STAFF REPORT TO THE PUBLIC HEALTH COUNCIL FOR A DETERMINATION OF NEED	
Applicant Name	STEWARD HEALTH CARE SYSTEM, LLC
Applicant Address	1900 North Pearl Street, Suite 2400 Dallas, TX 75201
Filing Date	11.12.20
Type of DoN Application	Hospital Substantial Change in Service
Total Value	$6,807,000
Project Number	20092415-HS
Ten Taxpayer Group (TTG)	No
Community Health Initiative (CHI)	$340,350
Staff Recommendation	Approval
Public Health Council	Yes

Project Summary and Regulatory Review

Steward Health Care System LLC ("Applicant") located at 1900 N. Pearl Street, Suite 2400, Dallas, TX 75201 is filing a Notice of Determination of Need ("Application") with the Massachusetts Department of Public Health ("Department" or "DPH") for a substantial change in service by Morton Hospital ("Hospital") located at 88 Washington Street, Taunton, MA 02780. The Applicant seeks to add a 32-bed Level 4 Medically Managed Intensive Inpatient Unit for substance use disorder ("SUD") treatment at the Morton Hospital ("Proposed Project").

This DoN application falls within the definition of DoN-Substantial Change in Service, which is reviewed under the DoN regulation 105 CMR 100.000. The Department must determine that need exists for a Proposed Project, on the basis of material in the record, where the Applicant makes a clear and convincing demonstration that the Proposed Project meets each Determination of Need Factor set forth within 105 CMR 100.210. This staff report addresses each of the six factors set forth in the regulation.

APPLICATION OVERVIEW

Steward Health Care System LLC (Applicant or Steward) located at 1900 N. Pearl Street, Suite 2400, Dallas, TX 75201 is requesting a Substantial Change in Service to add a 32-bed Level 4 Medically Managed Intensive Inpatient Unit for substance use disorder (SUD) treatment at Morton Hospital (Hospital or Morton) located at 88 Washington Street, Taunton, MA 02780.

Background

Steward operates numerous hospitals, urgent care centers, physician practices and skilled nursing facilities across eleven states. Steward Medical Group (SMG), the Applicant's affiliated physician's organization. Across its network, Steward treats over 2.2 million patients annually and provides more than 12 million patient encounters per year.

In Massachusetts, Steward Northeast (Steward NE) owns and operates 9 hospitals,[1] and through SMG, 132 practice locations in Massachusetts. The Proposed Project will be located at one of Steward's hospitals, Morton Hospital.

Morton is a 112 bed acute care community hospital offering comprehensive services[2] to patients in southeastern Massachusetts. Morton's primary service area is comprised of eight towns in the region.[3] Currently, the Hospital does not have a dedicated substance use services unit. Patients who present to the Hospital in need of detoxification or other substance use disorder services must either be transferred to a facility with SUD services, or must be admitted and treated in a medical/surgical inpatient bed for detoxification and discharged.

Morton Hospital is proposing to add 32 inpatient beds for Level 4 SUD services. Level 4 SUD services[4,a] provide the most intensive level of SUD care, that includes 24/7 nursing care and daily physician care in a hospital setting. This level of care is appropriate for individuals with a SUD and a co-occurring medical condition that presents risk for more severe withdrawal symptoms requiring sustained medical

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[1] Carney Hospital, Good Samaritan Medical Center, Holy Family Hospital, Morton Hospital, Nashoba Valley Medical Center, New England Sinai Hospital, Norwood Hospital, St. Anne's Hospital, and St. Elizabeth's Medical Center.

[2] That include emergency care, wound care, imaging services, a variety of surgical services, and SUD care in the ED on medical surgical units. Morton maintains partnerships with Level 1 trauma and academic medical centers, Massachusetts General Hospital and Brigham and Women's Hospital.

[3] They are Taunton, E. Taunton, Raynham, Berkley, Dighton, N. Dighton, Middleboro, and Lakeville.

[4] The American Society of Addiction Medicine ("ASAM") Criteria is widely used guidance that allows clinicians to identify the most appropriate level of care through an assessment of the individual's needs. The lowest level of SUD treatment involves outpatient services, followed by intensive outpatient/partial hospitalization services. Level 3 SUD treatment includes a range of residential and inpatient hospitalization programs. The highest level of intervention for SUD treatment, Level 4, involves medically managed intensive inpatient services. This level of care offers 24-hour nursing care and daily physician care, and is recommended for individuals with severe, unstable SUD conditions and complications with a co- occurring medical condition.

attention. The Applicant asserts that through the Proposed Project, it will increase access to Level 4 SUD treatment services for both the Applicant's patient panel as well as individuals residing in Southeastern Massachusetts. Currently, there are no Level 4 beds in Southeastern Massachusetts. The Applicant currently operates a 43-bed non-acute care Level 3 SUD facility, NORCAP Lodge at its Good Samaritan Medical Center hospital campus in Foxboro that it plans to close once the Proposed Project is operational, because of lack of demand for Level 3 beds. The Applicant stated that patients requiring Level 4 care are being transferred to Morton and other Steward hospitals' medical/surgical units which do not have dedicated specialized SUD acute care units. As described further in this Report, the Applicant elaborates on why specialized SUD care is needed.

OVERVIEW of PROPOSED PROJECT AND FACTOR REVIEW: Steward-Morton Hospital

Description of Proposed Project Component	What's Needed to Meet Factor 1: Demonstration of need; improved health outcomes and quality of life; assurances of health equity; continuity and coordination of care; evidence of community engagement; and competition on recognized measures of health care spending.	What's Needed to Meet Factor 2: Demonstration of cost containment, improved public health outcomes, and delivery system transformation.	Factors 3, 4 & 5[5]	What's Needed to Meet Factor 6: Demonstration of plans for fulfilling … responsibilities … in the DPH Community-based Health Initiatives Guideline.
	Staff Report finds			
	MEETS w/ CONDITIONS	**MEETS w/ CONDITIONS**	**MEETS**	**MEETS**
Proposed of change of service to provide Level 4 SUDS service at Morton Hospital in Taunton	• With standard reporting Measures		✓	✓

[5] Factor 3:Sufficient evidence of compliance and good standing with federal, state, and local laws and regulations
Factor 4: Sufficient documentation of the availability of sufficient funds for capital and ongoing operating costs necessary to support the Project without negative impacts or consequences to the Applicant's existing Patient Panel.
Factor 5: The … Project, on balance, is superior to alternative and substitute methods for meeting … Patient Panel needs

Patient Panel[6]

The Applicant suggests, and staff agrees, that patient panel information from its Massachusetts entities is the relevant metric to assess need for the Proposed Project. As a result of difficulties in aggregating data, the Applicant is providing separate data for Steward Northeast hospitals, Steward Medical Group ("SMG") and Morton Hospital. Overall, the Patient Panel of Steward NE is approximately a half million patients.[7]

Demographic Composition

Table 1 below profiles key characteristics of the Patients served by the Steward entities relevant to the proposed project.

Table 1- Overview of Steward Entities Patient's Served

Entity	Steward NE		S. Medical Group		Morton	
	Count	%	Count	%	Count	%
Year 2019	**499,829**		**267,846**		**48,646**	
Gender						
Female	281,027	56.2%	153,744	57.4%	27,133	55.8%
Male	214,894	43.0%	114,102	42.6%	21,283	43.8%
Unknown	3,908	0.8%	-	-	230	0.4%
Age						
0-17	51,948	10.4%	12,160	4.5%	6,563	13.5%
18-55	230,931	46.2%	123,029	45.9%	22,037	45.3%
Over 55	216,950	43.4%	132,657	49.5%	20,046	41.2%
Race						
American Indian or Alaska Native	758	0.2%	274	0.1%	81	0.2%
Asian	14,634	2.9%	4,321	1.6%	370	0.8%
Black or African American	56,546	11.3%	6,858	2.6%	4,051	8.3%
Hispanic/Latino	53,674	10.7%	32,271	12.0%	1,939	4.0%
White	335,751	67.2%	145,610	54.4%	40,152	82.5%
All Other	38,466	7.7%	78,496	29.3%	2,053	4.2%

[6] As defined in 105 CMR 100.100, Patient Panel is the total of the individual patients regardless of payer, including those patients seen within an emergency department(s) if applicable, seen over the course of the most recent complete 36-month period by the Applicant or Holder…(2) If the Proposed Project is for a new facility and there is no existing patient panel, Patient Panel means the anticipated patients

[7] SUD bed access is considered a statewide, not localized resource.

- **Age** - The 18-55 age cohort comprises the largest cohort (~45%-46%) of patients served across all three entities. Older adults (ages 55+) make up between 41.2% - 49.5% of each entity's patients.
- **Race-** The majority of patients at all three entities identify as White. However, among the three entities, Steward NE reports the highest proportion of patients who identify as African Americans (~11%), and SMG reports a higher proportion (~12%) of those who identify as Hispanic/Latinos

Patient Origin

- Of the nine hospitals that Steward operates in Massachusetts, five of the hospitals are located in the southeastern region, three in the northeastern region, and two are in Greater Boston. Therefore, the patient origin data for Steward NE and SMG reflect a broader reach than that of Morton Hospital.
- Patient Origin data for Morton Hospital's patient panel show that 78.5% of the Hospital's patient panel resides in ten cities/towns within the Southeast region of the state: Taunton (44.5%),Middleboro (7.7%), Raynham (6.8%), East Taunton (4.5%), Lakeville (4.0%), Berkley (2.9%), Norton (2.2%), Bridgewater (2.1%), North Dighton (2.0%), and Fall River (1.8%).

Table 2 shows the Payer mix for the Steward NE entities. Reflecting the social economic diversity of the communities served, all three report a high public payer mix with Steward NE having 72.6%, SMG having 86.3%, and Morton, a disproportionate share hospital, having 74.7%.

Table 2: 2019 Payer Mix Percentage for Steward Entities

Category	Steward NE	SMG	Morton
Commercial[8]	23.5%	8.2%	21.3%
Medicaid	12.0%	11.0%	14.4%
Managed Medicaid	9.5%	7.2%	9.9%
Medicare	39.4%	33.7%	42.8%
Managed Medicare	11.7%	34.4%	7.6%
All Other[9]	3.9%	5.5%	4.1%
Total	**100.0%**	**100.0%**	**100.0%**

[8] "Commercial" includes, but is not limited to: Aetna, Blue Cross Blue Shield, Harvard Pilgrim Health Care, and Tufts Health Plan.

[9] "All Other" includes but is not limited to: Health Safety Net Free Care, Other Government, Self-Pay, and Worker's Compensation.

Steward is a Health Policy Commission certified accountable care organization (ACO) and its entities APM/ACO payer mix is reflected in Table 3. There is a wide range of managed care payer-mix across the entities.

Table 3: 2019 Steward Managed Care Contracts Mix

Category	Steward NE	SMG	Morton
APM/ACO[10]	56.8%	32.5%	23.0%
Non-APM/ Non-ACO	43.2%	67.5%	77.0%

Factor 1:

In this section, we assess if the Applicant has sufficiently addressed patient panel need, public health value, competitiveness and cost containment, and community engagement for the addition of SUD service. We also assess whether the Applicant has demonstrated that the Proposed Project will meaningfully contribute to the Commonwealth's goals for cost containment, improved public health outcomes, and delivery system transformation.

Patient Panel Need

The Applicant attributes need primarily on three elements:

1. The Overall Prevalence of Substance Use Disorders
2. Limited Access to Level 4 Treatment Services for Substance Use Disorder
3. Growing population in Southeastern Region, including those over age 65.

1. The Overall Prevalence of Substance Use Disorders

Based on responses to the 2017 and 2018 *National Survey on Drug Use and Health* ("*NSDUH*"), nearly 1 million individuals in Massachusetts reported illicit drug use in the past month, and approximately 3.6 million individuals reported alcohol use in the past month, including 1.8 million binge alcohol use.[b] Of those reporting use, an estimated 203,000 individuals reported receiving treatment for an illicit drug use disorder,[11] 42,000 individuals reported receiving treatment for pain reliever use disorder, and 396,000 individuals reported receiving treatment for alcohol use disorder.[c] In FY17, there were 111,871 admissions to Bureau of Substance Addiction Services (BSAS) funded and/or licensed services.[d] Despite the number of individuals treated for SUDs, based

[10] Alternative Payment Method/Accountable Care Organization

[11] Illicit Drug Use includes the misuse of prescription psychotherapeutics or the use of marijuana, cocaine (including crack), heroin, hallucinogens, inhalants, or methamphetamine. Illicit Drug
Use Other Than Marijuana includes the misuse of prescription psychotherapeutics or the use of cocaine (including crack), heroin, hallucinogens, inhalants, or methamphetamine.
2 Misuse of prescription psychotherapeutics is defined as use in any way not directed by a doctor, including use without a prescription of one's own; use in greater amounts, more often, or longer than told; or use in any other way not directed by a doctor. Prescription psychotherapeutics do not include over-the-counter drugs.

on 2017 and 2018 *NSDUH*s, treatment was needed but not received for illicit drug use (~181,000 individuals) for alcohol use (~357,0000 individuals), and for substance use (~472,000 individuals).[e]

In Massachusetts, rates of opioid overdose deaths continue to be significantly higher than those seen between 2000 and 2015.[f] In 2019, there were 1,967 confirmed opioid-related overdose deaths and DPH estimates that there will be an additional 39 to 68 deaths. In the first nine months of 2020, there were 1,141 confirmed opioid-related overdose deaths. Preliminary data during this period indicate that there were 1,517 confirmed and estimated opioid related overdose deaths, an estimated 33 more deaths compared with the first nine months of 2019.[g] Accordingly ,through the Proposed Project, by increasing capacity for acute inpatient SUD treatment, significant numbers of SUD patients may be helped and patient mortality may be alleviated.

2. Limited Access to Level 4 Treatment Services for Substance Use Disorder

The most intensive level of SUD care is Level 4 SUD treatment where patients receive 24/7 nursing and daily physician care in a hospital setting. This level of care is for individuals who are experiencing, or are likely to experience, withdrawal symptoms that are severe, constitute a risk to their health and well-being, and/or require frequent medical attention as a result of use of a psychoactive substance.[h] Additionally, individuals suffering from a SUD and a co-morbidity require Level 4 care to more safely manage their conditions.[i]

The Applicant asserts that to facilitate recovery, it is important that individuals with a SUD receive care in the appropriate setting. When a patient requiring Level 4 services presents to the ED and a Level 4 bed is unavailable, the patient is admitted to a medical/surgical bed for detoxification services and all other needed medical care. However successful treatment requires additional care provided by practitioners with specialized knowledge and training in SUDs. In a medical/surgical setting, once the patient has completed detoxification and no longer requires acute inpatient care s/he is discharged. The Applicant states that while detoxification alone is an important first step to recovery, it is usually not an effective long-term means of treating a substance use disorder and often results in relapse. There must be adequate capacity at each SUD level of care in order to provide individuals with safe and effective treatment at each stage of treatment and recovery. Upon implementation of the Proposed Project, Morton will provide SUD services for Level 4 inpatient care that includes comprehensive addiction services not currently available on a medical/surgical unit, and will also transfer[12] its existing Intensive Outpatient Program (IOP) to Morton Hospital for enhanced continuity of care.

Currently there are only 173 licensed Level 4 inpatient beds in Massachusetts and none of them are located southeast of the Massachusetts Turnpike which leaves a gap in service capacity for this level of substance use disorder treatment in this region. The Applicant asserts that lack of local access to Level 4 services may prohibit some individuals from seeking treatment. For those individuals who are willing and able to travel for treatment, follow-up treatment and recovery may be inhibited as the treatment location may be inaccessible to relatives and friends who serve as support persons, whose presence during an individual's treatment and recovery can significantly affect an individual's likelihood of a successful and long-lasting recovery.[j]

[12] From NORCAP the facility that is closing. IOPs are not subject to DoN review.

Table 4 below shows the number of patient encounters and inpatient admissions with a SUD diagnosis at Steward-affiliated entities from FY 17 through the first two quarters of FY20. SMG practices in Massachusetts have seen an increase in visits in which SUD was the patient's primary diagnosis (7,315 visits in FY17; 6,863 visits in FY18; and 7,670 visits in FY19). In the first quarter of FY20, SMG had 2,906 visits involving a patient with a primary diagnosis of SUD.

Steward Northeast hospitals also see significant numbers of SUD patients that require admission for SUD-related medical conditions. In FY17, Steward Northeast hospitals saw 8,863 patients with a SUD, of which 4,343 (49.0%) resulted in an inpatient admission for SUD. In FY18, there were 8,877 patients with a SUD, of which 4,030 (45.4%) resulted in an inpatient admission. In FY19, there were 7,922 patients with a SUD, of which 3,963 (50.0%) resulted in an inpatient admission. This trend continued in the first two quarters of FY20[13], with 3,655 patients diagnosed with a SUD, of which 1,810 (49.5%) of those resulted in an inpatient admission. The applicant notes that in 2019 the hospital visits declined because there were many initiatives throughout Massachusetts that increased access to community-based care with care managers assisting patients in navigating access to recovery without requiring visits to emergency departments. The Applicant noted that while community-based intervention can lead to lower rates at emergent based care, patients who do go to the hospital for SUD care are more likely to require Level 4 care.[14] With only 173 beds statewide, and none in Norfolk, Dukes, Bristol, Plymouth, or Barnstable counties there remains a need for this level of care within the region.

The SMG practices located in the Morton Hospital service area, and therefore likely to refer patients with urgent needs to Morton Hospital, have experienced increases in patients with a SUD, with 458 patients, 547 patients, and 627 patients from 2017-FY19 respectively, representing an overall increase of 36.9%. Within Morton Hospital's inpatient patient panel, the prevalence of the patients with a SUD diagnosis was 855 in FY17; 903 in FY18; and 770 in FY19. In the first two quarters of FY20, there were 372 patients with a SUD diagnosis. Generally, of patients where SUD was the primary diagnosis, nearly 20% required admission to an acute care bed.

Table 4 Patient Encounters and Admissions at Steward Entities

Entity	**Patients with SUD Diagnosis[15]**			
Steward NE Hospitals	**FY17**	**FY18**	**FY19**	**FY20 - 2 Quarters[16]**
Total Patients with SUD Diagnosis	8,863	8,877	7,922	3,655
Admissions with SUD as a Primary Diagnosis	4,343	4,030	3,963	1,810
% Admitted	49.0%	45.4%	50.0%	49.5%

[13] The most recent data available prior to submission.
[14] Steward Good Samaritan Medical Center, Inc. Formal 90-Day Notice of Closure of Inpatient and Outpatient Substance Use Disorder Services at Norcap Lodge
[15] These numbers may overlap and thus are not cumulative among categories.
[16] As a consequence of the COVID-19 pandemic these data are an anomaly.

Morton				
Total Patients with SUD Diagnosis	855	903	770	372
Admissions with SUD as a Primary Diagnosis	148	137	118	81
% Admitted	17.3%	15.2%	15.3%	21.8%
SMG Practices				
Total Patients with SUD Diagnosis	7,315	6,863	7,670	2,906
SMG **Morton Market** Patients with SUD Diagnosis	458	547	627	275
Morton's % of T. SUD Market	6.3%	8.0%	8.2%	9.5%

The Applicant's five year projections of patient demand for Level 4 beds are in Table 5 below. This table was developed based on an analysis of DRG codes from the most recent data available and represents admissions of patients whose diagnosis indicates a need for Level 4 services. The analysis is based on FY2017 state-wide data procured from the Center for Health Information and Analysis.

Table 5: Projected Demand for Level 4 SUD Services: Patients

	2019 (Actual)	2020 (Est)	2021 (Proj)	2022 (Proj)	2023 (Proj)	2024 (Proj)
Steward NE Hospitals	1,879	1,945	2,008	2,041	2,054	2,059
MA Hospitals Total	2,937	3,015	3,100	3,148	3,171	3,173

3. Growing population in Southeastern Region, including those over age 65.

The need for Level 4 services is expected to grow as the population in Southeastern Massachusetts grows. Population projections by the UMass Donahue Institute ("UMDI") predict that the cities and towns within the Southeastern region will experience population increases in coming years, growing from approximately 1.11 million in 2010 to approximately 1.19 million by 2035.

By 2035, nearly 24% of the population will be over the age of 65 (compared to 14% in 2010).[k] Southeastern MA will have a slightly older population, than other regions of the state. However, the age distribution in the region will be relatively evenly distributed. Given that the likelihood of experiencing comorbidities increases with age, there is an increased likelihood of older adults needing Level 4 services. Therefore, the Southeastern region will continue to have a need for Level 4 services, as the population grows and ages.

Table 6 shows projections for the first five years of the Proposed Project upon completion. Based on the historic utilization data, the Applicant projects a majority of referrals to the Level 4 SUD program will originate from within the Steward Northeast system. However, the Proposed Project, will be the only Level 4 unit in Southeastern MA, and will thus be an important resource for all patients residing in this geographic region.

Table 6: Projections for Morton: Patients				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1,947	**2,044**	**2,141**	**2,239**	**2,336**

Analysis

Staff notes that year over year, throughout SNE, approximately 49% of patients with an SUD diagnosis are admitted for treatment, whereas for Morton patients, only about 20% of those with the same diagnosis are admitted. Of further note, is that of all of SMG's patients with SUD, ~8% are in the Morton market. Additionally, Morton age profile shows that over 40% of patients are over age 55 which makes them more likely to have co-morbid conditions that could require level 4 treatment. One reason that the lower percentages of patients are admitted each of the years shown, may be the lack of adequate inpatient treatment beds.

The Applicant asserts that the unit will be a regional resource for patients with SUD. Staff concurs that based on the Applicants projections of 2,336 patients by year 5, and an average length of stay of 3.75 days for such programs the occupancy rate would be about 75% leaving capacity for all patients within and outside of the Steward system.

As a result of this analysis, staff finds that the Applicant has sufficiently established the need for 32 Level 4 inpatient beds at Morton Hospital.

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

The Applicant asserts that the Proposed Project will improve public health value through ensuring timely, local access to services for SUD patients thereby improving both health outcomes and quality of life of the Patient Panel in a number of ways as described below.

- **Contributing to improved health outcomes**.

The Southeast region of Massachusetts has shown an overall increase in admissions for substance abuse treatment, and trends show increased use of alcohol, crack/cocaine, other sedatives/hypnotics, and other stimulants.[I] As the consequences of an untreated SUD can be severe and life-threatening, access to treatment programs of various intensities is important for improved health outcomes. The addition of this Level 4 Unit will improve health outcomes, patient safety, and quality of care especially for those patients with co-occurring mental health conditions

and comorbid medical conditions. Additionally, the Applicant anticipates better outcomes through a reduction in SUD patients leaving against medical advice ("AMA") as has been experienced when patients are placed on a general medical-surgical unit.[17]

Research shows that in some circumstances, individuals are more likely to successfully detox and recover if placed in an inpatient environment. These individuals include those with a history of mental health issues such as suicidal or homicidal ideations or other psychotic condition, inability to follow treatment recommendations, or co-occurring medical conditions such as diabetes, hypertension, or pregnancy.[m] Individuals with a SUD who are also experiencing acute intoxication and/or withdrawal potential, co-occurring biomedical conditions and complications, and/or emotional, behavioral, or cognitive conditions and complications require the intensive medical inpatient services offered in a Level 4 treatment program.[n] Individuals at risk of withdrawal symptoms, such as seizures or delirium tremens, that may be exacerbated or further complicated due to co-occurring medical or psychiatric conditions also require inpatient treatment to safely manage these withdrawal symptoms.

- **Improved quality of life and patient experience.**

Increasing access to local treatment with linkages to the local community-based post-acute treatment is more convenient for patients as it reduces gaps in services during transitions and allows for patients to achieve smooth transitions to care locally. These linkages can reduce the risk of relapse. Further, such local treatment facilitates family engagement in all levels of care which can improve quality of life.

- **Ensuring Health Equity and Language Access**

The Applicant asserts that the Proposed Project will have a positive impact on accessibility to the Applicant's services for poor, medically indigent, and/or MassHealth-eligible individuals, and that it does not discriminate based on the payer source or an individual's ability to pay and this practice will continue following implementation.

The Applicant states that it and Morton Hospital are dedicated to ensuring culturally and linguistically appropriate care. Morton Hospital has a team of qualified medical interpreters available to help provide effective communication to Limited English Proficiency ("LEP") and deaf and hard of hearing ('DHH") patients as well as bilingual clinical staff at Morton Hospital that have been assessed to determine their clinical fluency to provide direct care to patients in another language as appropriate. To ensure accurate and informed encounters, interpreters are trained in terminology related to substance use. Further, it states that hospital staff from all departments are informed of the existence and appropriate use of interpreter services through such measures as staff orientations, skills days, the Cultural Connection Newsletter, and staff meetings.

The Applicant asserts that with its newly integrated EMR and dispatch system, Morton Hospital has improved efficiencies, decreased redundancy, improved accuracy of appointments and improved identification of LEP and DHH patients, resulting in increased ability to identify patients who may

[17] The Applicant did not provide any data on the frequency of these occurrences.

need interpreter services. Most interpreter services requests come through its electronic system, ServiceHub. All interpreter consults, phone calls, or other pertinent information are documented and retained in the patient's electronic medical records and/or documented on paper where appropriate. All in person, telephone or video, interpretations are documented by the interpreter or clinical staff member.

Morton Hospital's interpreter services program completed 21,755 interpreter services requests in FY19, including face-face, telephonic, video, and ASL encounters. Staff interpreters are available days and evenings 7 days per week. If a staff interpreter is not immediately available, such as during high volume times, Morton Hospital provides access to interpreters via phone (CyraCom) or video remote units (Stratus). The Hospital employs 4 staff interpreters and 4 per diem interpreters, who interpret the following languages: Portuguese, Spanish, ASL, and Cape Verdean, which represent the primary languages within the Hospital's service area. In addition Morton provides patient information documents that are translated and available in multiple languages, ensuring equal access to important patient information.

Analysis

Staff notes that the Applicant does have a high Medicare and Medicaid payor mix, and local access will likely be improved for those members following project implementation. For the aging population, and those who depend on public transport, access to services outside of the region is likely difficult and this project may ameliorate access issues for this population in the region.

Staff finds that the Applicant has sufficiently outlined, at a high level, a case for improved health outcomes and has provided reasonable assurances of health equity through its description of the LEP program.

Staff, however notes that, through standard conditions, the Applicant will need to meet the requirements of the Departments Health Equity Program.

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

The Applicant cited a study of SUD care in community hospital inpatient settings across 12 states which found that patients with a SUD who were admitted to a general medical-surgical bed in an acute care hospital without a specialized SUD or psychiatric unit[o,18] were less likely to receive detoxification and rehabilitation services. Additionally, these patients were less likely to have access to an interdisciplinary care team and subsequently were unlikely to receive linkages to appropriate follow-up care after discharge. Notably, the study found that, SUD patients treated in specialty units do receive detoxification and other necessary ancillary medical care, as well as support services while in the inpatient setting as well as linkages to community support services upon discharge.

Discharge planning occurs throughout the patient's admission and is based on the patient's needs, strengths, setting and services, expected time frames for achieving treatment goals, and ensuring

[18] These patients were more likely to have a diagnosis of alcohol, drug psychosis, nondependent drug abuse, to have physical comorbidities, and to be age 65+, and therefore likely meeting the criteria for Level 4 care.

that the patients' health care needs are met as s/he moves to the next level of care. Aftercare treatment will be individually tailored for the patient and include, but not be limited to, referrals to community-based programs (including 12 step recovery groups). In addition to its own programs, Steward has relationships with numerous community providers across the SUD continuum of care, such as Outpatient counseling services, Outpatient Services with Medication Assisted Treatment, residential clinical stabilization services (CSS), residential Transitional Stabilization Services (TSS), residential Partial Hospitalization Programs, long-term residential programs and Massachusetts Alliance for Sober House (MASH) sober houses.

Factor 1: d) Consultation

The Applicant has provided evidence of consultation, with all government agencies that have licensure, certification, or other regulatory oversight, which has been done and will not be addressed further in this report.

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

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

In planning for the Proposed Project, Morton Hospital described seven meetings held where it sought feedback from the community at large, including community groups such as the CHNA, the school committee, the town council, and the Hospital's Patient Family Advisory Council ("PFAC") which comprises patients and their family members, local residents, and members of local resident groups. The Applicant reports that the response was very supportive across all interest groups.

As a result Staff finds that the applicant has met the requirements of community engagement.

Factor 1: f) Competition On Price, Total Medical Expenses (TME), Costs And Other Measures Of Health Care Spending

The Applicant states that the Proposed Project, the addition of 32 Level 4 beds at Morton, will have a positive effect on competition in the Massachusetts health care market based on price, total medical expenses (TME), provider costs, or other recognized measures of health care spending. It asserts that by addressing the demand for Level 4 medically managed inpatient SUD services, costly medical expenses associated with alternatives, including not receiving care in the most appropriate setting, being discharged against medical advice, or not receiving SUD treatment services at all, can be reduced.

The study cited above also found that SUD patients in general medical-surgical beds cost more on average ($10,840 to $11,195) than SUD patients treated in psychiatric units ($8,563) and detoxification units ($7,595). SUD patients in medical-surgical beds also experienced longer average lengths of stay than those admitted to specialty units. Moreover, SUD patients in medical-surgical beds were more likely to be transferred to another facility, thereby increasing overall costs through multiple care facilities and associated transport. Accordingly, treatment of SUD patients in

general medical-surgical beds result in higher cost of care when compared to specialty units that can provide the level of multi-disciplinary care necessary for successful treatment and recovery.

In addition, continued substance abuse without proper treatment can result in the occurrence of other costly medical conditions, such as increased risk of lung or cardiovascular disease, stroke, cancer, and mental health disorders.[q] Each of these disease conditions contribute to higher health care costs.

Analysis

Staff finds that the Applicant's arguments for the Proposed Project may lead to reduced TME for the health care market. As stipulated by the Applicant, the project will improve access to Level 4 medically managed inpatient beds and reduce the number of individuals who are treated in medical-surgical beds while providing interdisciplinary care by specialized medical and support staff to treat SUD patients. This may indeed reduce health care costs for SUD services while improving quality of care and outcomes.

As a result of the information provided by the Applicant, and additional analysis Staff finds that with the standard reporting requirements outlined below the requirements of Factor 1 have been met

Factor 2: Health Priorities

Cost Containment

SUDs contribute significantly to healthcare expenditures in Massachusetts, particularly in recent years as a consequence of the opioid epidemic. The Applicant states that because of co-occurring medical issues, individuals with SUD often require more medical care and have high overall medical expenses,[r] often including recurring hospital admissions. Among adult Medicaid beneficiaries, alcohol and other substance use-related disorders are two of the top 10 causes of hospital readmissions, a major high health care expenditures.[s]

In addition to costs directly attributable to treatment, substance use incurs significant societal costs that include crime and lost work productivity. Table 7 below provides the most recent estimates of both healthcare and overall societal costs of substance use in the United States. In the US, annual health care costs as a result of alcohol, illicit drug, and prescription opioid abuse are approximately $64B and overall societal costs are approximately $520B.

Table 7: Costs of Substance Abuse in the United States[t]

	Health Care	Societal
Alcohol	$27 billion	$249 billion

Illicit Drugs	$11 billion	$193 billion
Prescription Opioids	$26 billion	$78.5 billion
TOTAL	**$64 billion**	**$520.5 billion**

As described throughout this report, costs for SUD treatment can be lowered in multiple ways including:

- early intervention,
- increased access to the proper level of care,
- providing care in the appropriate setting with providers and staff equipped to manage all dimensions of a SUD,
- providing support services such as counseling in addition to acute medical detox, and
- providing linkages to appropriate lower levels of care within the community once a person has completed the detoxification process.

The Proposed Project will meaningfully contribute to the Commonwealth's cost containment goals through providing increased access to appropriate Level 4 treatment settings and improving the coordination of care and support services through lower levels of SUD treatment services after discharge from the facility, encouraging sustained recovery and resulting in fewer costly readmissions. Accordingly, it will result in lower immediate costs, as well as a reduction in costs over the lifetime of the disease through enhanced disease management and higher rates of recovery.

Analysis

Ultimately, cost savings are achieved through increasing access to Level 4 beds, thereby decreasing the number of individuals who are admitted to general medical-surgical beds, as well as ensuring SUD patients are discharged with the necessary resources to continue receiving care and treatment post discharge without gaps in service. These measures should decrease readmissions rates and their associated costs.

Public Health Outcomes:

Extending beyond the Applicant's Patient Panel, the rate of substance use disorders in Massachusetts is still significantly higher than rates a decade prior, despite trending slightly downward over the past two years.[u] As the population ages, the likelihood of co-occurring medical disorders increases. Consequently, the need for higher levels of care continues to grow, making SUD treatment more critical.

Individuals with a SUD are more likely to seek treatment when services are available close to home. The Applicant states the Proposed Service will improve public health outcomes by providing improved access to "critically needed" Level 4 medically managed inpatient services, serving those individuals suffering from medical comorbidities within the community. In addition, individuals

receiving care through the Proposed Project will have enhanced linkages to community resources, leading to a higher likelihood of continued treatment and recovery. Accordingly, the Proposed Project will lead to improved health outcomes and better quality of life for patients with a SUD in the region.

Delivery System Transformation:

The Applicant asserts that the Proposed Project's new service will transform how SUDs are addressed in Southeastern MA for all in the region by providing a higher level of care, Level 4 SUD treatment, than is currently available. Morton Hospital offers interdisciplinary services to its SUD patients, thereby also ensuring access not only to appropriate medical care but support services as well. Throughout an admission screens for Social Determinants of Health (SDoH), needs are conducted, including access to language assistance and translation services to patients with limited English proficiency.

Once SDoH needs are identified the Hospital offers numerous programs to address financial, spiritual, transportation, clothing, housing, food, and other needs. Prior to discharge, Hospital staff provides linkage to appropriate community resources to address the individual's medical, social, psychological, cultural, and ethnic needs. To ensure the quality and continuity of care after discharge, the Hospital follows up with patients within 30 days. These measures provide a system for ensuring all of the individual's social needs are met, thereby increasing the likelihood of a successful recovery and reducing the likelihood of a readmission.

Analysis

Throughout the Application Steward has demonstrated the devastating impact SUD has on the lives of patients and their families and consequently the acute need for behavioral health treatment. The need for Level 4 beds within Southeastern MA is highlighted by the lack of any such beds in that in the region.

Independent Substance Use Disorder treatment facilities are exempt from DoN review unless they are a part of an acute care hospital. DoN is reviewing this unit because it will be located within an acute care hospital. As this is a new inpatient service for Morton Hospital, staff believes that the service will help improve the quality of care that patients receive by allowing for them to receive the most appropriate level of treatment in a timely manner locally. Timely treatment has been shown to improve outcomes for patients by reducing time in the ED, reducing time lost from work and family, and reducing readmissions.[v]

SUD treatment is a health priority of the Department and for the State. Through approval of this Application treatment in the SE region is expected to improve. Measuring the impact of the program, will enable the Applicant and the State to determine its effectiveness and where adjustments, improvements and additional services need to be made.

Ultimately, cost savings are achieved through increasing access to Level 4 beds, thereby decreasing the number of individuals who are admitted to general medical-surgical beds, as well as ensuring SUD patients are discharged with the necessary resources to continue receiving care and treatment

post discharge without gaps in service. These measures should decrease readmissions rates and their associated costs.

As a result of information provided by the Applicant and additional analysis, staff finds that with the standard reporting requirements outlined below, the Applicant has demonstrated that the Proposed Project has met Factor2.

Factor 3: Relevant Licensure/Oversight Compliance

The Applicant has provided evidence of compliance and good standing with federal, state, and local laws and regulations and will not be addressed further in this report.

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

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

The CPA examined a range of documents and information in developing its report including historical financial information and 5-year financial projections prepared management.

The CPA reviewed the reasonableness of the assumptions used and feasibility of the Projections. This review included analysis of key metrics that fall into three categories: liquidity, operating and solvency.[w] The CPA states that in its opinion the analysis of key metrics is reasonable in relation to the company's peer group based on comparison to market information.

Revenue

The only revenue category that the proposed capital project would impact is net patient service revenue (NPSR). The CPA's analysis of the Applicant's net patient services revenue both historical and projected and found that for Fiscal Year 2021 through Fiscal Year 2025; the proposed capital project at Morton Hospital would represent less than 0.002% of SHC actual 2019 net operating revenues throughout the five-year period. The CPA determined that the projected NPSR for the Proposed Project are "reasonably based upon SHC's historical operations, industry trends and discussions with management."

Operating Expenses

The projections for operating expenses for the Proposed Project were reviewed the in the context of actual operating results for SHC for the years ended December 31, 2019 and 2018 and for the six months ended June 30, 2020 in order to determine the impact of the proposed capital project at Morton Hospital in order to determine the reasonableness of the Projections for the years 2021 through 2025. The CPA States that based the projected expenses from 2021 through 2025, the proposed capital projects would represent less than 0.002% of SHC operating expenses throughout

the five-year period. It determined that the growth in operating expenses projected by Management reflects a reasonable estimation based primarily upon SHC's historical operations and industry trends.

Capital Expenditures and Cash Flows

The CPA report included a review of the impact of current and projected capital expenditures and loan financing on SHC cash flows to determine whether sufficient funds had been invested to sustain the operations of SHC. Based upon that analysis, the CPA concluded that the pro-forma capital expenditures and resulting impact on SHC cash flows are reasonable.

CPA's Conclusion of Feasibility

As a result of its analysis the CPA states that "because the impact of the proposed capital project at Morton Hospital represents a relatively insignificant portion of the operations and financial position of SHC, and because of the positive liquidity position of SHC, we determined that the Projections for the Proposed Project are not likely to result in insufficient funds available for capital and ongoing operating costs necessary to support the proposed project. …. Therefore, the proposed capital project at Morton Hospital is financially feasible and within the financial capability of SHC."

Analysis

Staff is satisfied with the CPA's analysis of Applicants decision to proceed with the Proposed Project. As a result, Staff finds the CPA analysis to be acceptable and that the Applicant has met the requirements of Factor 4.

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

The Applicant has provided sufficient evidence that the Proposed Project, on balance, is superior to alternative and substitute methods for meeting the existing Patient Panel needs identified by the Applicant pursuant to 105 CMR 100.210(A)(1). Evaluation of 105 CMR 100.210(A)(5) shall take into account, at a minimum, the quality, efficiency, and capital and operating costs of the Proposed Project relative to potential alternatives or substitutes, including alternative evidence-based strategies and public health interventions.

The Applicant considered and rejected two alternatives to the Proposed Project.

The first was to continue with the status quo and continue to operate NORCAP, their Level 3 facility in Foxborough. This option was rejected because it would not address the need for Level 4 beds. The second alternative the Applicant considered was to operate a smaller 15-bed Level 4 Medically Managed Intensive Inpatient unit at Morton Hospital. It was rejected because it would only partially address the need for these services. Neither alternative would have resulted in the projected improvements in patient satisfaction and improved outcomes from locally provided Level 4 services. Additionally, neither option would have produced efficiencies that result from providing the appropriate needed levels of treatment with the accompanying reduced transfers out of the region for such treatment.

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

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

Summary and relevant background and context for this application: The Applicant is applying for a DoN project that will result in a Tier 1 CHI project. The Applicant submitted its existing Community Health Needs Assessment (CHNA) for Morton Hospital, a Self-Assessment, Stakeholder Assessments, and a CHI Narrative.

The Community Health Needs Assessment was conducted in 2018 by Morton Hospital. The final CHNA utilized secondary data sources - Health Indicators Analysis and a Literature Review - and primary data gathered from a key informant survey and two focus groups. The CHNA describes quantitative and qualitative data collection methods and outlines key findings and themes. The priorities identified during the needs assessment phase include chronic disease, obesity, mental health, substance use disorder, and access to care. In the CHNA, the Applicant acknowledges the importance of the SDoH and their impact on the communities the Applicant serves.

The Self-Assessment provided a summary of community engagement processes and socio-geographic information, data and highlights related to topics and themes of community needs. Through data analysis, a key informant survey, and two focus groups, the process participants identified the key concerns outlined in the 2018 CHNA.

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

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

The timeline, RFP processes, and anticipated use of evaluation and administrative funds are all appropriate and in line with CHI planning guidelines. There are, however, several issues that will require attention as a component of the applicant's CHI activities.

The Applicant does not have representation from the planning, transportation, or private sectors, and will be conducting outreach to these groups to ensure SDoH subject matter expertise is a component of Community Benefit Advisory Council (CBAC) discussions throughout the CHI processes. Additionally, the Applicant will consider strategic engagement of resident voice on their Allocation committee to ensure robust and comprehensive practices.

As a Tier 1 CHI, the project does not require submission of the Health Priority Strategy Form, but the Applicant is expected to adhere to the framework therein. The form was shared with the Applicant to guide conversations and decision making as the Committee explores upstream activities for their CHI implementation.

DPH CHI staff will engage with the Applicant throughout the planning and implementation process. CHI staff and the Applicant will first meet prior to the initial CBAC meeting to discuss upstream concepts and potential activities, and continue to meet as the CBAC makes decisions, to ensure adherence to Health Priority Guideline principles.

The anticipated timeline for CHI activities includes the first meeting of the Advisory Committee four weeks post approval, identifying the Health Priorities Strategies three months post approval, and releasing an RFP or similar process six months post approval, with funding awarded to three-four months thereafter.

With the administrative funds, the applicant's early plans are to support additional time for external facilitation, the development communication materials, and reporting and dissemination of lessons learned and best practices.

Analysis

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

Findings and Recommendations

Based upon a review of the materials submitted, Staff finds that, with the addition of the recommended conditions detailed below, the Applicant has met each DoN Factor for the Proposed Project, and recommends that the Department approve this Determination of Need, subject to all applicable standard and Other Conditions.

Conditions to the DoN

1. Of the total required CHI contribution of $340,350

a. $32,673.60 will be directed to the CHI Statewide Initiative
b. $294,062.40 will be dedicated to local approaches to the DoN Health Priorities
c. $13,614 will be designated as the administrative fee.

2. To comply with the Holder's obligation to contribute to the Statewide CHI Initiative, the Holder must submit a check for $32,673.60 to Health Resources in Action (the fiscal agent for the CHI Statewide Initiative).

a. The Holder must submit the funds to HRiA within 30 days from the date of the Notice of Approval.
b. The Holder must promptly notify DPH (CHI contact staff) when the payment has been made.

3. Pursuant to 105 CMR 100.310(A)(12), ongoing reporting is required to DoN. In order to measure the impact of the Proposed Project, staff recommends the Applicant report annually the following metrics. The first full year will establish the baseline and the Applicant will then establish target measures for subsequent years:

1. **Access – Reduction in Transfers to Acute Care Hospital:** As the Proposed Project seeks to increase access to Level 4 services, the Applicant will measure access to Level 4 services through reductions in transfers to acute hospitals.

   Measure: The Applicant will calculate and report on the number of instances, and overall percentage, of SUD patients who are transferred to an acute hospital from the ED or a patient care unit.
   Denominator – Number of SUD patients who require Level 4 admission.
   Numerator – Number of SUD patients transferred to an acute hospital other than Morton from the ED or a patient care unit.

2. **Outcome – Reduction of AMA Rate**: Through increased access to a higher level of care following implementation of the Proposed Project, the Applicant anticipates better outcomes through a reduction in SUD patients who leave against medical advice ("AMA"). The Applicant will review the rate of AMA patients.

   Measure: The Applicant will track and report the number and overall percentage of SUD patients who leave the Level 4 SUD unit AMA.
   Denominator – Number of SUD patients.
   Numerator - Number of SUD patients who leave the Level 4 SUD unit AMA.

3. **Outcome – 30-Day Readmission Rates:** Through the Proposed Project, patients will have increased access to the appropriate level of care across the continuum of SUD services. This measure focuses on how many SUD patients are readmitted to the ED or the inpatient MORCAP unit within 30 days of a previous stay. As a result, the 30-Day Readmission Rate is expected to decline over time.

   Measure: The Applicant will track and report the number and overall percentage of patients discharged from the Level 4 SUD unit that have a readmission within 30 days.
   Denominator – Number of SUD patients discharged from the Level 4 SUD unit, excluding those leaving AMA.
   Numerator – Number of SUD patients readmitted for SUD service within 30 days of discharge date.

[a] What are the ASAM Levels of Care?, ASAM CONTINUUM (May 13, 2015), https://www.asamcontinuum.org/knowledgebase/what-are-the-asam-levels-of-care.
[b] SAMHSA, *2017-2018 NSDUH State-Specific Tables*, Table 54: Massachusetts (Feb. 28, 2020), *available at* https://www.samhsa.gov/data/report/2017-2018-nsduh-state-specific-tables.
[c] id
[d] BUREAU OF SUBSTANCE ABUSE SERVICES, DESCRIPTION OF ADMISSIONS, FACT SHEET – ALL ADMISSIONS (FY2017), *available at* https://www.mass.gov/files/documents/2019/03/13/all-admissions.pdf.
[e] SAMHSA, *2017-2018 NSDUH State-Specific Tables*, *supra* note 13.
[f] MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH, DATA BRIEF: OPIOID-RELATED DEATHS AMONG MASSACHUSETTS RESIDENTS (June 2020), *available at* https://www.mass.gov/doc/opioid-related-overdose-deaths-among-ma- residents-june-2020/download.
[g] https://www.mass.gov/doc/opioid-related-overdose-deaths-among-ma-residents-november-2020/download
[h] 105 C.M.R. 164.133(A)(1)(a) (2016).
[i] *See, e.g.*, CENTER FOR HEALTH INFORMATION AND ANALYSIS, ACCESS TO SUBSTANCE USE DISORDER TREATMENT IN MASSACHUSETTS15 (Apr. 2015), *available at* https://www.chiamass.gov/assets/Uploads/SUD-REPORT.pdf.
[j] Dennis C. Daley, *Family and Social Aspects of Substance Use Disorders and Treatment*, 21 J. FOOD AND DRUG ANALYSIS s73 (2013) and Alicia Ventura, *To Improve Substance Use Disorder prevention, Treatment and Recovery, Engage the Family,* 11 J. ADDICTION MED. 339 (2017).
[k] UMASS DONAHUE INSTITUTE, LONG-TERM POPULATION PROJECTIONS FOR MASSACHUSETTS REGIONS AND MUNICIPALITIES 57-59 (2015), available at http://pep.donahue-institute.org/downloads/2015/new/UMDI_LongTermPopulationProjectionsReport_2015%2004%20_29.pdf.
[l] BUREAU OF SUBSTANCE ABUSE SERVICES, GEOGRAPHIC FACT SHEETS (FY2017), *available at* https://www.mass.gov/doc/admissions-statistics-statewide/download.
[m] TREATMENT IMPROVEMENT PROTOCOL (TIP) SERIES, NO. 45: DETOXIFICATION AND SUBSTANCE ABUSE TREATMENT, SAMHSA 17 (Revised 2015), available at https://store.samhsa.gov/sites/default/files/d7/priv/sma15-4131.pdf.
[n] See also What are the Six Dimensions of The ASAM Criteria?, ASAM CONTINUUM (May 13, 2015), https://www.asamcontinuum.org/knowledgebase/what-are-the-six-dimensions-of-the-asam-criteria/.
[o] U.S. AGENCY FOR HEALTHCARE RESEARCH AND QUALITY, TREATMENT FOR SUBSTANCE USE DISORDERS IN COMMUNITY HOSPITALS 10 (2010), *available at* https://www.hcup-us.ahrq.gov/reports/SASpecUnitManuscriptHCUP083010.pdf.
[p] DoN Regulation 100.210 (A)(1)(e). https://www.mass.gov/files/documents/2018/12/31/jud-lib-105cmr100.pdf
[q] 35 Drugs, Brains, and Behavior: The Science of Addiction, What are the Other Health Consequences of Drug Addiction?, NAT'L INST. ON DRUG ABUSE (July 2020), https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/addiction-health.
[r] NIDA. 2020, May 29. Addiction and Health. Retrieved from https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/addiction-health on 2020, June 29
[s] CHIA SUD Report https://www.chiamass.gov/assets/Uploads/SUD-REPORT.pdf
[t] https://www.drugabuse.gov/drug-topics/trends-statistics/costs-substance-abuse
[u] https://www.mass.gov/doc/opioid-related-overdose-deaths-among-ma-residents-november-2020/download
[v] Substance Abuse and Mental Health Services Administration (US); Office of the Surgeon General (US). Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health [Internet]. Washington (DC): US Department of Health and Human Services; 2016 Nov. CHAPTER 4, EARLY INTERVENTION, TREATMENT, AND MANAGEMENT OF SUBSTANCE USE DISORDERS. Available from: https://www.ncbi.nlm.nih.gov/books/NBK424859/
[w] Liquidity metrics, measure quality and adequacy of assets to meet current obligations as they come due. Operating metrics, such as earnings before interest, taxes, depreciation and amortization ("Adjusted EBITDA") are used to assist in the evaluation of management performance in how efficiently resources are utilized. Solvency metrics, such as Debt to Equity, measure the company's ability to service debt obligations.