how clinicians within each of these proposed projects are engaged**
    b. **training requirements for staff AND clinicians in CLAS**
    c. **how each of these efforts are initiated and tracked, and how success is measured**

MGH has been submitting plans in compliance with the Department of Public Health's requirements for CLAS Standards for many years. Currently, MGH has in place a Language Access and Assistive Services Plan. This plan embodies all of the CLAS Standards and addresses the noted questions specifically.

Staff within each of the areas in question (EP lab, GI Endoscopy, ED APS and Radiology for PET/MR) have received training on how, when and what modality to use to access language assistance for patients with limited English proficiency ("LEP") and/or who are deaf and hard of hearing ("DHH"). With any change in the configuration of a particular area, MGH's Medical Interpreter Services is engaged in a "walkthrough" of the area to ensure that an appropriate infrastructure is in place, so all patients have access to language assistance services. Clinicians are then trained by Interpreter Services on the best practices for accessing language assistance services. While Interpreter Services specifically address CLAS Standards 4, 5, 6 and 7, MGH's Diversity and Inclusion Committee has developed a strategic plan and a series of tactics to support CLAS Standard 9. Members of the Patient Care Services Diversity and Inclusion Committee also visit departments upon request to conduct trainings on assisting diverse patients and staff.

MGH's Disparities Solution Center and the Center for Quality and Safety continue to measure quality improvements under CLAS Standard 10, addressing issues raised by racial and ethnic disparities. The Disparities Solution Center also publishes an Annual Health Equities Report with measurements and targets for action.

Training for all staff on linguistically and culturally appropriate care at MGH is conducted via a HealthStream Module. This module was developed by the Disparities Solution Center along with Interpreter Services and ensures appropriate training for all staff. The MGH MGPO Diversity and Inclusion Committee also supports these efforts by setting diversity goals, providing strategic guidance and oversight, ensuring that the strategies are relevant to the needs of MGH's patients and advising on the allocation of resources. Consequently, these actions meet the requirements under CLAS Standard 1.

To assist in achieving the goals of diversity and inclusion at the hospital, MGH's Executive Committee has directed the Human Resources Department to work with all departments in the recruitment of staff from diverse backgrounds and groups. The Human Resource Department trains managers on how best to achieve this goal, complying with CLAS Standards 2, 3 and 4.

The Center for Community Health Improvement ("CCHI") is responsible for CLAS Standards 12 and 13. In the Center's annual report, staff track the success of these programs. CCHI also engages each of the communities through a comprehensive community needs assessment and develops programs with a strategic goal of addressing those issues/disparities.

To track and measure success, the Disparities Solutions Center and the Center for Quality & Safety have created a "disparities dashboard" of core measures that are reviewed. MGH also conducts patient satisfactions surveys specifically targeting diverse populations. Measures of equitable care and patient satisfaction are integrated in performance improvement initiatives. Results of these surveys are presented to leadership and staff throughout the organization including to the members of the MGH Diversity and Inclusion Committee.

4. **With respect to community engagement in Factor 1, while you stated that 3 out of the 4 projects have outlined their consultation with PFACs, explain how these PFACs are a community coalition statistically representative of the patient panels in question.**

The MGH PFACs meet the requirements set forth in the Hospital Licensure Regulations (105 CMR 130.000, specifically 105 CMR 130.1800 and 130.1801). These regulations require that "At least 50% of the Council members shall be current or former patients and/or family members and should be representative of the community served by the hospital." Each of MGH's PFACs meets this requirement.

5. **With respect to the "#123 Equity Pledge Campaign," explain how specific efforts are being/or will have been implemented in order within each of these proposed projects. Be sure to discuss how clinicians within each of these proposed projects are engaged with these efforts.**
    a. **How are such efforts initiated and tracked, and how is success measured?**

To accelerate the elimination of health and health care disparities, in 2015 the American Hospital Association ("AHA") launched its #123forEquity pledge campaign. It builds on the efforts of the National Call to Action to Eliminate Health Care Disparities – a joint effort of the AHA, American College of Healthcare Executives, Association of American Medical Colleges, Catholic Health Association of the United States and America's Essential Hospitals – and asks hospital and health system leaders to begin taking action to accelerate progress on the following areas:

- Increasing the collection and use of race, ethnicity, language preference and other socio-demographic data
- Increasing cultural competency training
- Increasing diversity in leadership and governance
- Improve and strengthen community partnerships

Data Collection: MGH's Annual Report on Equity in Healthcare Quality (AREHQ)

MGH has been collecting the race, ethnicity, and language preference of patients since the 1990s, and in 2006 started collecting highest level of education achieved. Also, in 2006, the MGH's Medical Policy Committee amended the Quality Policy on Data Management to state: "In order to assess and address racial and ethnic disparities on an ongoing basis, all relevant quality improvement data will be stratified by race and ethnicity." This policy led to the development of MGH's first Disparities Dashboard, in 2007, now known as The Annual Report on Equity in Healthcare Quality ("AREHQ"). The AREHQ is a yearly

report that is disseminated to over 500 clinical leaders across MGH, presented to the MGH Board and General Executive Council (among 18 other leadership committees) every year, and is made available on the MGH intranet and publicly available on the internet. It provides an analysis of our patient demographics, where they receive care, and key quality measures stratified by patient race, ethnicity, and language proficiency (including the National Hospital Core Measures, HEDIS outpatient measures, Patient Experience, all-cause and ambulatory care sensitive admissions, and all-cause and congestive heart failure readmissions, among others). In sum, it serves as the foundation for identifying disparities on a yearly basis, and then building strategies to address them. It also reports on the progress of initiatives currently addressing disparities at MGH.

Increasing Cultural Competency Training

Physicians

In 2009, the MGPO provided cultural competence training for physicians through its Quality Incentive Program, which is designed to reward performance on important quality, safety and educational goals. Approximately 1,000 of 1,200 eligible physicians elected to complete the two-hour, CME accredited Quality Interactions program (www.qualityinteractions.org) (versus a training on patient safety), and training was accomplished in 3 months. Results demonstrated an average pretest score of 43%, and an average post-test score of 86%, and over 85% of physicians who completed the program felt they had a better understanding of disparities and cultural competence, and the skills they learned who help them improve care to their patients.

The Disparities Solutions Center, in collaboration with the MGH Institute of Health Professions and supported by Josiah Macy Jr. Foundation, developed the interprofessional curriculum, *Providing Safe, Effective Care for Patients with Limited English Proficiency*. This program consists of three e-learning modules that address the evidence of disparities and high rate of medical errors for patients with LEP, provide training on concrete skills for working with professional interpreters as integral members of the care team, and exploring how systems of care can be improved for patients with LEP. Following a successful pilot with physicians and midwives in the Department of Obstetrics in 2014, the module for working with interpreters was implemented as part of the Massachusetts General Physicians Organization's mandatory training requirements in fiscal years 2016 and 2017 for physicians, researchers, trainees, physician assistants, nurse practitioners, and ambulatory nurses. A total of 6,914 Mass General employees have been trained as of October 2018. In 2017, all three modules were adapted for broader implementation throughout the Partners Healthcare system. Modules are assigned to providers, frontline staff, and non-patient facing employees based on the content that is most relevant to their roles.

Nurses

The Norman Knight Nursing Center for Clinical and Professional Development ("KNC") provides education and training for the Department of Nursing within Patient Care Services and is committed to providing high quality educational content designed to enhance the nurse-patient/family centered relationship of a multicultural patient population. Part of the nurse's orientation is devoted to addressing how to understand and meet the needs of our culturally diverse patient population, including understanding one's own cultural view, and resources to gain information about people from different

cultures and communication strategies. The KNC also provides continuing education programs for nurses on topics such as cross-cultural communication, health disparities, LGBT care, multicultural perspectives on mental health, disabilities, and diversity in childbearing to name a few.

Frontline Staff

In 2009, MGH trained 1,500 frontline staff in ambulatory care and support services departments with the Quality Interactions cultural competence (www.qualityinteractions.org) Front and Center program. This two-hour facilitator lead e-learning module trained staff to recognize how social and cultural backgrounds influence service delivery and others' service experience. In 2014, the Service Excellence department offered this training again to frontline staff through MGH's Service Academy program. As a standard part of orientation for all MGH staff, we have integrated a training on working effectively with interpreter services and patients with limited English proficiency.

Hospital Wide Cultural Competence Standards

The MGH Disparities Committee convened a year-long Training Summit in 2011 that focused on the development of a set of uniform goals and objectives for trainings in the area of disparities and cross-cultural care at MGH. The Summit was convened quarterly and consisted of representatives from Admitting, Interpreter Services, Registration, Patient Care Services, Service Improvement, and Human Resources, among others that provide disparities-related and cross-cultural care trainings to their staff. Existing training on diversity and cross-cultural care were reviewed, and recommendations for five core curriculum areas were disseminated in 2012 and guide all training in these areas.

Increasing Diversity in Leadership and Governance

Diversity in Leadership

- The President of MGH has diversity metrics as part of his overarching set of performance measures for which he is evaluated on annually by the MGH Board. Characteristics that define diversity for the MGH include race, ethnicity, gender, sexual orientation, and disability.
- MGH has had a Diversity Committee consisting of clinical chiefs, hospital leaders, and department leaders. In 1996, the Board of Trustees transferred the Diversity Committee to the Office of the President to make it more action-oriented, and it is currently co-chaired by MGH's Chief Medical Officer and the Chief of Radiology. The Diversity Committee is responsible for setting and guiding the diversity strategy, as well as identifying, supporting and funding key diversity needs. In February of 2014, the MGH General Executive Committee ("GEC") voted to re-structure the MGH Diversity Committee and make it an official subcommittee of the GEC.
- In 2010, Dr. Slavin required that all department chiefs create and report on a dashboard of diversity metrics—that includes diversity of professional staff and employees—which is reviewed as part of their annual performance by him and the CEO of the MGPO. He also required that they put together a broader Diversity Action Plan which reflects initiatives of diversity and inclusion that he reviews with them annually, separate from their performance reviews.
- MGH's Multicultural Affairs Office ("MAO") was founded in 1992 and promotes recruitment, retention and advancement of students, physicians and researchers who are underrepresented in

medicine. For example, the MAO works closely with the clinical search committees to identify faculty across the country who are under-represented minorities in the specialty area for which a search is being conducted. The MAO helped develop a database of potential faculty recruits from across the country who are under-represented minorities to help inform faculty searches at MGH, and it also provides appropriate venues for posting the position (for example National Medical Association, National Hispanic Medical Association or other professional societies). MAO also provides technical assistance and training to the search committees on topics such as unconscious bias in selection and interviewing.

- One of the twelve key strategies in the MGH/MGPO strategic plan, developed in 2013, was to - "Expand diversity efforts to provide equitable care to the diverse populations we serve; and to recruit, retain and develop a diverse workforce." In addition to having a diversity specific strategy, MGH has embedded diversity in all aspects of our strategic plan. The new restructured MGH Diversity Committee oversees this initiative. In 2015, MGH appointed their first Vice President, Chief Equity and Inclusion Officer, Dr. Joseph Betancourt.

Diversity in Governance

- Expanding the diversity of the Board of Trustees is a key focus for MGH's Nominating and Governance committee (which leads the process of short and long-term board succession) and the Board of Trustees as a whole. This message is also reinforced at the system level (Partners Healthcare System) which has voiced a similar critical goal.

- To ensure diversity is a key and routine component of Trustee selection, specific diversity focused criteria has been added to the Trustee evaluation tool used to guide evaluation and selection of potential Trustees to the Board.

- Dr. Slavin and other board members (Board Chair, Nominating and Governing Chair) actively reach out to potential Trustee candidates of diverse backgrounds to fill upcoming vacancies. In an effort to ensure growth in board diversity is sustainable over time, they are also developing and cultivating relationships for future Board selection.

Diversity in Staff

- The Vice President of Human Resources has diversity metrics as part of her overarching set of performance measures for which she is evaluated on annually by the MGH President.
- MGH has a dedicated Workforce Diversity Program Manager who reports to Training and Workforce Development Office and Human Resources.
- MGH supports the ongoing leadership development of diverse staff through their participation in various Employee Resource Groups such as The Association of Multicultural Members of Partners ("AMMP"), The Office for Women's Careers, The LGBT Committee, The Committee on Latino Initiatives, The Chinese Staff and Scientists Association, and The Employees with Disabilities Resource Group.

- MGH regularly sponsors employee participation in high impact external leadership development and networking programs aimed at diverse employees, including The Partnership (http://www.thepartnershipinc.org/train.html), Get Konnected (http://www.getkonnected.com/?page_id=745) and institutional membership within for the Institute for Diversity in Health Management (http://www.diversityconnection.org/).
- MGH provides funding for several fellowships aimed at promoting diversity and include the MAO Minority Faculty Development Award Program, the Clinical Leadership Collaborative for Diversity in Nursing program, the Diversity Nursing Fellowship Program, and the MGH Administrative Fellowship.
- MGH funds and supports several initiatives to support the development of diverse staff, including ESOL Classes, the Association of Multicultural Professionals scholarship program, and the Support Services Grant Program.

Strengthening Community Partnerships

In 2004, MGH Disparities Committee's Patient Experience and Access to Care Subcommittee recommended the creation of The MGH Multicultural Advisory Committee ("MAC"). The MAC consists of 15-18 community members—including patients, family members, religious leaders, community leaders, business leaders, and reflects the racial and ethnic demographics of Boston and the MGH health center communities—who are charged with helping guide MGH in its commitment to address disparities. The MAC provides advice on minority patients' experience of care at MGH; minority communities' perceptions of MGH as a provider and as a community member; and reviews new and existing programs or initiatives aimed at addressing disparities at MGH.

Prior to developing any disparities intervention in the community, focus groups are conducted with community leaders and minority patients to assure their participation in the creation of the programs, as well as to solicit their feedback and support. Several of these programs, including those focused on diabetes and colorectal cancer screening, are briefly described below.

Tracking the Measures, Training and Success

As discussed in the previous paragraphs, staff are made aware of these efforts in a variety of ways. To measure success, MGH utilizes a dashboard to measure numerous metrics to review trends in health and healthcare disparities.

6. **Explain how the "universal screening program" for social determinants of health (SDoH) works, as well as the referral and tracking for positive screening within each of the Proposed Projects.**

Currently, each of the acute care hospitals within the Partners HealthCare System ("Partners") has a screening and referral program for the social determinants of health ("SDoH"). While variation exists amongst the hospitals as to the populations that are screened and the logistics for screening – at a

minimum, all of the 133 Partners primary care practices that are participating in the MassHealth Accountable Care Organization ("ACO") Program, are screening patients for SDoH needs.

All of the Partners' hospitals and practices conducting SDoH screens utilize a similar screening tool. This tool explores eight domains of SDoH needs (housing, food insecurity, violence, etc.), inquiring if patients have issues with any of the domains and whether they would like assistance. Screens are conducted via iPads that are linked to the Partners' electronic health record ("EHR") system, Epic. If the hospital or practice is not on the Epic system, the screening tool is available in an alternate electronic form via iPads or on a paper-based form. The SDoH screening tool is currently available in eight different languages – the most common languages spoken by Partners' patients.

At Massachusetts General Hospital ("MGH"), the long term goal is to implement a SDoH screening program for all patients. Partners and MGH have been thoughtful about the implementation of a universal SDoH screening program, recognizing that there is a limited amount of capacity within the community-based organizations that patients will be "linked" to for services and understanding a staggered approach to implementation is best, so that Partners and MGH do not overwhelm the available resources.

When a patient has a positive SDoH screen, varying staff at each hospital or practice follow-up with the patient, such as a social worker or community health worker. These staff members confirm that a request for assistance has been made by the patient. Upon confirmation, the staff member may assist the patient directly or refer the patient to a community-based organization that may be able to provide specific services or supports. The patient's SDoH need(s) and circumstances determine the intensity of follow-up that is provided.

SDoH screens are tracked in a patient's EHR in the Epic system. Tracking includes whether a SDoH screen was conducted, if there were positive responses indicating the patient needs assistance, and if the patient was provided with written support materials ("Tip Sheets") or referred to a support person. Moreover, case managers and other staff assisting patients with SDoH needs may provide notes in the Epic system as to where the patient is in the process of accessing resources to address his/her SDoH needs. Currently, Partners is working to implement a data exchange system with external community-based partners that will enable Partners practices and providers to understand the final disposition of the patient if referred to an external organization for support.

Currently, Partners staff are collecting data utilizing the information that is provided in Epic to better understand the SDoH needs of patients, including information on the most common SDoH needs, and if those SDoH needs vary by geography; ethnicity and race; or other demographic factors. These data inform staff about the demand for community-based resources in specific geographies, so staff can understand if these organizations need additional capacity to help patients. Partners and MGH staff want to ensure that the most vulnerable patients are able to access services more quickly than patients that may currently have stability.

a. **Outline any differences in the process for patients in ACOs/managed risk plans vs non-ACO patients/managed risk plans**

As discussed in the previous response, currently MassHealth ACO and other ACO patients are screened for SDoH needs. Partners is implementing a 2-3 year strategy to ensure that all patients are screened for SDoH needs. Additionally, MGH is seeking to implement a payer-blind screening program for SDoH, so every patient is screened. However, Partners and MGH understand that currently, there is not enough capacity within the community-based organizations to screen every patient and refer them to services. Accordingly, Partners and MGH are monitoring available patient data on SDoH needs to better understand what the most common needs are among patients, so the organizations can build a strategy to create more capacity for community-based partners.

b. **How is "success" measured?**

Partners reviews quality metrics to determine the success of the SDoH screening programs. One measure that is reviewed for MassHealth ACO patients is "How many patients have been screened" with a goal of screening all MassHealth ACO patients for SDoH. Furthermore, Partners has created an interactive dashboard with specific quality metrics around SDoH screening, including how many patients have been screened, how many completed screens have occurred, what are the most common SDoH needs among patients and whether a referral was made, so the patient may access community-based resources.

Emergency Department Renovation and Behavioral Health Expansion

7. **In terms of health equity, we note that the percentage of Black/African Americans is 5% of MGH's total patient panel; however it is 10% of the ED panel. Have you investigated any underlying causes for that difference and, if so, what corrective actions have you put in place? Explain any initiatives and/or measures you are using, or plan to use to address potential utilization disparities in ED.**

In general, the emergency department ("ED") population at MGH is more diverse than the overall hospital. Additionally, the MGH Pediatric ED also has a more diverse patient population than the larger pediatric patient panel. Studies have found that there are numerous reasons as to why African-Americans utilize the ED more than their Caucasian and Asian counterparts. One specific study found that insurance coverage alone was not a contributing factor for this population's high utilization of ED care. Rather, "other" potential disparities were noted as needing further investigation around the root cause(s) of the issue.[3]

MGH has long been dedicated to better identifying and addressing racial and ethnic disparities in healthcare under the leadership and support of its President, Dr. Peter Slavin. In February 2003, in response to the IOM Report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, Dr. Slavin formed the MGH Disparities Committee ("Committee"). The Committee consisted of a diverse group of leaders at MGH, including clinical chiefs, and the directors of quality and safety, patient care services, community health, patient registration, interpreter services, social services, and the community health centers, among others. The mission of the committee was to develop a strategic plan and set of

[3] Brown LE, Burton R, Hixon B, et al. Factors influencing emergency department preference for access to healthcare. West J Emerg Med. 2012;13(5):410–415. doi:10.5811/westjem.2011.11.6820

action steps to immediately improve MGH's capacity to better identify and eliminate disparities. The vision of the Committee was a hospital that could demonstrate the delivery of high-quality, equitable health care to all patients, regardless of race, ethnicity, culture or class.

In 2005, building on the work of the MGH Disparities Committee, MGH and Partners HealthCare committed $3.0 million to create The Disparities Solutions Center ("DSC") (https://mghdisparitiessolutions.org) to provide continued support and guidance on disparities issues at MGH, as well as begin to develop national leadership on this topic. The DSC is an action-oriented center with a practical focus of moving the issue of disparities in health care beyond research and into the arenas of policy and practice. The DSC serves as a national, regional, and local resource for hospitals, health plans, community health centers, state and local governments, and other key health care stakeholders.

Building upon research and findings from surveys conducted since 2005, from 2016-2018, the DSC implemented the following programming:

- The Disparities Solutions Center, in collaboration with the MGH Institute of Health Professions, developed an interprofessional curriculum, *Providing Safe, Effective Care for Patients with Limited English Proficiency ("LEP")*. The program consists of three e- learning modules. The first provides the evidence for disparities and the disproportionately high rate of medical errors that occur in patients with LEP; the second provides training on concrete skills for working with professional interpreters as integral members of the care team; and the third explores how systems of care can be improved for patients with LEP. Following a successful pilot with physicians and midwives in the Department of Obstetrics, the second module on working with interpreters was rolled out as part of the Massachusetts General Physicians Organization's mandatory training requirements in FY 2016 and FY 2017 for MDs, PhDs, trainees, physician assistants, nurse practitioners, and ambulatory nurses. The training was required for all incoming attendings and residents as well. A total of 6,914 health care providers at MGH have now completed the training.

- A training initiative focused on unconscious bias, part of the Quality Interactions CME program (www.qualityinteractions.org), was deployed to the entire health care team within the department of Obstetrics and Gynecology at MGH in 2017. A total of 125 doctors, residents, nurses, midwives, and frontline staff completed the program, and 93% said that as a result of the program they would change one of more aspects of their care and communication.

In 2017- 2018, MGH repeated a targeted patient experience survey that focused explicitly on the experiences of minority populations for a third time. The survey was expanded to include two additional languages: Haitian Creole and Russian. Again, the findings showed significant improvements from previous years:

- 1.1% of Black/African American (down from 4.7%), 1.4% of Hispanic/Latino (down from 34%), and 2.7% of Asian patients (down from 4.5%) felt that doctors, nurses, or hospital staff treated them unfairly or with disrespect because of their racial or ethnic background.
- The proportion of patients who said they did not feel welcome in our lobbies and reception areas continued to trend downward, from 25% in 2004 to 11% in 2012 to 7% in 2018.

This patient experience survey explicitly measures the experiences of minority populations. This tool will now be deployed every five years to continue to assess and address any disparities that

emerge. Accordingly, some of this data should be able to inform why certain patients are accessing care in the emergency department, rather than (if possible) the ambulatory setting.

Finally, MGH is continuing to invest time and resources in the areas of health equity and access to care. MGH-wide efforts are critical to improved representation of all groups across the various care services, including improving access to primary care. For additional information on linkages to care, please see the response to Question 14.

8. **You noted success in reducing the number of ED visits in 2017, and cited contributing factors. Since there was a slight increase in ED visits in 2018.**
    a. **what are your plans to continue your successful reduction efforts?**

All of MGH's ambulatory care practices are increasing access to and use of urgent care visits. This increase in same day ambulatory access will provide an alternative pathway for care, reducing overall ED utilization. Additionally, as more urgent care clinics open in the service area, ED staff believe that some ED volume will be decanted to these new clinics, which should again lead to lower ED patient volume.

Moreover, to prevent avoidable ED utilization, MGH will continue to use its population health initiatives that are currently in place that have proven to be successful in these reduction efforts. First, MGH offers its Partners Mobile Observation Unit ("PMOU"), which is a program that provides home-based urgent care for patients experiencing at-risk medical events believed to be treatable with enhanced home care. MGH's Home Hospital Program also offers daily hospital-level care at home through team-based care.

Second, for MGH's highest risk and most complex patients, clinical staff offer the Integrated Care Management Program ("iCMP"). iCMP provides eligible patients with a care manager who develops a care plan in tandem with the patient and other members of the clinical team. The care manager works in-person and telephonically to coordinate a patient's care and ensures that patients are not readmitted to the hospital when possible. Additionally, the care manager connects patients with community based resources that are vital for recovery. MGH also offers iCMP patients, the Patients Linked to Urgent Supports ("PLUS"). This program provides intensive wrap-around services (psycho-social supports) to a small number of patients. Services include acute community paramedicine, crisis stabilization units, and coordinated transportation. All of these programs assure that MGH's patients have the highest quality care, as well as a superior care experience.

    b. **what are any balancing measures you plan to use to ensure there are no unintended consequences from reduction efforts?**

MGH's ED has an active Quality and Safety Program that monitors trends in patient safety, so there should be no "unintended consequences from reduction efforts." In 2017, staff were not aware of any negative consequences given reduction efforts. However, MGH's Quality and Safety Program for the ED will continue to monitor patient safety trends and alert senior leaders if any negative consequences arise.

9. **What steps are being taken to reduce what the Health Policy Commission[4] describes as "avoidable emergency department use?"**
    a. **Describe any efforts within Partners, including MGH, designed to address the continued increases in BH patients' usage of the ED.**

The continued increase in BH patients utilizing the MGH ED for care is a critical issue, as demand continues to outpace supply. The proposed expansion to create a dedicated APS unit at MGH is a tangible effort to increase the capacity to safely and securely treat BH patients in the appropriate setting. Partners and MGH also have in place programs to decrease ED boarding, including the following initiatives:

- A substantial expansion of the psychiatric inpatient service at North Shore Medical Center ("NSMC") will improve MGH's ability to transfer patients in need of this level of care to the inpatient setting in an expedited manner. NSMC will be adding 54 new beds, including 10 child and adolescent beds.
- An initiative has been implemented on the inpatient psychiatric unit (Blake 11) at MGH to discharge patients earlier in the day, so new patients may be moved to the unit for care in a timelier manner. Over the past year, this initiative has proven to be successful with the psychiatric inpatient services taking 75 more admissions over the previous year.
- McLean Hospital has initiated a process with MGH to expedite admissions from the MGH APS, so that patients who are being admitted to McLean can arrive as quickly as possible.
- If there are no psychiatric beds available, MGH has developed and implemented internal protocols to move psychiatric patients from boarding status in the ED to inpatient medical beds while they await psychiatric placement.
- MGH has hired child life specialists to work with children with psychiatric disorders who are boarding.
- MGH is increasing the number of providers and staff, so patients receive expedited diagnosis, treatment, and disposition planning.
- For patients dealing with substance use disorders ("SUDs"), MGH offers a Bridge Clinic as part of the hospital's larger SUD Initiative. The MGH Bridge Clinic is a transitional outpatient addiction clinic for discharged inpatients and patients leaving the ED who are not yet connected to outpatient care. The Bridge Clinic provides patients with continued necessary treatment for their SUDs until appropriate community connections can be made. This Clinic assists in preventing avoidable ED visits, connecting patients with necessary resources.

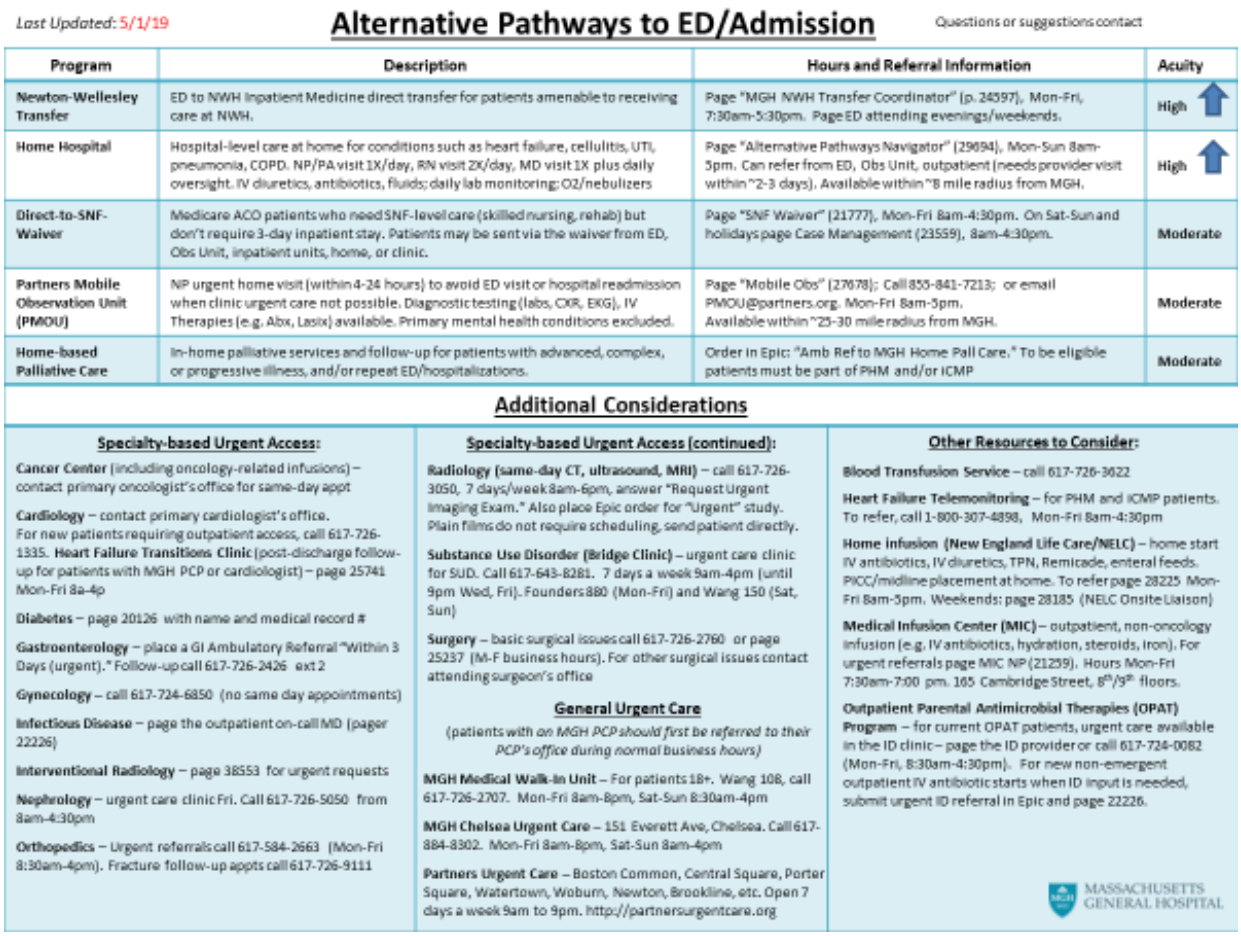
    b. **Describe any efforts within Partners, including MGH, designed to address patient ED visits for ambulatory care-sensitive and supply-sensitive condition.**

The following programs have been implemented to reduce avoidable ED visits for ambulatory care-sensitive conditions:

[4] Massachusetts Health Policy Commission. 2018 Annual Health Care Cost Trends Report available: https://www.mass.gov/files/documents/2019/02/20/2018%20Cost%20Trends%20Report.pdf

- Use of the Bridge Clinic and West End walk in service for patients who are dually diagnosed with substance use disorders and mental health issues;
- Urgent care for behavioral health;
- Expansion of collaborative care in MGH's primary care practices, so that patients have improved access to timely mental health care; and
- Expanded use of resource specialists recovery coaches and peer support to assist patients in maintaining their treatment for SUDs.

Moreover, the slide below outlines pathways at MGH to prevent avoidable ED visits, including pathways for patients with ambulatory care needs.



Last Updated: 5/1/19

Alternative Pathways to ED/Admission

Questions or suggestions contact

Program	Description	Hours and Referral Information	Acuity
Newton-Wellesley Transfer	ED to NWH Inpatient Medicine direct transfer for patients amenable to receiving care at NWH.	Page "MGH NWH Transfer Coordinator" (p. 24597). Mon-Fri, 7:30am-5:30pm. Page ED attending evenings/weekends.	High
Home Hospital	Hospital-level care at home for conditions such as heart failure, cellulitis, UTI, pneumonia, COPD. NP/PA visit 1X/day, RN visit 2X/day, MD visit 1X plus daily oversight. IV diuretics, antibiotics, fluids; daily lab monitoring: O2/nebulizers	Page "Alternative Pathways Navigator" (29694), Mon-Sun 8am-5pm. Can refer from ED, Obs Unit, outpatient (needs provider visit within ~2-3 days). Available within ~8 mile radius from MGH.	High
Direct-to-SNF-Waiver	Medicare ACO patients who need SNF-level care (skilled nursing, rehab) but don't require 3-day inpatient stay. Patients may be sent via the waiver from ED, Obs Unit, inpatient units, home, or clinic.	Page "SNF Waiver" (21777), Mon-Fri 8am-4:30pm. On Sat-Sun and holidays page Case Management (23559), 8am-4:30pm.	Moderate
Partners Mobile Observation Unit (PMOU)	NP urgent home visit (within 4-24 hours) to avoid ED visit or hospital readmission when clinic urgent care not possible. Diagnostic testing (labs, CXR, EKG), IV Therapies (e.g. Abx, Lasix) available. Primary mental health conditions excluded.	Page "Mobile Obs" (27678); Call 855-841-7213; or email PMOU@partners.org. Mon-Fri 8am-5pm. Available within ~25-30 mile radius from MGH.	Moderate
Home-based Palliative Care	In-home palliative services and follow-up for patients with advanced, complex, or progressive illness, and/or repeat ED/hospitalizations.	Order in Epic: "Amb Ref to MGH Home Pall Care." To be eligible patients must be part of PHM and/or ICMP	Moderate

Additional Considerations

Specialty-based Urgent Access:

Cancer Center (including oncology-related infusions) – contact primary oncologist's office for same-day appt

Cardiology – contact primary cardiologist's office. For new patients requiring outpatient access, call 617-726-1335. **Heart Failure Transitions Clinic** (post-discharge follow-up for patients with MGH PCP or cardiologist) – page 25741 Mon-Fri 8a-4p

Diabetes – page 20126 with name and medical record #

Gastroenterology – place a GI Ambulatory Referral "Within 3 Days (urgent)." Follow-up call 617-726-2426 ext 2

Gynecology – call 617-724-6850 (no same day appointments)

Infectious Disease – page the outpatient on-call MD (pager 22226)

Interventional Radiology – page 38553 for urgent requests

Nephrology – urgent care clinic Fri. Call 617-726-5050 from 8am-4:30pm

Orthopedics – Urgent referrals call 617-584-2663 (Mon-Fri 8:30am-4pm). Fracture follow-up appts call 617-726-9111

Specialty-based Urgent Access (continued):

Radiology (same-day CT, ultrasound, MRI) – call 617-726-3050, 7 days/week 8am-6pm, answer "Request Urgent Imaging Exam." Also place Epic order for "Urgent" study. Plain films do not require scheduling, send patient directly.

Substance Use Disorder (Bridge Clinic) – urgent care clinic for SUD. Call 617-643-8281. 7 days a week 9am-4pm (until 9pm Wed, Fri). Founders 880 (Mon-Fri) and Wang 150 (Sat, Sun)

Surgery – basic surgical issues call 617-726-2760 or page 25237 (M-F business hours). For other surgical issues contact attending surgeon's office

General Urgent Care

(patients with an MGH PCP should first be referred to their PCP's office during normal business hours)

MGH Medical Walk-in Unit – For patients 18+. Wang 108, call 617-726-2707. Mon-Fri 8am-8pm, Sat-Sun 8:30am-4pm

MGH Chelsea Urgent Care – 151 Everett Ave, Chelsea. Call 617-884-8302. Mon-Fri 8am-8pm, Sat-Sun 8am-4pm

Partners Urgent Care – Boston Common, Central Square, Porter Square, Watertown, Woburn, Newton, Brookline, etc. Open 7 days a week 9am to 9pm. http://partnersurgentcare.org

Other Resources to Consider:

Blood Transfusion Service – call 617-726-3622

Heart Failure Telemonitoring – for PHM and ICMP patients. To refer, call 1-800-307-4898, Mon-Fri 8am-4:30pm

Home Infusion (New England Life Care/NELC) – home start IV antibiotics, IV diuretics, TPN, Remicade, enteral feeds. PICC/midline placement at home. To refer page 28225 Mon-Fri 8am-5pm. Weekends: page 28185 (NELC Onsite Liaison)

Medical Infusion Center (MIC) – outpatient, non-oncology infusion (e.g. IV antibiotics, hydration, steroids, iron). For urgent referrals page MIC NP (21259). Hours Mon-Fri 7:30am-7:00 pm. 165 Cambridge Street, 8th/9th floors.

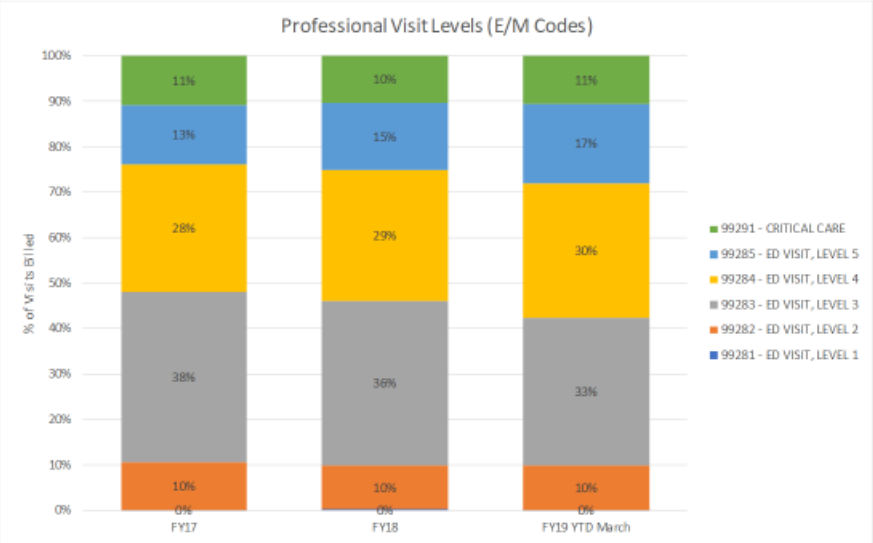
Outpatient Parental Antimicrobial Therapies (OPAT) Program – for current OPAT patients, urgent care available in the ID clinic – page the ID provider or call 617-724-0082 (Mon-Fri, 8:30am-4:30pm). For new non-emergent outpatient IV antibiotic starts when ID input is needed, submit urgent ID referral in Epic and page 22226.

MASSACHUSETTS GENERAL HOSPITAL

10. **You stated that the ED experiences high volume, and specifically that the aging population and a high volume of lower acuity patients were contributing factors. Please provide quantitative data showing these figures; this may include, but should not be limited to, a breakdown of the Emergency Severity Index of patients, and additional any contributing factors or trends over the last 24-36 months, *such as those listed below*, and how it is anticipated those trends will improve with the new expansion.**

MGH does not utilize an Emergency Severity Index for ED patients. Consequently, staff developed the following chart, which distributes ED visits by professional billing levels or acuity. The higher the level of visit, the higher the level acuity for a patient. For example, Level 5 ED visits have the highest acuity level outside of critical care visits.

Distribution of Visits by Professional Billing Levels



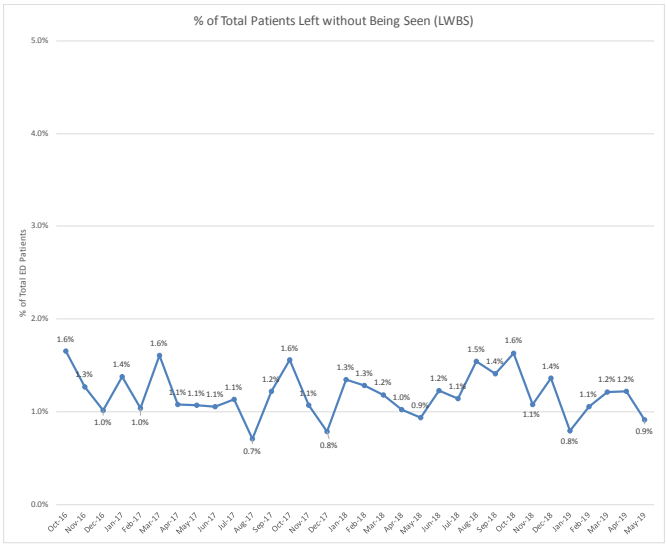
The levels are defined in the following chart:

CPT CODE	PRESENTING PROBLEMS ARE TYPICALLY
Emergency Department Service	
99281	**Self Limited or Minor**
99282	**Low to Moderate Severity**
99283	**Moderate Severity**
99284	**High Severity:** Requires urgent evaluation by the physician but does not pose an immediate significant threat to life or physiologic function.

99285	**High Severity:** Poses an immediate significant threat to life or physiologic function.

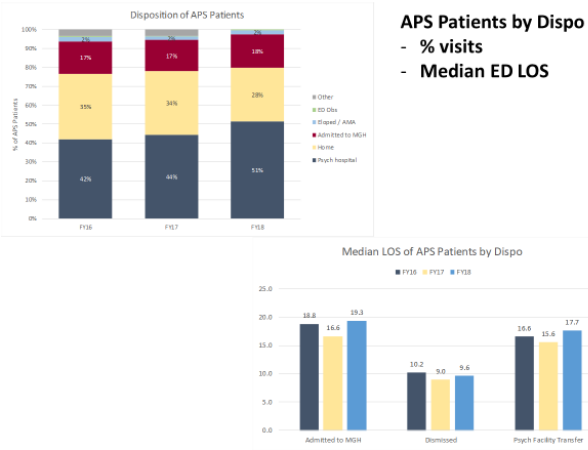
a. LWBS data

The table below outlines the percent of total patients who left without being seen.



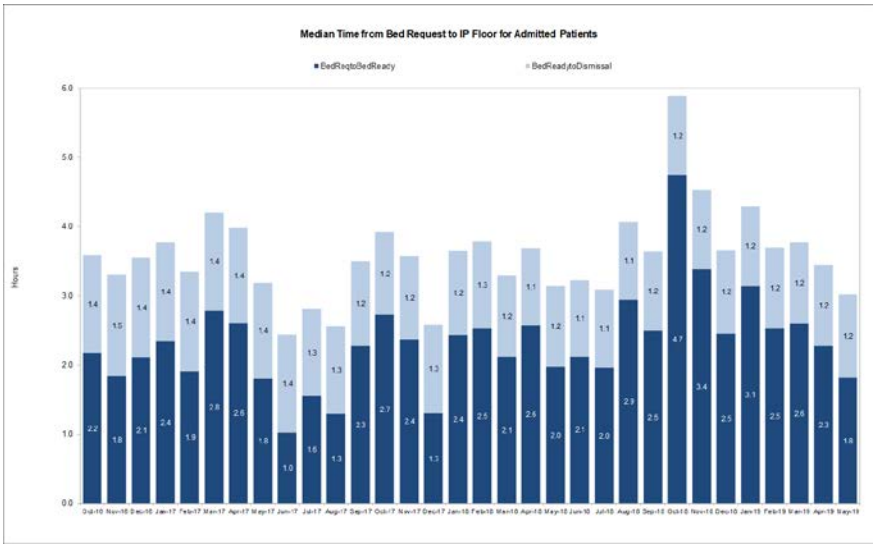
b. Percentage of APS patients boarding vs all BH patients and average length of time

The tables below outline the disposition of APS patients and the median length of stay for APS patients by disposition.



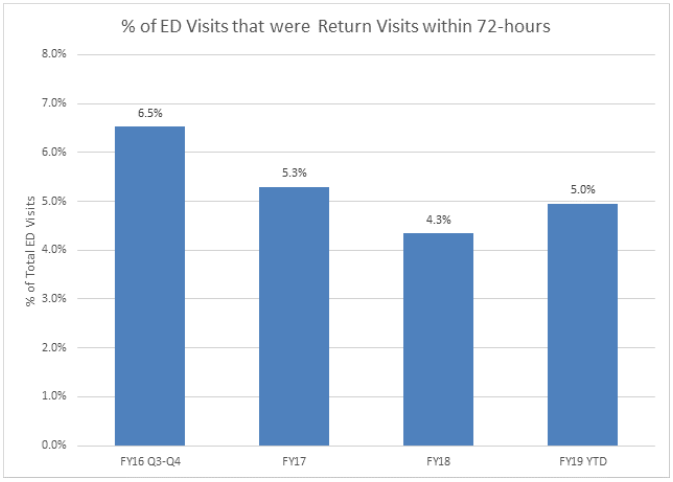
c. average timeframe from decision to admit to being discharged from the ED for all patients

The table below outlines the time (in hours) from the decision to admit to the patient going to an inpatient floor.



d. revisits following discharge

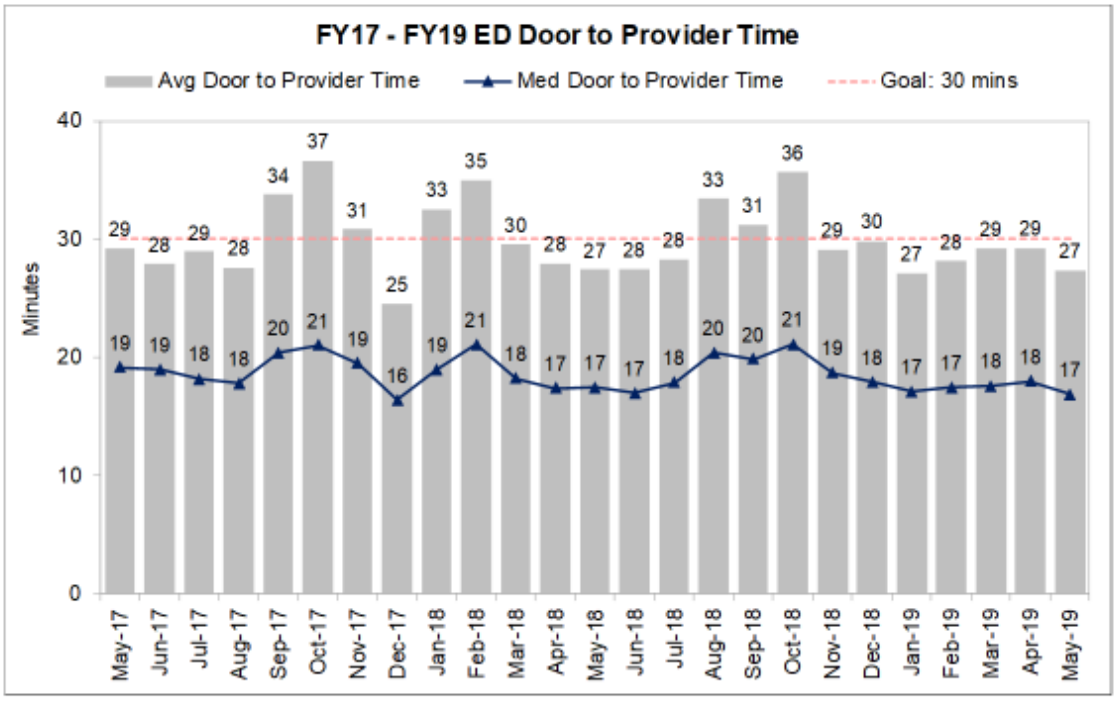
The table below provides the total percentage of ED visits that were return visits within 72-hours. Revisits may occur for multiple reasons, including worsening symptoms, patient anxiety, etc. and do not correlate to the quality of care.



e. **Clinical Quality Access Measure-** ***time patients spent in the emergency department before they were seen by a healthcare professional*** **- What is your current average time and how does it compare to CMS' measures (US and Massachusetts)?**

The CMS Hospital Compare web site lists the following information for MGH: "Average (median)[5] time patients spent in the emergency department before they were seen by a healthcare professional: 21 minutes." This information is compared to the following information on the CMS Hospital Compare web site for this measure: "Other Very High Volume Hospitals: Nation: 25 Minutes; and Massachusetts: 32 Minutes. The table below outlines the "Door to Provider Time" in minutes. Although the median time for this measure is 21 minutes, MGH's goal is 30 minutes consistently.

Door to Provider Time



As discussed, the Proposed Project will allow ED staff to redesign workflows by creating pathways for patients based on acuity level. Triaging patients based on acuity level will lead to greater throughput,

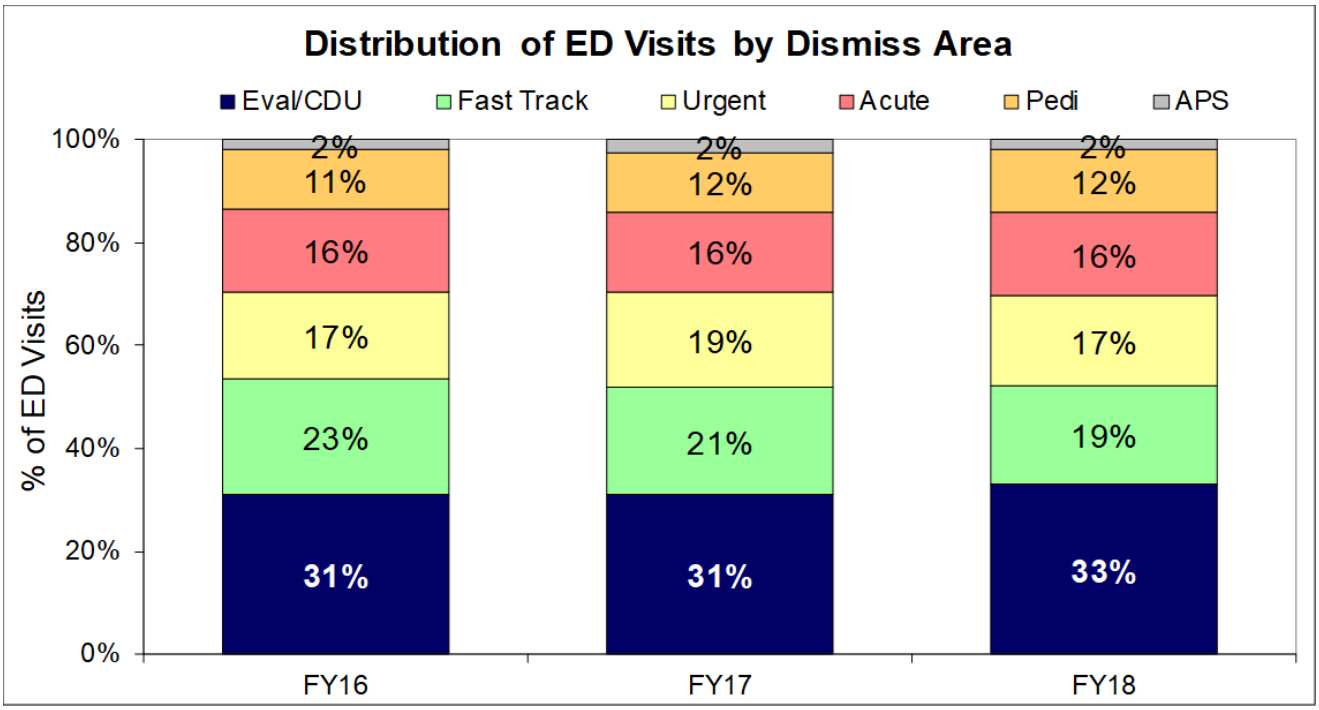
[5] The CMS Hospital Compare web site includes the following note: "Hospital Compare data are reported using the median only. However, the median is often referred to as the 'average' on the Hospital Compare website to allow for ease of understanding."

ensuring more timely care, faster discharge processes and admission procedures. The renovation will also improve privacy and patient satisfaction.

11. Provide a copy of Table 2, page 8, that clearly delineates the visits by type; we cannot read it clearly.

Table 2 below provides a breakdown of MGH's ED visits by type.

Table 2: Percentage of ED Visits at MGH by Type of Visit



12. Explain how the expanded ED will address the needs of the Applicant's aging patient population.

As discussed within the Determination of Need Narrative, elderly patients (those within the 65+ age cohort) are one of the top three age groups that tend to use the ED for primary care services.[6] Studies show that older adults use emergency services at a higher rate than young adults.[7] Moreover, when an older adult presents at an ED, the visit typically is more emergent and requires longer stays and increased services.[8] Elderly patients also are more likely to make repeat ED visits due to complex care needs.[9]

[6] Doris F. Glick et al., *Analysis of emergency room use for primary care needs*, 15 NURSING ECONOMICS 42 (1997).
[7] Faranak Aminzadeh et al., *Older adults in the emergency department: A systematic review of patterns of use, adverse outcomes, and effectiveness of interventions*, 39 ANNALS OF EMERGENCY MED. 238, 238-47 (2002).
[8] *Id.*

Individuals in the 65+ age cohort account for 23% of all ED visits at MGH. Due to the projected increase in the older adult population, MGH's ED requires renovations to redesign patient flow to manage the higher care demands of this population.

Through the Proposed Project, the Hospital will renovate 9,500 square feet of the ED, part of which currently contains the APS. This renovated space will provide additional patient bays with cardiac monitoring and medical gas capabilities, allowing greater flexibility to treat more complex and higher acuity patients. Moreover, this renovation will allow ED staff to redesign workflows, leading to greater throughput, ensuring more timely care, faster discharge processes and faster admission procedures for all patients, including elderly patients.

It is important to note, that clinical staff from the Division of Geriatric Emergency Medicine participated in meetings on the Proposed Project and assisted in determining how to achieve greater throughput for the elderly population. Since older individuals have different medical conditions and underlying pathophysiologic responses to illness, medication side effect profiles and pharmacokinetics, as well as risk and benefit profiles of routine diagnostic tests, interventions, and treatments, and their evaluation may be affected by acute or chronic cognitive impairment, additional care considerations for the older adult including harms related to prolonged ED evaluation and/or hospitalizations, need for more intensive discharge care coordination, and alignment of treatment options with quality of life and goals of care were considered during the design of the Proposed Project.

13. **Your proposed measure number 1 on patient satisfaction (P13) is to assess the impact of the proposed project. Given the rating scale is from 1-10, please clarify what the projection's baselines are measuring- it is unclear what the Year 3 baseline of 60% is measuring**.

The baseline and projection percentages consist of those patients who responded with a '9' or '10' on a scale of 0 to 10 in regard to patient satisfaction (with a 10 being the highest level of satisfaction). Consequently, for the Baseline Year, 57% of respondents selected a 9 or a 10 in regard to how satisfied the patient was with their care. In Year 1, MGH projects that 58% of respondents will select a 9 or a 10 on the survey mechanism. In Year 2, this number is projected to increase to 59% and in Year 3, this figure is projected to increase to 60%.

14. **Explain your discharge procedures for BH patients (mental health, SUD and co-occurring disorders) and how you track care post ED; be sure to explain how these procedures may differ for patients in ACO/managed risk contracts vs other patients**

For all patients that have BH ED visits or inpatient visits (ACO and Non-ACO patients), the following discharge processes are carried out by social workers dedicated to BH patients:

- A social worker receives a page notification, as well as a hospital ADT alert for every ED/urgent care arrival within Partners (this happens on average one to two times per day). If the patient is being discharged from MGH, the social workers at MGH are notified.

[9] SR Lowenstein et al., *Care of the elderly in the emergency department*, 15 ANNALS OF EMERGENCY MED. 528, 528-35 (1986).

- When a social worker receives the initial notification that a patient is having an ED/urgent care episode, the social worker reviews the notes in the patient's medical record to understand the precipitating event that brought the patient to the ED. If the visit is behavioral health related, a social worker will reach out to the inpatient/ED team to collaborate on the patient's care.
- For Medical ED visits and admissions – nurses in a patient's primary care physician office contact the patient within 72 hours of discharge to follow-up with the patient.
- For BH ED visits and admissions – nurses in a patient's primary care physician office contact the patient within 72 hours of discharge to follow-up with the patient. Additionally, if a social worker is actively working with a patient (while in the ED or as an inpatient), the social worker attempts to reach the patient or their primary contact within 72 hours of discharge for follow-up.
- In regard to tracking, all encounters and outreach attempts are documented in a patient's medical record.

Moreover, in April 2018, Partners launched its ED Navigator Program with hospitals implementing this new initiative to assist patients that are enrolled in a MassHealth ACO (Partners HealthCare Choice) and present to the ED. An ED Navigator, who is stationed in the ED, meets with these patients while they are receiving care (in the ED) and reviews their current clinical and social needs. The ED Navigator may provide appropriate linkages to primary care resources, population health management programs and community-based organizations that can assist with social determinant of health needs. Furthermore, a multi-disciplinary committee meets twice per month regarding these patients. During the ED High Utilizers Meeting, a team comprised of ED clinicians, providers from the McInnis House/Boston Healthcare for the Homeless Program, the MGH Complex Care Team, and the ED social work and case management teams discuss barriers to care and solutions to prevent avoidable ED utilization.

Finally, for high frequency ED patients (ACO or non-ACO patients), MGH implemented the Acute Care Plan ("ACP") Program. The team at MGH developed ACPs to improve the coordination of care for these high utilizer patients. ACPs are brief notes integrated within a patient's medical record providing guidance to ED clinicians regarding the patient's treatment plan, disposition, and who to contact if the patient is in the ED. ACPs also include special treatment plans with information from the patient's primary care provider, case manager, or another clinician to help guide treatment decisions should the patient present in the ED. ACPs are automatically flagged in Epic when a patient arrives to the ED, preventing the treatment team from having to search for the information. With an ACP, patients may avoid unnecessary testing and/or admissions, as there is seamless documentation of the patient's risk factors and history.

Since implementation of the ACP Program, the number of visits and length of stay for high frequency ED patients who have an ACP have decreased. An initial analysis of the program demonstrated some positive results. Comparing 1 year prior to the ACP and 1 year after the ACP, there was a 39% decrease in ED visit volume among this high utilizer population (a net decrease of 565 visits). Approximately 70% of patients who had an ACP experienced a decrease in ED visit volume in the year following the ACP. Sixty percent of patients with an ACP experienced a decrease in ED LOS. The number of hospital admissions decreased by 48% for patients with an ACP (a net decrease of 143 admissions). The overall admit rate among this population decreased by 14%, from 20.8% to 17.9%.

15. **Explain whether the APS is part of the ED or is it a separate service. If it is a separate service, explain how will that affect reporting.**

The APS is part of the ED.

16. **Explain your calculation of boarding for BH patients: do you use arrival at the ED as the start time. rather than at the APS?**

MGH utilizes the time from "arrival to the ED to Discharge" to calculate the boarding times for BH patients.

17. **In order to support your goal of reductions in costs and TME, how do you anticipate tracking savings from the efficiencies gained through the improvements in flow and throughput?**

When reviewing the competition arguments for the proposed projects, it is important to note that many factors do not directly impact overall total medical expenses ("TME"). Rather, tangential actions, such as a reduction in operational inefficiencies at a hospital or earlier care through greater access have downstream effects on the overall costs of care, indirectly impacting TME. These factors are important to note when reviewing overall cost and competition arguments.

In regard to tracking cost measures for the Proposed Project in the ED, MGH views the use of the ED for care as a "last choice" out of the available options for addressing the needs of its patient panel and this option should only be utilized by patients that are in an emergent state. Consequently, the hospital has developed an aggressive and robust urgent care program and ambulatory strategy with its primary care and specialty practices. This strategy includes a goal of educating patients on the availability of resources, including urgent care resources, with a downstream goal of reducing overall TME. Although the hospital is unable to track avoided ED visits due to other population health management programming, MGH can track operational efficiencies that the Proposed Project will lead to in the ED. Again, these efficiencies over time have a downstream impact on overall provider costs, which in turn may have a peripheral effect on TME. The addition of the secured APS unit to MGH's ED will create greater throughput in the ED, allowing for APS patients to be moved to a more appropriate, private care setting in a timely manner, leading to expedited inpatient placement and reduced overall length of stay. Shifting behavioral health patients to a more appropriate setting will also allow for a reduction in ancillary resources needed in the ED for this patient population, such as sitters, security officers, etc. Accordingly, MGH is proposing to track the amount of ancillary resources needed both pre- and post-implementation of the proposed project.

Addition of PET- MR and MRI CAPACITY

18. **Share the number of attendees at the community forum and how they are a community coalition statistically representative of the patient population likely to receive PET- MR and/or MRI.**

In an effort to ensure appropriate community engagement, the Proposed Project was presented at a community forum at MGH on January 3, 2019. Patients, providers, neighbors and other parties were encouraged to attend the presentation to provide feedback. The forum was advertised in clinical areas of the hospital and throughout areas at MGH to attract attendees. Twenty individuals attended the forum, including patients, staff and providers.

The Department of Public Health's Community Engagement Standards for Community Health Planning Guideline released in January 2017 does not require evidence that a community coalition statistically representative of the patient population likely to receive the proposed services attend the meeting. Rather, the Guideline calls for the Applicant to "engage its Patient Panel in the context of determining the need of the Proposed Project." The Applicant did review the following factors: age, gender, sexual identity, ethnicity, disability status, socio-economic status and health status when determining engagement. However, the Proposed Project for PET/MR and expanded MR services is for all patients within all of the noted categories, especially those within the MGH Patient Panel. Consequently, efforts were made to have various patients attend the community forum.

19. **When describing the MGH patient panel and the number of MRIs, explain whether you are referring to all of MGH's satellites as well, or main campus only.**

The number of MRIs outlined in MGH Patient Panel Section of the PET/MR DoN (page 4) refers to MRIs at MGH's main campus.

20. **Clarify how the scheduling for clinical use of the MRI vs. PET-MR clinical vs. PET-MR Research will be accounted for; based on the Application, staff calculated that 44 additional hours per week will be allotted to just MRI scans.**
    a. **How will clinical MRI slots be allotted during the "patient preferred times," described as the "longest wait times"**

MRI slots are provided to patients at MGH based on acuity level. Typically, slots are allotted based on the emergent needs of ED patients and inpatients; next ED and inpatients with more urgent needs are scheduled, so patients may move to the next step of care – becoming an inpatient, discharged, etc.. Following these patients, slots are allotted to those patients with specialized scanning needs that have co-morbidities, etc. Specialized scanning needs refer to those patients that have implantable cardiac devices as these patients have very few other options for scanning (there are very few resources in Boston to scan these patients – MGH is one of the only available options), and currently, there is a six month wait time for these patients to receive MRI services. Finally, outpatients are scheduled for scanning services

    b. **Describe the anticipated use of the machine for inpatient and outpatient use**

MGH will add a PET/MR unit that will be utilized for multiple purposes. This scanner will be the first of its kind at MGH and will serve as a resource for both part-time research and clinical use. With respect to clinical use, the unit will be deployed part-time for PET/MR imaging and also will be used to perform MRI only imaging to address the backlog for MRI services on MGH's main campus. The hospital will

utilize the MR component of this technology, 44 hours per week to meet the demand for inpatient and outpatient MRI services.

21. **DPH has recently approved MRIs at other MGH sites, such as MGPO Waltham. That application outlined expanded capacity and shorter wait times across all locations, as well as the ability to free up capacity at the main campus. Explain how this proposed expanded capacity relates to the simultaneous expansion in Waltham, and how overall access will continue to be improved.**

    While there appear to be potential benefits to PET-MR, one study states, "Further clinical studies will have to prove an added value of PET-MRI over the current standards of care to justify the investments in this expensive technology. Concise PET-MR imaging protocols and workflows need to be developed, that preserve the added value of PET-MRI on the evidence of reasonable cost-benefit ratios.[10]"

    Moreover, the Health Policy Commission describes in their 2018 Cost Trends Report that "Massachusetts ranks 4th in the nation in Medicare spending for imaging, reflecting both higher utilization and greater use of higher-priced hospital outpatient departments…. Common diagnostic imaging includes X-rays, CT scans, and MRIs. Many of these imaging services have been shown to have no diagnostic value for certain conditions.[11]"

    Given the data cited above, explain

    a. **which protocols are in place to ensure that PET-MR and MRI imaging is performed appropriately**

Following standard clinic practice, PET-MR exams will be reviewed and protocoled by a radiologist prior to performing the exam. Each exam will be performed by an MRI technologist, as well as a nuclear medicine technologist.

    b. **how "multi-focused quality assurance programs and mechanisms"[12] work and how they will be operationalized to include the PET-MR service**

Collaboration involving both MRI and Molecular Imaging Quality Assurance Managers to standardize practices relative to PET & MR imaging will occur. The amalgamated Quality Assurance Program includes

[10] Nensa F, Beiderwellen K, Heusch P, Wetter A. Clinical applications of PET/MRI: current status and future perspectives. *Diagn Interv Radiol.* 2014;20(5):438–447. doi:10.5152/dir.2014.14008

[11] Massachusetts Health Policy Commission. 2018 Annual Health Care Cost Trends Report available: https://www.mass.gov/files/documents/2019/02/20/2018%20Cost%20Trends%20Report.pdf

[12] In the section *Public Health Value/Outcome Oriented,* you state that "Presently, high-quality patient outcomes are achieved through utilization of multi-focused quality assurance programs and mechanisms that assess the clinical appropriateness, safety and quality of all services…"

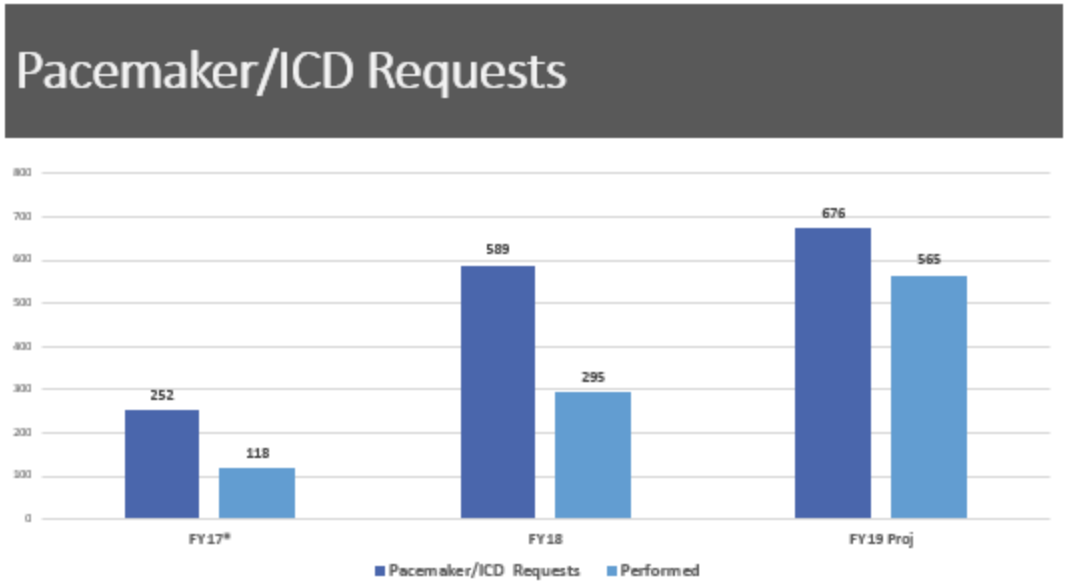
the development of protocols and routine monitoring of PET-MR fused exams for image quality evaluation. MGH also uses a Continuous Quality Improvement ("CQI") program to provide feedback to staff performing bot PET and MR exams.

c. since this will be the only PET-MR within Massachusetts, how its usage will affect access by Partners and MGH patient panels

All of Partners' patients, as well as those patients referred from other healthcare systems and hospitals will have access to PET/MR services. The Partners' electronic health record system, Epic will allow all patients in need of PET/MR services to be scheduled.

Moreover, Chart 1 below outlines the severity of cases that MGH is seeing in its Imaging Department. MGH is one of the few hospitals in greater Boston that can image cardiac pacemakers and ICD patients in the MRI environment. Given that MGH is continually at capacity for MRI services, patients with pacemakers frequently experience delays receiving imaging services. Additional resources, such as the PET/MR will allow additional slots to be available for necessary MR imaging. Overall, in 2011, MGH performed scans on 10 patients with pacemakers and in 2018, this number grew to 670 requests.

Chart 1: Number of Requests for Imaging patients with pacemakers.



d. how will you ensure that patients are informed in advance about the costs of scans (in particular, PET-MR) that may not approved by their insurance plan

In 2019, MGH Imaging implemented a prior authorization service program aimed at achieving the following four goals:

1. Protect patients from receiving unexpected medical bills for imaging services;
2. Reduce administrative burden for physicians and other health care providers;

3. Reduce financial risk to the Department of Radiology caused by unauthorized exams; and
4. Improve overall coordination between insurance companies and Partners.

The MGH Imaging Authorization Service processes insurance authorizations, when required, on behalf of all eligible health care providers for over 100,000 annual outpatient imaging exams and radiological procedures performed at MGH's main campus, Waltham and Chelsea Off-Campus Imaging sites, as well as Danvers ACC.

When an order is placed, the MGH Imaging Authorization Service staff review the order details and pertinent medical record history information to collect information required by the insurer for the authorization. Typically, this includes the order diagnosis, CPT code, signs and symptoms, and related prior medical information. This information is then shared with insurance companies, who evaluate the appropriateness of the exam against their policies and medical guidelines.

When medical information requested by the insurer is not available, the MGH Imaging Authorization Service will seek the assistance of the ordering provider to furnish these details directly to the insurer. The authorization staff will then ensure the authorization outcome (usually an approval or denial)) is made available to the ordering provider.

If an authorization is not approved, the ordering provider may wish to contact the insurer to appeal the decision. This may result in the patient being rescheduled to a later date while the authorizing request is under review – avoiding a shift of the financial obligation from insurer to patient is the primary concern. However, imaging will not be delayed or denied if the patient chooses to proceed with an unauthorized exam.

This process is highly fragmented and time consuming. MGH's investment in a dedicated team of professionals, who are abreast of the latest insurance policies and maintain the highest level of expertise in imaging authorizations, help to ensure each patient receives the right care, at the right time, at the right place and without the fear of surprise bills caused by authorization-related financial obligations.

22. In looking at the measure, *Assessing the impact of the proposed project*, clarify:

a. the *Patient Satisfaction* target of 90% is used, but it is unclear -90% of what? Is it returned survey responses ranked "Good" and/or "Very Good"?

MGH staff will review the overall ratings of care for imaging services via Press Ganey Survey scores. The percentages for the baseline year and subsequent years for the Patient Satisfaction Metric are the percentage of Press Ganey surveys that receive a Very Good or Good rating.

23. In looking at the measure, *Time to Appointment*, if timely scanning is important, how did you arrive at 16 days as the goal time to appointment?

Timely scanning is important to the hospital. However, given the demand for MRI services at MGH's main campus, (currently the MRI units at MGH scan continuously with the exception of turnover time and necessary downtime) 16 days is a realistic goal. MGH's MRI scanners are continually in use for ED

patients, inpatients and outpatient (when possible). The addition of MRI scanning time from the proposed unit will allow staff an additional resource to ensure patients receive scans in a timely manner. Moreover, as noted in other responses within this section, MGH is one of the only resources in the City of Boston for patients with specialized scanning needs, such as implantable cardiac devices, so staff are mindful that these patients also need access to timely scanning services (currently, the wait for these patients to receive MRI scans in 6 months).

24. When looking at competitiveness, cost containment and TME, how do you anticipate tracking reductions in unnecessary testing, benefits of earlier diagnosis due to increased access and associated cost savings?

Tracking actual metrics associated with unnecessary testing, the benefits of earlier diagnosis due to increased access and costs savings are challenging given a lack of readily available uniform data. First, although multiple evidenced-based studies have shown that access to earlier treatment leads to earlier diagnosis and a positive impact on quality measures, including mortality rates, it is difficult to track how quickly a patient sought services for a specific condition/disease, and therefore to obtain uniform data on the impact of access on a disease/condition. Accordingly, it would be difficult to track the benefits of earlier diagnosis on an entire population of patients with multiple diseases and conditions.

Second, preventing unnecessary testing leads to patients forgoing specific types of tests due to a physician's appropriate utilization of resources. Consequently, tracking avoided costs is nearly impossible for an entire population of patients, as staff would need to review individual case notes on every patient that had some type of radiology service to determine if a specific type of test was avoided. Additionally, the doctor may not have included this specific information within his/her notes, and therefore, these avoided costs would not be counted.

To ensure appropriate utilization of PET/MR and MR resources, MGH follows quality assurance mechanisms made capable through Epic (Partners' electronic health record system). Orders for tests at MGH are placed through electronic Radiology Order Entry forms in Epic, which utilize a programmed clinical decision support mechanism to guide physicians in determining the most appropriate exam based on a patient's medical history and indication. The decision support system utilized by MGH, ACR Select, delivers Appropriate Use Criteria authored by leading medical specialty societies directly into the EHR workflow at the point of care. This capability improves performance and efficiency by guiding clinicians to the right exam and reducing the number of exams needed to reach a diagnosis, and ultimately empowers quality improvement efforts through improved patient care and population health. Accordingly, the use of decision support mechanisms has impacted the utilization of imaging services at MGH – decreasing overall ordering. Based on these trends one of the larger commercial payer's within Massachusetts gave MGH "Gold Status" for radiology services after recognizing the impact clinical decision support had on the utilization of imaging services. Gold Status within a payer contract ensures that the hospital does not go through the initial financial clearance process with the payer for every imaging study/test that is ordered.

Furthermore, bi-annually, the Massachusetts General Physician Organization ("MGPO") provides its members with reports outlining their radiology ordering history for the previous six months. Doctors are informed of variances between their ordering and other doctors within the same specialty, so they are

aware of any discrepancies. These cost containment efforts ensure the appropriate utilization of radiology resources over time. Accordingly, given these proactive measures to control costs while providing patients with access to necessary testing will ensure that the Proposed Project does not have a negative impact on costs within the Massachusetts healthcare market due.

MGH – ELECTROPHYSIOLOGY LAB

25. On the Change in Service form, you state that you will be increasing the number of procedure rooms from three to five and increasing the number of "recovery bays" from one to nine. Please clarify the number of pre- and post-procedural bays after construction is complete.

Currently, MGH's EP Lab is comprised of 3 rooms, including 2 rooms to perform cardiac ablations and 1 room for implantable devices. There is a single recovery bay for the 3 procedure rooms. Through the Proposed Project, MGH will renovate the current EP Lab and expand its footprint into adjacent areas to accommodate additional pre- and post-procedure space and designated areas for supplies and equipment. MGH will increase the number of EP procedure rooms from 3 to 5 and expand its pre- and post-procedural bays from 1 to 10. These bays are considered "flex" bays and may be used as pre- or post-procedure bays. Accordingly, the Change in Service Form should read "Renovation and expansion of the Electrophysiology Lab – Existing number of pre- and post-procedure bays: Existing Number of Units: 1; Change in Number: 9; and Proposed Number of Units: 10."

26. While you state that delays, overcrowding, length of stay for patients and patient experience were contributing factors, provide quantitative data showing current trends, including transfer to inpatient setting for recovery, and how it is anticipated those trends will change with the new expansion.

Despite ongoing process improvement measures to increase patient throughput efficiencies, there is currently a six week wait for an elective outpatient invasive procedure in MGH's EP Lab. The Proposed Project will add two additional invasive procedure rooms to the EP Lab, which will increase the EP lab's patient throughput capacity for both inpatient and outpatient volume by 66.67%. This additional capacity will allow MGH to more effectively meet patients' clinical needs by decreasing wait times for necessary interventions. Furthermore, the addition of 9 pre- and post-procedure bays will create greater throughput, ensuring appropriate recovery space for patients receiving EP lab services.

As discussed in the Determination of Need narrative, due to space constraints within the post-procedure area of the EP lab, some patients are transferred to the inpatient setting for recovery, either to available space in a Post-Anesthesia Care Unit ("PACU") if the patient is still sedated or to an inpatient room if the patient is not longer experiencing the effects of anesthesia and may safely be moved to a room. Table 1 below outlines the EP lab volume by procedure type (EP Study, Cardiac Device, LAA Closure, Other, etc.) and by admissions class (Inpatient, Outpatient Same Day Discharge, Outpatient Overnight Recovery, Observation) for Fiscal Year 2018 and the first ten months of Fiscal Year 2019. The procedures listed in the *Outpatient: Overnight Recovery* & *Observation* admission class would ideally be recovered in a post-procedure space within the EP Lab unit. However, based on current space constraints, these patients are

frequently admitted to one of MGH's Inpatient Acute Cardiac Care Units instead of a dedicated post-procedure recovery unit. Accordingly, transferring these patients to inpatient units negatively impacts patient flow post-procedure and prevents MGH from using those beds for other highly acute patients, which in turn contributes to prolonged stays in the ED for some patients and prevents patients who require quaternary care cardiac services from being transferred to MGH.

Table 1: EP Lab Volume

MGH EP Lab Volume	FY 2018 End					FY 2019 Period 9				
	Inpatient	Outpatient: Same Day Discharge	Outpatient: Overnight Recovery	Observation	Total	Inpatient	Outpatient: Same Day Discharge	Outpatient: Overnight Recovery	Observation	Total
Ablation_A Fib	50	2	457	2	511	43	-	441	1	485
Ablation_AV Nodal	8	-	5	1	14	8	1	4	-	13
Ablation_EP Study	20	-	43	1	64	11	-	29	-	40
Ablation_SVT	37	-	196	2	235	28	2	129	1	160
Ablation_VT	37	-	54	-	91	29	-	31	-	60
EP Study +/- Intervention	**152**	**2**	**755**	**6**	**915**	**119**	**3**	**634**	**2**	**758**
Device_ICD	152	68	131	-	351	128	5	125	1	259
Device_Imp Loop Recorder	99	210	47	8	364	27	53	9	1	90
Device_Lead	42	-	29	-	71	32	-	13	-	45
Temp Pacemaker Wire	33	-	-	-	33	29	-	-	-	29
Device_Pacemaker	322	46	167	4	539	263	6	133	-	402
Cardiac Device	**648**	**324**	**374**	**12**	**1,358**	**479**	**64**	**280**	**2**	**825**
Left Atrial Appendage Closure	**91**	**-**	**10**	**-**	**101**	**86**	**-**	**13**	**-**	**99**
Cardioversion	425	702	34	59	1,220	281	525	23	43	872
Misc EP Procedure	5	23	3	-	31	2	2	-	-	4
Other EP Procedures	**430**	**725**	**37**	**59**	**1,251**	**283**	**527**	**23**	**43**	**876**
MG7411 EP Lab	**1,321**	**1,051**	**1,176**	**77**	**3,625**	**967**	**594**	**950**	**47**	**2,558**

The expansion from 1 to 10 pre- and post- procedural areas will eliminate the need for patients to be transferred to the inpatient setting for recovery services, thereby reducing lengths of stay and ensuring timely discharge processes. Moreover, the EP service expansion will reduce wait times, and ensure efficient and timely care on the day of an appointment.

27. What are "constrained discharge processes" and what are their implications for patients?

Constrained discharge processes refer to factors that lengthen the standard discharge process for patients. As discussed within the Determination of Need Narrative, the EP Lab has very limited pre- and post-procedure space, hampering throughput and causing delays, which frequently lead to overcrowding and necessitate the transfer of patients to the inpatient setting for recovery services – if the patient is still sedated, he/she will be transferred to a to a post-anesthesia care unit ("PACU") or if the patient is no longer under anesthesia to an inpatient room. These inefficiencies lead to longer lengths of stay and dissatisfaction by patients with their overall care experience.

a. **How will the Proposed Project lead to more efficient discharge processes?**

The renovation and expansion of the EP service will allow MGH to address physical plant needs that are causing operational inefficiencies. The renovation of the EP Lab will allow for the creation of pre- and post-procedure space that will ensure greater patient throughput. As stated, the expansion from 1 to 10 recovery bays will eliminate the need for patients to be transferred to the inpatient setting for recovery services, thereby reducing lengths of stay and ensuring timely discharge processes. Moreover, the EP

service expansion will reduce wait times and ensure efficient and timely care on the day of an appointment.

28. In order to support your goal of reductions in costs and TME, how do you anticipate tracking savings from the reduction in healthcare utilization due to improvements in access to treatment?

The competition arguments associated with this component of the DoN, focus on the high costs of treating individuals with cardiac arrythmias, including atrial fibrillation ("a-fib") (individuals with a-fib, on average, have higher medical costs of approximately $8,700 more per year than those without the condition). The ability to control a patient's a-fib through EP services will reduce the overall cost of care per patient, as patients who undergo these procedures have significantly fewer deaths, hospitalizations and emergency rooms visits for worsening heart failure. Reduced rates of emergency department visits and hospitalizations lead to decreased healthcare spending per patient within the Massachusetts health care market. Moreover, patients with arrhythmias that have ablations or other procedures to address their condition tend to use less or no antiarrhythmic medications, leading to less pharmaceutical costs for payers and lower medication co-pays for patients. These costs are "avoided costs," with patients having lower rates of ED visits, fewer deaths and decreased inpatient stays. Accordingly, there is no way for MGH to measure these avoided costs as they cannot be tracked.

Furthermore, the current layout of the EP Lab creates capacity constraints leading to operational inefficiencies. The EP Lab has very limited pre- and post-procedure space, hampering throughput and causing delays, which frequently lead to overcrowding and necessitate the transfer of patients to the inpatient setting for recovery services. These inefficiencies lead to longer lengths of stay, constrained discharge processes and dissatisfaction by patients with their overall care experience. The expansion from 1 to 10 pre- and post- procedural areas will eliminate the need for patients to be transferred to the inpatient setting for recovery services, thereby reducing lengths of stay and ensuring timely discharge processes. Moreover, the EP service expansion will reduce wait times, and ensure efficient and timely care on the day of an appointment. Accordingly, the hospital will track the number of patients that have to be transferred to the inpatient setting for recovery services both pre- and post-implementation of the project to determine the overall impact on costs.

29. In order to understand the patient satisfaction measures and projections, please explain the values provided in the projections. If they are percentages, provide the numerators and the denominators.

The values provided for the patient satisfaction metrics are percentages that are obtained from a Press Ganey patient experience survey of EP Lab patients. The numerator for each of these metrics is the total number of surveys that contained "Very Good" or "Good" responses. The denominator for each of these metrics is the total number of completed surveys.

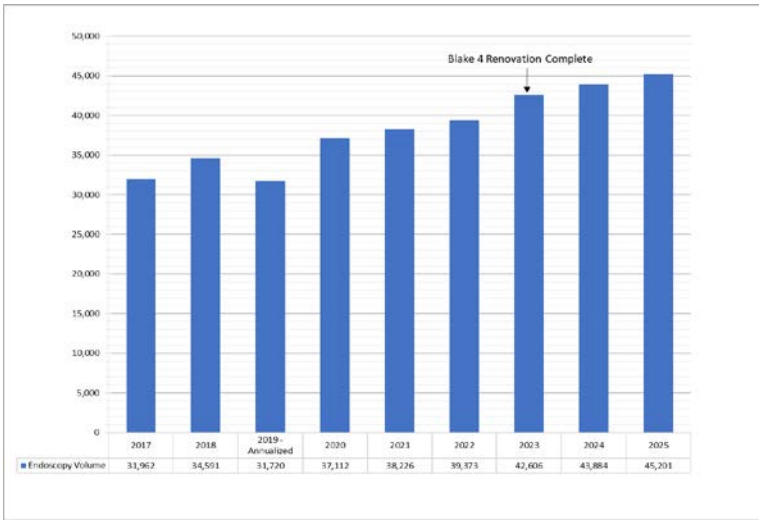
MGH – ENDOSCOPY

30. What criteria were used to determine that the endoscopy suite was experiencing capacity constraints? While you state that patient experience, wait times, and length of stay for

patients were contributing factors, provide quantitative data showing current trends and how it is anticipated those trends will improve with the new expansion.

Table 1 below outlines historical volume trends for endoscopy procedures at MGH, as well as future demand for these services. Table 1 illustrates that demand for endoscopy services continues to increase in the coming years, for both routine and advanced endoscopy procedures. In 2019, MGH did experience a slight decrease in endoscopy volume due to the loss of clinical staff. However, between 2019 and 2020, volume is projected to increase by nearly 17% due to the addition of new faculty members.

Table 1: Endoscopy Services Volume Projections at MGH



As discussed in the Determination of Need Narrative, current space constraints within the Endoscopy Unit cause delays for patients and providers due to a smaller number of pre- and post-procedure bays. The data below provide that the median pre-operative preparation time is 18 minutes, which means that half of all patients take longer than 18 minutes for pre-operative preparation. When preparation times are greater than the procedure times, delays are caused throughout the unit (patients are taken into procedures later and taken to recovery later), causing a domino effect delaying future procedures for the day.

Moreover, the data below provide that the median patient recovery time for an endoscopy procedure is 43 minutes. Given the smaller number of recovery bays in the Endoscopy Unit, when a patient's recovery time is longer than the median timeframe, delays occur in the entire workflow.

OP Endo procedures	
Pre-op Duration	*Recovery Room duration for all*

Mean	22	Mean	48
Median	18	Median	43
Minimum	0	Minimum	0
Maximum	177	Maximum	526
Count	11154	Count	11154

Accordingly, given the high volume within the Endoscopy Unit and the projected increase in demand for these services, an expansion of the Unit, specifically the addition of procedure rooms, as well as pre- and post-operative space is necessary to meet current and future patient panel needs.

a. **What are "constrained discharge processes" and what are their implications for patients?**

As previously discussed the need for additional pre- and post-operative space leads to delays throughout MGH's Endoscopy Unit. When patients pre-and post-operative preparation and recovery is longer than the hospital's median timeframes, "bottlenecks" are created in each part of the unit causing delays, including delayed procedure start-times which lead to delayed processes throughout a patient's experience, including delayed discharge processes. These delays lead to decreased patient satisfaction and patient experience.

b. **How will the Proposed Project lead to more efficient discharge processes?**

The Proposed Project will allow MGH to address physical plant constraints that cause delays and create "bottlenecks" within the unit, delaying discharge processes and causing longer lengths of stay. Through the Proposed Project, MGH will renovate the Endoscopy Unit and add 3 new procedure rooms, bringing the total number of rooms to 13. MGH also will expand the Endoscopy Unit's pre-and post-procedural space by adding 10 additional bays for a total of 31 bays, allowing for improved patient throughput and eliminating "bottlenecks." This increase in pre- and post-operative space is appropriate for the number of procedures rooms. Accordingly, these renovations will allow the Hospital to maximize the clinical space on the floor and redesign patient throughput, leading to greater efficiencies in care processes, including reduced wait times for discharge and an overall shorter length of stay for patients.

31. **In your Application, you note national trends on GI conditions that are more prevalent in the age 65 and over age cohort and that are driving the demand for endoscopic procedures. Is there regional data that you can share to understand how that manifests locally?**

There is no specific regional data to outline this trend. However, the Applicant described in its Determination of Need narrative that the Commonwealth has experienced growth in its overall

population, including in the 65+ age cohort, leading to an increased demand for endoscopy services at MGH. There are also advances in interventional endoscopy procedures, including new minimally invasive procedures that allow our proceduralists to better care for patients. These procedures are well suited for all patients, but importantly for patients over the age of 65 due to their minimally invasive techniques, reducing the risks for infection and other surgical complications. The new Endoscopy Unit will provide additional rooms equipped to do advanced interventional procedures to meet patient demand. Monthly, the GI Division at MGH receives over 1,600 external referrals for endoscopy services. In addition to this volume, MGH's GI providers produce another 500 or more requests per month for endoscopy services from current or previous patients. With demand for endoscopy projected to increase in the coming years due to an aging patient panel and new innovations in surgical interventions, MGH must address its capacity constraints to ensure patients have access to these diagnostic and treatment services.

32. In order to support your claim of reductions in costs and TME, how do you anticipate tracking savings from improved patient access to high-quality endoscopy services?

As discussed in the Determination of Need Narrative, the evolution of endoscopy from a purely diagnostic tool to a therapeutic resource has impacted its use in a considerable way.[13] Advances in endoscopic techniques, such as endoscopic retrograde cholangio-pancreatography ("ERCP"), endoscopic ultrasound ("EUS"), and enteroscopy have turned the endoscopic pathway into an alternative to surgery for some pathologies."[14] A comparative study on the differences in costs between endoscopic procedures and corresponding surgical alternatives indicates that out of the 33 advanced endoscopic procedures reviewed – 57% of the time, the cost of the endoscopic procedure was anywhere from two to five times less than the costs for the equivalent surgical alternative.[15] Moreover, studies have found that these endoscopic techniques are as therapeutic (and in some cases may even be more therapeutic) than the analogous surgery, with fewer side effects and less complications.[16] Patients experiencing fewer complications have lower rates of readmission, fewer physician visits and faster recovery periods. Accordingly, endoscopy is considered a lower-cost alternative than traditional surgical options for many applications, lowering provider costs, payer costs, and out-of-pocket expenses for patients, leading to an overall reduction costs, while achieving high quality outcomes. Although endoscopy is lower-cost option, it is challenging for MGH to know whether a patient is forgoing a more expensive surgical procedure to receive an endoscopic procedure. Accordingly, it is not feasible to measure these costs savings due a lack of available data.

However, the Proposed Project will allow MGH to address physical plant constraints that cause delays and create "bottlenecks" within the unit, delaying discharge processes and causing longer lengths of stay. Through the Proposed Project, MGH will renovate the Endoscopy Unit and add 3 new procedure rooms, bringing the total number of rooms to 13. MGH also will expand the Endoscopy Unit's pre-and post-procedural space by adding 10 additional bays for a total of 31 bays, allowing for improved patient throughput and eliminating "bottlenecks." This increase in pre- and post-operative space is appropriate for the number of procedures rooms. Accordingly, these renovations will allow the Hospital to maximize

[13] C. Loras et al, *Study of the standard direct costs of various techniques of advanced endoscopy. Comparison with surgical alternatives*, 50 DIGESTIVE AND LIVER DISEASE 7, 689-698 (July 2018).
[14] *Id.*
[15] *Id.*
[16] *Id.*

the clinical space on the floor and redesign patient throughput, leading to greater efficiencies in care processes, including reduced wait times for discharge and an overall shorter length of stay for patients. To track these efficiencies, MGH is already committed to collecting the following metrics:

1. **Access – Reduction in Inpatient Case Delays:** This metric reviews delays in the start time of inpatient cases. This information will be obtained via MGH's electronic health record ("EHR") system, EPIC.

   Measure: Time interval between inpatient cases performed in the Endoscopy Unit.

   Projections: Baseline: 75 minutes; Year 1: 65 minutes; Year 2: 60 minutes; and Year 3: 50 minutes.

   Monitoring: Reviewed quarterly based on inpatient case data.

2. **Clinical Quality – Improved Patient Flow in the Endoscopy Unit.** This measure evaluates the total time a patient scheduled for an outpatient sedation case is in the Endoscopy Unit. This information will be obtained via MGH's EHR system, EPIC.

   Measure: Total patient time in the Endoscopy Unit measured from patient arrival to procedure.

   Projections: Baseline: 105 minutes; Year 1: 100 minutes; Year 2: 95 minutes; and Year 3: 90 minutes.

   Monitoring: Reviewed quarterly by clinical staff.

33. In order to understand the satisfaction measure and projections, define the numerator and denominator in the percentages provided.

For the Patient Satisfaction Metric, the numerator is defined as "the number of surveys that included Always/Yes responses by patients" and the denominator is defined as "the total number of completed surveys."