



Inpatient addiction consult services in Massachusetts: Insights and recommendations from six model programs

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Executive summary

Introduction

The overdose crisis continues to have devastating consequences nationally and in Massachusetts. The inpatient hospital setting is a potential intervention point where people at risk for overdose can be identified and connected to evidence-based treatment and harm reduction services. Inpatient addiction consult service (ACS) programs are a well-established approach for this, and have been shown to improve patient and provider satisfaction, increase patient engagement in substance use disorder (SUD) treatment post-discharge, and reduce readmissions, among other outcomes. An inpatient ACS program can provide a comprehensive range of services and typically includes care from a provider with expertise in addiction medicine or addiction psychiatry, as well as social worker and peer support specialist (e.g., recovery coach) support. Despite the strong evidence base, there remains an implementation gap, and ACS programs are not offered in many hospital settings. Though there are published reports of some programs, there is a need for more detailed accounts of ACS implementation in a range of contexts. In this report, we provide case studies of six ACS programs at hospitals of different types and sizes across Massachusetts, as well as cross-cutting themes and recommendations.

Boston Medical Center Academic medical center Boston	Holyoke Medical Center Community hospital Holyoke	Lowell General Hospital Community hospital Lowell
Massachusetts General Hospital Academic medical center Boston	South Shore Hospital Community hospital Weymouth	University of Massachusetts Memorial Medical Center Academic medical center Worcester

Core components of successful programs

Although each hospital ACS program has unique features, there are some commonalities in structure, services, and approach. All six programs share a common minimum team structure consisting of a prescribing provider (MD or NP) and peer support specialist or resource navigation staff. Most programs also have a nurse and a social worker on the team. All participating programs focus on effective withdrawal management as the first step in a patient's care, including management of opioid, alcohol, and stimulant withdrawal. This is critical for building trust and encouraging patients to stay in the hospital to receive the medical care they need. All six hospitals also operate either a low-barrier bridge clinic or another model for outpatient SUD treatment services or both. This provides a place within the hospital system for patients to receive follow-up care after discharge. Finally, the participating hospitals take a patient-centered harm reduction approach when providing addiction services in the inpatient setting and offer specific harm reduction services such as access to naloxone, education on safer use practices, and testing and treatment for infections.

Barriers and challenges

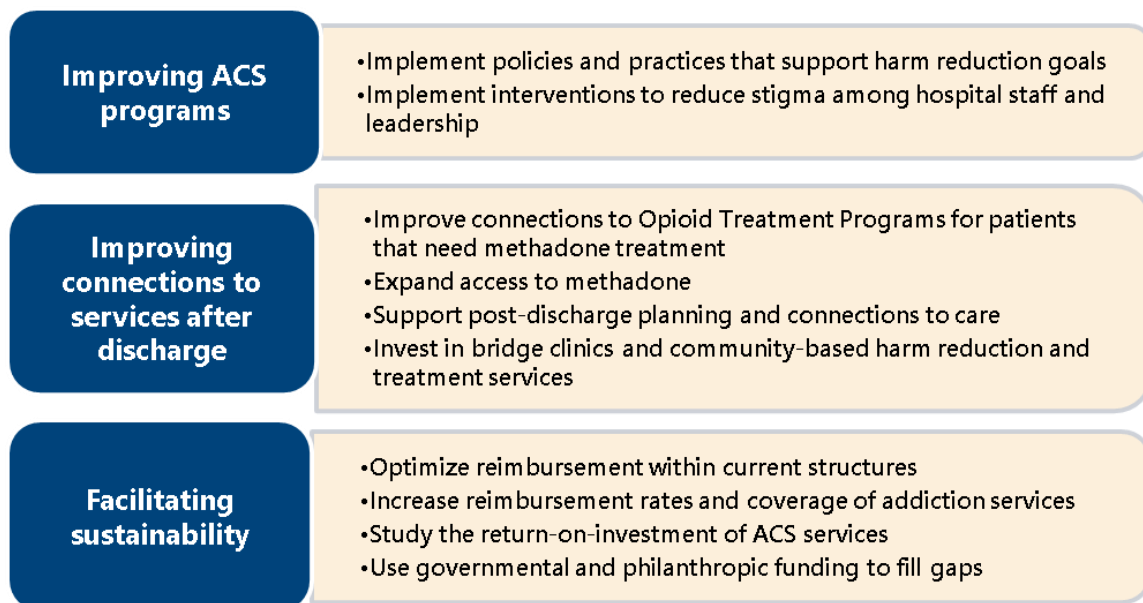
Participating ACS programs have faced or continue to face challenges in several areas. First, insufficient access to post-discharge follow-up care was a significant concern for participating hospitals, limiting their potential impact. Participating programs also described stigma within their institutions towards people who use drugs or people with SUD, particularly when their ACS programs were new. This can manifest as resistance from colleagues to using medication for opioid use disorder treatment and pushback to offering harm reduction services. Next, hospitals generally agreed that ACS programs are not financially sustainable on insurance reimbursement alone, and that funding is a major challenge, highlighting a number of challenges with billing. Some programs also had difficulty hiring and retaining qualified staff, and some cited regulatory barriers that limit what they are able to do.

Where to start

Participating hospitals offered their advice for other hospitals that are interested in developing an ACS program. They recommended starting by identifying leadership champions and allies and focusing on building support among key stakeholders. Next, they emphasized the importance of building a strong staff team and developing protocols for care within the hospital as well as connections to follow-up care after discharge. Finally, hospitals recommended dedicating time to internal training and advocacy to raise awareness of the value the ACS program can offer and how to use it.

Recommendations

This work identified many recommendations for hospitals and their funders and partners on how to further develop and expand inpatient ACS programs. These include:



Introduction

Overdose mortality is rising nationally, and more than 106,000 people in the United States died from a drug-related overdose in 2021, a 16% increase from the previous year (1). In Massachusetts, an estimated 2,359 individuals died of an opioid-related overdose in 2022 (2). According to the National Survey on Drug Use and Health, nearly 50 million people aged 12 and older in the United States had a past-year substance use disorder (SUD) in 2022, and more than 80% did not receive treatment (3). There is an urgent need to identify people at risk for overdose, provide connections to accessible, evidence-based treatment, and harm reduction services.

The inpatient hospital setting is a potential intervention point where there is both need and opportunity. Research has shown that the risk of opioid-related overdose mortality is elevated in the two weeks (4,5) following hospital discharge, and many patients admitted to inpatient units have a SUD and do not receive treatment for it (6,7). Without effective addiction treatment, patients may leave the hospital prematurely due to withdrawal symptoms or may engage in unsafe drug use in the hospital without disclosing this to their care teams. Inpatient units provide an opportunity to engage patients, build trust, and provide supported connections to harm reduction resources and SUD treatment services, and addiction consult service (ACS) programs are a well-established evidence-based approach for doing so. An inpatient ACS program typically includes care from a provider with expertise in addiction medicine or addiction psychiatry, and often also includes social worker and peer support specialist (e.g., recovery coach) support. ACS programs provide a comprehensive range of services, including SUD diagnosis, withdrawal management, medications for SUD treatment, harm reduction support, and connections to treatment and services at discharge (8). Studies have shown that ACS programs improve patient and provider satisfaction, increase patient engagement in SUD treatment post-discharge, reduce readmissions, reduce addiction severity, reduce substance use, and may reduce overdoses as well as improve other health outcomes by encouraging patients to stay in the hospital to receive necessary care (9–15).

Consider the experience of Darryl, a 30-year-old male with a history of opioid, stimulant, and sedative misuse. He went to a Boston-area hospital due to a severe hand infection, and was very concerned about withdrawal. Though his hand needed surgery, he was considering leaving the hospital. He explained,

“I was literally debating walking out of the hospital or having surgery on my hand because I was afraid of waking up the next day and getting sick, alright? So I'm trying to explain that to this doctor that “listen, I'm gonna wake up tomorrow, I'm gonna be going through withdrawals”, you know what I'm saying? And to the average person, like you can't – you can't explain to somebody what like opiate withdrawals are, unless you've physically been through it, you know.”

The doctor Darryl was seeing offered him an addiction consult, which convinced him to stay. Darryl recounted how the consult provider provided methadone and took care of his needs so that he could have his infection treated:

“[The doctor] pretty much broke it down [and explained that] I really, really, really, really needed to be [in] the hospital – I lucked out. He was a pretty nice guy. And he reassured me that if I stayed there [...] the next day, at some point in time [...] a specialist will come talk to me and put me on methadone for the remaining time that I was there. Which happened, and [...] that was like the turning point. That's what obviously convinced me to stay. And you know, and [the specialist] came, she was a very nice lady and they made me somewhat decently comfortable to make it through my stay over there.”

Despite the strong evidence base, there is a significant implementation gap - ACS program models are not standardized and are not offered in many hospital settings. Even when a hospital has an ACS program, it may not be consistently offered (16) or patients may be dissuaded from staying based on negative interactions with non-ACS staff. In contrast to Darryl's experience, many people with SUD have poor experiences in hospital settings, including being stigmatized for using drugs, being treated punitively and disrespectfully, and not having needs met. For example, Phil, a 47-year-old male who was living in Boston, said “[Hospitals] don't help unless you have a heart attack or broken arm, they won't help you with that particular issue [addiction] – anything connected to it. It's like we're just a different class of people and they don't [have any qualms] about making that known.” Marla, a 31-year-old female, described poor treatment from hospital security at a Boston-area hospital, saying, “especially the security guard treats addicts like they're pieces of garbage and it's really bad.” Greg, a 54-year-old male, explained that when patients have experiences of being treated poorly, they begin to “fear going to the hospital or getting medical attention”.

For ACS programs to become more widely available and to ensure that programs meet a minimum standard of care, it is essential that hospitals have resources to guide implementation and that funders and policymakers understand needs and opportunities for moving the field forward. Though there are published reports of some program models, there is a need for more detailed accounts of ACS program implementation, especially for hospitals in a range of contexts and settings. In this report, we provide case studies of six ACS programs at hospitals in different regions of Massachusetts, with varying levels of internal and external resources. The goals are 1) to document these models as a reference for other hospitals, 2) to identify implementation recommendations for hospitals who are seeking to establish an ACS program, and 3) to identify lessons and recommendations for creating a more robust and effective system of hospital-based addiction care in Massachusetts.

The six hospitals profiled in this report are Boston Medical Center, Holyoke Medical Center, Lowell General Hospital, Massachusetts General Hospital, South Shore Hospital, and UMass Memorial Medical Center. Data on the hospital services were gathered through document review and semi-structured qualitative interviews with 2-5 providers or staff members involved in each hospital's ACS program. Patient stories and quotes are from a secondary analysis of the Boston Overdose Linkage to Treatment Study (BOLTS), a qualitative examination of racial equity in treatment access and engagement following opioid overdose in Boston. Details on hospital selection and data collection and analysis methods are provided in Appendices A-B.

A profile of each hospital's ACS program is provided below (pages 6-32), followed by a discussion of cross-cutting themes related to core components of successful programs (pages 33-35) and barriers and challenges (pages 36-41). The report concludes with implementation guidelines for other hospitals (pages 42-43) and recommendations for the field (pages 44-47). Note that this report focuses on services provided in the inpatient medical-surgical units; though the participating hospitals also provide emergency department- and outpatient-based SUD services, those were not the focus of this inquiry and will not be detailed here.

Hospital profiles

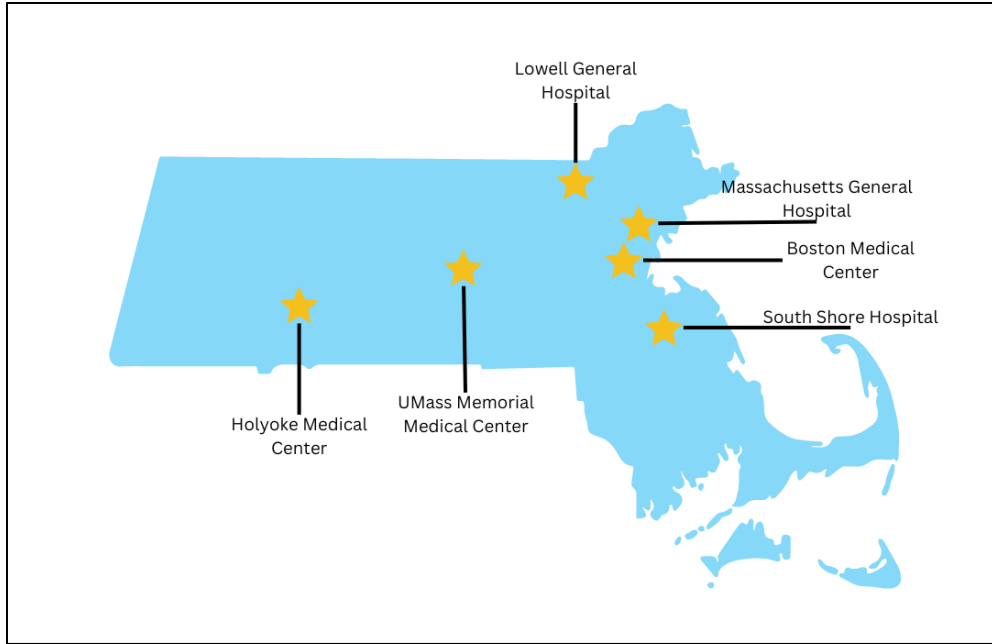
Overview

Key characteristics of the six participating hospitals are included in the table below and their locations across Massachusetts are shown in the map on the following page. Data are from the Center for Hospital Information and Analysis (CHIA) from fiscal year 2021. Additional hospital characteristics can be found in Appendix C.

Hospital	Location	Number of staffed beds	Classification ¹	Public payer mix	Operates a bridge clinic ²	ACS profile location
Boston Medical Center (BMC)	Boston	449	Academic Medical Center	73.2%	Yes	p. 8-11
Holyoke Medical Center	Holyoke	199	Community High Public Payer	76.6%	Yes	p. 12-15
Lowell General Hospital	Lowell	353	Community High Public Payer	67.1%	Yes	p. 16-19
Massachusetts General Hospital (MGH)	Boston	1,063	Academic Medical Center	59.5%	Yes	p. 20-24
South Shore Hospital	Weymouth	445	Community Hospital	61.6%	Yes	p. 25-28
UMass Memorial Medical Center	Worcester	793	Academic Medical Center	66.0%	No	p. 29-32

¹ CHIA hospital categories: 1) Academic Medical Center (AMC) - AMC's are a subset of teaching hospitals characterized by extensive research and teaching programs, comprehensive resources for tertiary and quaternary care, being principal teaching hospitals for their respective medical schools, and being full service hospitals with case mix intensity greater than 5% above the statewide average, 2) Community Hospital - Community hospitals that do not meet the MedPAC definition to be classified as teaching hospitals and have a public payer mix of less than 63%, 3) Community High Public Payer (HPP) - Community HPP hospitals are community hospitals that have 63% or greater of Gross Patient Service Revenue (GPSR) attributable to Medicare, MassHealth, and other government payers, including the Health Safety Net.

² A bridge clinic is a low-threshold transitional SUD care model that provides rapid initiation of medication for SUD treatment, stabilization during high-risk transitions, harm reduction services, and linkage to continued care with community providers and services (17).



Locations of the six participating hospitals across Massachusetts

Boston Medical Center

Boston Medical Center (BMC) is an academic medical center located in Boston, Massachusetts. It has 449 staffed beds and is considered a High Public Payer hospital, with 73% of patient service revenue from public payers³. BMC's service area is the City of Boston.

Program background and staffing

Boston Medical Center has a long history of providing hospital-based and outpatient addiction care. In the early 2000s, BMC operated what was called the transitional opioid (TOP) program (18), which involved a nurse bridging people between the inpatient hospital setting and outpatient methadone treatment. This program ended due to insufficient funding; after that, some inpatient providers began providing ad hoc addiction consults, but without any dedicated staffing. The formal Addiction Consult Services (ACS) program was initially piloted in 2015 with a 0.5 full-time equivalent (FTE) nurse and a 0.5 FTE physician, with additional support from addiction medicine fellows and other trainees.

Due to high demand for ACS and ability to bill for some services, the program staffing has grown over time. Today, the program is operationally housed within the Grayken Center for Addiction. It is staffed by 0.5 FTE addiction-trained attending physician, 2.25 FTE addiction-trained nurse practitioners (NPs), one full-time social worker, one full-time peer recovery coach, and one full-time resource specialist. The ACS is also supported by an addiction medicine fellow, 1-2 residents, and medical students. The attending physician time uses a rotation model involving more than a dozen physicians, and the program continues to have a focus on teaching. One of the attending physicians also has an administrative role as the program Director. In addition to services for patients, two other major components of BMC's program are 1) internal policy and protocol development and 2) education and culture change across the hospital. They also provide training and technical assistance support to other hospitals looking to start a consult service.

BMC has a bridge clinic on site called Faster Paths to Treatment, as well as an outpatient office-based addiction treatment (OBAT) program, which includes a Stimulant Treatment and Recovery Team (START).

³ Data from the Center for Health Information and Analysis (CHIA) fiscal year 2021 hospital profile

Patient identification and engagement

The ACS program aims to identify and support patients with acute withdrawal management, in addition to starting a conversation around harm reduction or long-term treatment if the patient desires. There are three primary ways that the ACS receives consult requests:

Primary Hospital Team



Most frequently, the physician, nurse, or social worker on a patient's primary team identifies that they may benefit from a consult, and will put in an order.

Electronic Health Records



ACS staff can run reports in Epic to view a list of patients who have experienced an overdose and may benefit from services. However, this is not frequently used, because there is typically a high volume of consult orders coming from the hospital teams.

Patient Requests



If a patient has been admitted to BMC before and is familiar with the ACS, they may request a consult themselves

Regardless of the way the consult is requested, an order must be placed for tracking and process purposes. The consult service is set up so there is a "team lead" in charge each day (typically a fellow or NP) who triages orders as they come in, prioritizing who needs to be seen when, and by which member of the team, taking into account whether there is a medication or diagnostic need that would require an MD or NP. The initial conversation with the patient varies depending on the clinical scenario, with considerations such as: Is the patient experiencing withdrawal? Did the patient identify themselves as having a substance use disorder? Did the patient request a specific type of support or service?


"So it's really up to kind of whoever is the quarterback, the pager-holder for the day, to see what they can decipher, and how they can best triage the patient, again because we're kind of balancing a greater demand than supply of staff. And so trying to give each patient kind of the most efficient use of services. Also because people are hospitalized not forever, and so if we can figure out which team member can best serve them first, that is optimal."

– ACS team member

Services provided in the hospital

The ACS at BMC provides a variety of services around withdrawal management, harm reduction, and connection to resources and ongoing care. A high priority is to keep patients comfortable for their hospital stay, and ACS providers can provide medications for opioid, stimulant, and alcohol use, including initiating methadone in the hospital. This includes acute withdrawal management during the hospital stay, as well as setting up a long-term treatment plan with the patient if desired. The team also addresses nicotine withdrawal and provides tobacco cessation services as appropriate.

ACS staff provides education around harm reduction topics, such as safe use practices to prevent overdose and infection, and offers information about resources such as the Massachusetts Overdose Prevention Helpline. They also provide education about topics relevant to infectious diseases and other co-occurring conditions, such as post-exposure prophylaxis (PEP) and pre-exposure prophylaxis (PREP) for HIV, sexually transmitted infection (STI) testing, Hepatitis A and B vaccination, and xylazine wound care. The social worker and recovery coach provide support and counseling at the bedside, share information about local resources with patients, and provide items to make the hospital stay more comfortable (e.g., hygiene products, activities).



“Not all patients are ready to stop using in general or completely, and so really trying to help educate people about safer use to prevent infection, to prevent overdose, and so that’s something we can always provide to someone, like even if they don’t want any medications for their withdrawal, or they don’t want any medications for long term, or they don’t want any counseling, you know, we can still provide them with teaching about safer injection practices, we can teach them about overdose prevention strategies.”

– ACS team member

Services and connections provided at discharge

BMC’s consult service provides linkages and referrals to ongoing services after the hospital stay, including connecting patients to methadone clinics, other outpatient treatment programs, and counseling services. Patients who want to receive follow-up care within the BMC system can be seen at Faster Paths or the OBAT clinic. Faster Paths can dispense methadone under the 72-hour

rule⁴ while coordinating ongoing care with a methadone program. In addition, the ACS resource specialist helps navigate placements for patients seeking residential treatment. The ACS program provides harm reduction supplies to patients upon discharge, such as naloxone, fentanyl test strips, and xylazine test strips, and shares information about local syringe service programs and other harm reduction services. BMC currently distributes syringes and pipes in the bridge clinic and in the emergency department, and is working towards being able to provide these supplies at discharge from the hospital inpatient units.

⁴ Drug Enforcement Administration. "DEA's Commitment to Expanding Access to Medication-Assisted Treatment." DEA, <https://www.dea.gov/press-releases/2022/03/23/deas-commitment-expanding-access-medication-assisted-treatment>


Holyoke Medical Center

Holyoke Medical Center is a community hospital located in Holyoke, MA. It has 199 staffed beds and is considered a High Public Payer hospital, with 77% of patient service revenue from public payers⁵. It serves Holyoke, Chicopee, South Hadley, and the surrounding areas.

Program background and staffing

The Addiction Consult Service (ACS) at Holyoke Medical Center was initiated by HEALing Communities Study funds in 2019. Prior to the official formation of the ACS, Holyoke Medical Center received funding from the Health Policy Commission to bring in recovery coaches to the emergency department (ED) and support providers with treating substance use disorders (SUD), including initiating medications for opioid use disorder (MOUD). Holyoke Medical Center already had a provider doing psychiatry consults who was providing some addiction support, but without any formal system or support staff. It was identified through those consults that there was a need for an ACS to provide more comprehensive and consistent services for inpatients with SUD. The funds from HEALing Communities allowed the hospital to increase staffing to establish the ACS, and the program model was influenced by the ACS at Boston Medical Center.

At Holyoke Medical Center, the ACS program operates under the Behavioral Health department, and has three full time staff: 1) a Director of Addiction Treatment and Recovery Support Services, who is a psychiatric nurse practitioner, 2) a certified addiction registered nurse, and 3) a recovery support coordinator. The ACS is also supported by recovery coaches employed by an organization external to the hospital. Holyoke Medical Center has a bridge clinic, referred to as the Comprehensive Care Center. This clinic is overseen by the same nurse practitioner as the ACS, and staffed by another registered nurse.



"The nurse was the game changer because of her clinical knowledge and ability to identify and triage patients quickly, and her strength in partnering with and supporting other nurses and providers"

– ACS Director

⁵ Data from the Center for Health Information and Analysis (CHIA) fiscal year 2021 hospital profile

Patient identification and engagement

There are three primary ways that patients are identified for an addiction consult:

ED & Inpatient Admission List



ACS staff will go through the ED and medical admissions patient lists to review notes and look for patients who may want or benefit from ACS services. This allows the ACS team to proactively identify patients and offer consults.

Formal Consult Requests



Providers and nurses throughout the hospital have the ability to put in an order for a consult with the ACS team

Informal Consult Requests



TigerText is a messaging system used throughout the hospital which providers and staff can use to contact the ACS team with questions or consult requests. ACS team may also receive consult requests through conversations and informal interactions with hospital staff.

It is important to note that a formal consult order is not required by the ACS team, and they encourage hospital staff to reach out to them directly if they feel a patient would benefit from their services. Additionally, the ACS has partnerships with local community organizations who occasionally will contact them if they are aware someone will be coming to the hospital and would benefit from ACS services. In these situations, ACS staff have been able to meet these individuals upon their arrival.

"I think that's just so multi-pronged and there's no wrong way to identify someone, which I think is the most important thing for me. I did not want people to feel like a [formal] consult had to be placed in order for us to see a patient, because I already saw that that wasn't happening when I was doing it on my own, right? [...] I also know nurses are the front-line and really who are spending the most time with our patients. So, I knew that I had to really get them on board with us and helping us figure that out."

– ACS Director

Once a patient has been identified for a consult, the ACS staff will review their chart to see why they are in the hospital and if they have been admitted before, if they have ever had an addiction consult, lab results, and if they're on any medications. From there, the ACS does triaging of their own - assessing what substances the patient has been using, their risk for withdrawal, and medication needs. They then determine who they will see first, among all of the consult requests they have. If the person is able to have a conversation, ACS staff will go see them and let them know what services are available during the hospital stay, and find out what the patient may be interested in. The team focuses on building rapport with patients and offering services in a non-stigmatizing and supportive manner. ACS staff are available to meet with patients at any point during the hospital stay if there are additional services they need, or if they decide initially they do not want any services and then change their minds.

Services provided in the hospital

The services provided by the ACS are centered around ensuring that patients are comfortable during their hospital stay, especially if they are experiencing withdrawal symptoms. The ACS team also offers education around harm reduction (e.g., wound care, safer use practices, where to get clean syringes) and connections to appropriate resources and care after discharge, if patients wish. The ACS is able to provide medications to manage withdrawal and other symptoms related to opioid, alcohol, and stimulant use, including initiating methadone in the hospital. The team also provides support around pain management, particularly in working with other providers around determining safe and effective pain medication dosages.

Providing items like blankets, shampoo, conditioner, and activities to do in the hospital is also a part of their model, to further ensure comfort during the hospital stay. Recovery coaching and navigation services are also available, including discussions around harm reduction, looking for a bed at an Acute Treatment Services (ATS) or other treatment program, and helping identify options for ongoing care. In addition to services provided to patients, the ACS also provides education for staff and participates in the orientation for new nurses. Education and support is also available for family members.

Services and connections provided at discharge

The ACS makes connections to appropriate follow-up care for patients, including (but not limited to) community providers (e.g., therapists), harm reduction agencies, recovery coaches, outpatient or residential SUD treatment programs, and local Opioid Treatment Programs (OTPs) for methadone treatment. Additionally, in the ED, the ACS can dispense methadone under the 72 hour rule⁶. At the time of hospital discharge, the ACS team will provide patients with a last

⁶ Drug Enforcement Administration. "DEA's Commitment to Expanding Access to Medication-Assisted Treatment." DEA, <https://www.dea.gov/press-releases/2022/03/23/deas-commitment-expanding-access-medication-assisted-treatment>

dose letter to present to their OTP, and will email or fax pertinent clinical information to the OTP. The hospital has a positive working relationship with two OTPs in Holyoke.

Many patients opt to continue their SUD treatment at the hospital's Comprehensive Care Center. For patients who are admitted to a skilled nursing facility or other residential facility, the ACS team helps coordinate care, particularly to ensure medication continuity. In addition to harm reduction education during the hospital stay, the ACS also has safe injection kits, resource guides, and Narcan available at discharge.

Lowell General Hospital

Lowell General Hospital (Lowell General) is a community hospital located in Lowell, MA. It has 353 staffed beds and is considered a High Public Payer hospital, with 67% of patient service revenue from public payers⁷. It serves Billerica, Chelmsford, Dracut, Dunstable, Lowell, Tewksbury, Tyngsboro and Westford.

Program background and staffing

Lowell General's Addiction Consult Services (ACS) program was started two years ago with funding from the HEALing Communities Study. Before that, an Accountable Care Organization-funded project had developed a Bridge Clinic model to provide acute psychiatric services along with addiction services, with a goal of decreasing hospital readmissions and emergency department (ED) utilization and to get patients better connected to community care. With a SHIFT-Care grant from the Health Policy Commission, the Bridge Clinic developed into an addiction-focused clinic, and with the HEALing Communities Study funding, the ACS program for inpatient units was launched, with the initial staff including a psychiatric nurse practitioner and a recovery coach. ACS services are provided at the EDs and inpatient units at two sites of Lowell General: the Main Campus and the Saints campus.

After the HEALing Communities funding ended, the hospital decided to continue the consult services, and the team currently comprises the Medical Director for Addiction Services (an MD with Board certification in Addiction Medicine who works 0.5 FTE on addiction and 0.5 FTE in primary care), another 0.5 FTE family medicine MD with addiction training, one full-time social worker, three full-time recovery coaches and two part-time nurse practitioners, one of whom is a psychiatric nurse practitioner. The team is supported by administrative staff including an Operations Director and a front desk coordinator/office manager. The clinical staff and recovery coaches work on the inpatient consult service as well as the Bridge Clinic.

Patient identification and engagement

Patients who may benefit from ACS are identified through multiple methods, shown in the figure below. Each day, the social worker does an initial triage of the consult requests, and then the team does a huddle to review the list of patients, discuss each person's highest-priority needs, and determine which staff will tend to which patients at the different sites. Often, a recovery coach will be paired with the social worker or with one of the prescribing providers for patient visits, because recovery coaches can facilitate faster rapport-building.

⁷ Data from the Center for Health Information and Analysis (CHIA) fiscal year 2021 hospital profile

Formal Consult Orders from Hospital Staff



Floor nurses, providers and social workers identify an ACS need based on their knowledge of a patient's case or from the Alcohol Use Disorders Identification Test (AUDIT) screening tool and drug use questions during admission assessment. A tracking board in the ED also allows providers and staff to identify patients who have been admitted and may be actively using or in withdrawal from substance use. Once a patient is identified, the provider can put in a consult order in Epic to notify the ACS team

Informal Consult Requests



The team also receives informal consult requests through TigerText, their messaging system.

By ACS Team



The ACS team will request that the admitting provider order a consult when the team sometimes identifies patients themselves from the ED tracking board or other interactions


In introducing themselves and initiating conversations with patients, the team emphasizes a nonjudgmental and supportive approach, saying for example, *"We want to make sure to advocate for you and make sure you have the tools that you need to stay comfortable for your admission"*. An interview participant elaborated on this approach as follows:

"Because I think the difference in the hospital is that the patients aren't necessarily there to get addiction treatment. Their primary concern is not usually substance use disorders. They're in there for something else and they may or may not be ready for change or for treatment and so it's very different from our bridge clinic for example where it's a voluntary clinic for treatment of substance use disorder ... In the hospital maybe some of our patients are requesting our help and want care but a big percentage this is their first time ever being asked about their substance use. And they may be very uncomfortable with talking candidly about it. And so we do our best to keep it casual and really aligned with the patients as someone who can help them, not someone who's to offer judgment, to call DCF or any other fears that they might have."

– ACS team member

Services provided in the hospital

For opioid use disorder, the ACS team offers support with withdrawal management using methadone or buprenorphine while patients are in the hospital, which helps encourage them to stay to complete receiving care for their primary medical condition. Methadone is utilized more frequently than buprenorphine because it is more effective for patients who are using fentanyl, and Lowell General described how impactful it was for patients when they first developed a methadone protocol:




“Meanwhile, they’re withdrawing, they’re miserable and sick, and you want them to stay for medical treatment, but they feel like they wanna die because their brain is calling for more of their substance. And so when we first started [...] instituting the methadone protocol, oh my God, people cried. They were like, “Oh, thank you so much,” they were like, “Oh, my God,” it was amazing. [...] what a relief to be able to tell people, “Okay, please stay for your treatment because we’re gonna take care of ya, we’re gonna make sure you feel comfortable, and that you’re not gonna be withdrawing.” And we’ve had a lot more luck on people staying [...]. they’re more willing to stay because they know they’re gonna get taken care of. Whereas before, they might pop into the emergency department hoping that would solve their problem and then leave AMA because they needed to use drugs again”

– ACS team member

Treatment for stimulant use disorders is also available, though there is not a significant demand for this service. In contrast, Lowell General receives a significant number of patients with alcohol use disorder (AUD). For these patients, the hospitalist team (not ACS team) typically handles withdrawal management using benzodiazepines or phenobarbital, and the ACS team provides ongoing treatment during the hospital stay. For all SUDs, the ACS team also helps patients connect with peer support through recovery coaching, as well as social worker support to talk about additional resources they may need.

More broadly, the ACS team believes that it is best to meet people where they are at in their journey. They explain to patients the pathways to and benefits of recovery, but provide room for patients to make their own decisions and set their own goals.



“You don’t wanna badger people. You can have little conversations, just kinda plant some seeds and hope. We always give ‘em a card, tell ‘em we’re up here, that they can just walk into the Bridge Clinic if they change their mind at any point”

– ACS team member

For patients who are not seeking to stop using drugs, the ACS team engages in conversations and shares resources about safety while using drugs, including providing education about xylazine and about the risk of fentanyl contamination in cocaine and other drugs, encouraging patients not to use alone and providing information about the Massachusetts Overdose Prevention Helping, providing information about local syringe services, and encouraging patients to carry naloxone (Narcan) and ensure that someone around them knows how to use it. The ACS team also provides harm reduction education to patients’ families, partners, and caregivers if desired. For patients who may be using drugs during the hospital stay, the team focuses on having open conversations about risks and treating withdrawal effectively so that patients don’t feel the need to use other drugs. Finally, patients are offered screenings for infectious diseases associated with drug use during their initial assessment, and ongoing treatment for hepatitis C and HIV after the hospital stay can be provided through the Bridge Clinic.

Services and connections provided at discharge

At discharge, the ACS team provides naloxone prescriptions but does not distribute naloxone or other harm reduction kits directly to patients, though they are advocating for and working towards making naloxone available at discharge from the inpatient service or the ED. The team also educates patients on where syringe services can be found in the community and coordinates care with the Opioid Treatment Program in Lowell for patients on methadone treatment. For continuity of care, the team offers all patients an opportunity to receive outpatient care at the Bridge Clinic, which can provide ongoing buprenorphine or injectable naltrexone treatment as well as continued recovery coach services. The ACS team can also make referrals to detox or residential SUD treatment programs, intensive outpatient programs, partial hospitalization programs, and counseling services, based on patient preference, or these referrals can be made at the Bridge Clinic for patients who choose to go there first. The team also provides all patients with contact information in case they need to get in touch after discharge.

Massachusetts General Hospital

Massachusetts General Hospital (MGH) is an academic medical center located in Boston, MA. It has 1,063 staffed beds and receives 59% of patient service revenue from public payers⁸. The hospital's primary service area includes Boston, Chelsea, Revere, and Winthrop.

Program background and staffing

The inpatient addiction consult team (ACT) program at MGH began in 2014, following a community health needs assessment that identified substance use as a major community concern. At the same time, the hospital was in the process of becoming an accountable care organization, and recognized that treating substance use disorders (SUD) effectively in the hospital setting could have benefits under a value-based care model, such as reducing readmission rates. In the subsequent strategic planning process, MGH prioritized SUD care and developed a Substance Use Disorder Initiative, led by a physician who currently serves as the Initiative's Medical Director. The SUD Initiative at MGH includes the inpatient ACT program, integrated SUD treatment in hospital-affiliated primary care locations, and a low-threshold walk-in bridge clinic, which was the first bridge clinic model in the nation (19).

The ACT program initially supported a small number of inpatient medical units, staffed by a 0.5 FTE prescribing medical provider and a part-time social worker. The program now supports all medicine and psychiatry units and the staffing has grown over time. The ACT program currently has a team of prescribing providers (either MDs or NPs, 5 FTE) and social workers (4-5 FTE with LICSW certification) available on a daily basis, in addition to recovery coaches (1 FTE), a full-time resource specialist (with LCSW certification), a full-time patient services coordinator, and a part-time practice manager providing administrative support. The provider time includes some people who spend the majority of their time on the inpatient consult service, some with hybrid roles who spend some time on the consult service and the rest of their time in primary care or hospital medicine, and some people who spend most of their time in a different role but periodically do week long rotations on the consult service. In addition to this core team, MGH has a strong emphasis on training, and runs an integrated SUD training program as well as addiction medicine and addiction psychiatry fellowship programs. Trainees from all of these programs rotate on the inpatient addiction consult service. The SUD Initiative is interdisciplinary and staff come from both the Medical and Psychiatry hospital departments.

⁸ Data from the Center for Health Information and Analysis (CHIA) fiscal year 2021 hospital profile

Patient identification and engagement

Patients who could benefit from ACT are identified through two main avenues:

At Admission



At admission, nurses screen all patients for substance use, and will inform the responsible physician if there are patients with high screening scores


During Initial Assessment or other Interactions



Hospital providers and staff can identify a possible SUD in their interactions with patients, e.g., during the initial assessment

In either case, the patient's team can then determine if a consult is needed (typically for moderate or severe SUD or patients with more complex conditions). Before placing the consult request, the hospital care team will typically talk to the patient about the support they can get from the ACT to ensure that they are willing to speak with a consult provider. The physician can then place a formal consult order (because MGH's ACT is a billable service, the order must be placed by a provider). The ACT patient services coordinator triages consult requests and determines how to divide them up among the staff who are available. In general, an MD or NP from the ACT will visit the patient first to conduct an assessment and determine medical needs and a corresponding treatment plan.

In educating hospital providers and staff about the program the ACT emphasizes that a patient does not have to be seeking SUD treatment in order to benefit from a consult, and that they can support harm reduction and withdrawal management in addition to SUD treatment if desired. When introducing themselves to patients, ACT members seek to normalize SUD, be clear and transparent about their role, and build rapport, understanding that they need to earn trust by demonstrating compassion and desire to meet the patient's needs.



“... I can count on one hand the number of times over the last ten years that someone has said they don’t want to talk to me. I think as long as you frame it around [in a welcoming way], I’m just here to check in and is it okay if I talk to you and ask permission, it usually goes pretty well. ... And I always assume that people will not trust me because most people who use substances, their experience of healthcare professionals is that if you tell them about your substance use, bad things happen to you. You get kicked out of the hospital, you get reported to DCF. ... And so I assume that I’m going to have to earn people’s trust and that there’s no reason they’re going to trust me when I walk in the door if they don’t know me. ... And so that early sort of rapport, building engagement, giving someone a reason to trust that I’m actually going to help them I think is super important. And that becomes especially critical when people are suffering.”


– ACS team member

Services provided in the hospital

Each role group on the ACT provides specific services matching their expertise and qualifications. The more patient-facing team members are the medical providers, the social workers, and the recovery coaches. Providers do the initial assessment, can determine substance use disorder diagnoses, and make treatment recommendations for SUD and related medical consequences. Providers can initiate medications for opioid use disorder (including methadone), alcohol use disorder, and tobacco use disorder as well as off-label medications for stimulant use disorders. Managing withdrawal with medication is often the first priority in order to stabilize patients and help them be comfortable enough to stay in the hospital to receive other necessary treatment.

ACT social workers provide psychosocial support and treatment planning, including bedside therapy and motivational support, to help patients to think about what their goals are, what wellness looks like for them, and what their next steps may be. The social workers work with patients to identify the services and resources they may need after discharge, and the team resource specialist helps make referrals and handles other administrative aspects of discharge planning. Recovery coaches provide peer support during the hospital stay, including bringing


patients clothes and other basic supplies as well as small activities such as coloring books to help them pass time.



“And then the social workers also really help with -- probably more so than many other consult teams -- we are really involved in the discharge planning because the addiction treatment system is so challenging to navigate and requires a certain level of expertise about what level of care makes sense for people, what programs accept what types of patients or insurance, and all that stuff.”

– ACS team member

Through all their interactions, the ACT uses a harm reduction approach in which they aim to support patients’ goals, whether or not they want to stop using drugs or engage in SUD treatment. They work to support safety and reduce adverse outcomes for all patients. This includes aggressively managing withdrawal so that patients are less likely to feel the need to use drugs while they are in the hospital as well as providing education on safer use practices. They also understand that there will still be some drug use in the hospital, and have installed reverse motion detectors in some bathrooms to alert staff about possible overdoses as well as sharps containers in public use bathrooms. In addition, the team does education for hospital providers and staff to build awareness about harm reduction, foster culture change, and lay the foundation for being able to offer more harm reduction services within the hospital walls.



“I will say that our whole approach is harm-reduction-focused in that many of our patients don’t wanna stop using and have different goals. And so a lot of our work is around how do we just reduce harm with whatever your goals are in terms of your use, whether it’s to completely stop, or whether it’s to try to stop, or whether it’s to not try to stop, but to stay safe and to stay alive.”

– ACS team member

Services and connections provided at discharge

At discharge, the ACT program provides naloxone to patients at bedside, as well as safer use kits including safer smoking and safer injection supplies. They are able to provide fentanyl test strips as well. In addition, the ACT provides education about harm reduction resources, such as local harm reduction agencies and syringe service programs, the Massachusetts Overdose Prevention Helpline, and the Canary phone app, which can monitor if a user stops moving and then can alert others who can respond if there has been an overdose.

The ACT social workers and resource specialists also develop and maintain relationships with various SUD treatment programs in the community so that they can make referrals and connect patients to different levels of care, such as residential treatment, intensive outpatient programs, and Opioid Treatment Programs for methadone treatment. For patients seeking ongoing outpatient care for SUD, the ACT can transition them to the bridge clinic first to receive low-barrier care and stabilization before transitioning to a long-term outpatient provider. There is a wide range in how long people receive care at the bridge clinic; the median is roughly 70 days, but some patients may only have 1-2 appointments before transitioning elsewhere, while those with complex medical, psychiatric, or social needs may stay with the bridge clinic for over a year.

South Shore Hospital

South Shore Hospital is a community hospital located in South Weymouth, MA. It has 445 staffed beds and receives 62% of patient service revenue from public payers⁹. It has a primary service area of 32 cities and towns in southeastern Massachusetts, spanning Quincy to Plymouth¹⁰.

Program background and staffing

South Shore Hospital's Addiction Consult Services (ACS) program was started in Fall 2019, initiated by a physician who is currently the hospital's Medical Director of Addiction Medicine, funded by a \$10M private donation. The Medical Director had completed fellowship training at Boston Medical Center (BMC) and based South Shore Hospital's ACS program on BMC's model. With the initial funding, the Medical Director developed a comprehensive set of addiction services, including the inpatient ACS program as well as a low barrier bridge clinic, a perinatal behavioral health program, office-based addiction treatment (OBAT) services for primary care patients, and Screening, Brief Intervention, and Referral to Treatment (SBIRT) integrated into the emergency department (ED).

South Shore Hospital's addiction services were initially staffed by the Medical Director, who is board certified in addiction medicine, and a nurse practitioner. As demand increased, the staffing grew and now includes the Medical Director as the attending physician, four nurse practitioners totaling 3.1 FTE, and one part-time recovery coach, who was hired with additional philanthropic funding. All staff work in rotations at both outpatient and inpatient settings, and the inpatient consult service has 12 hours of in-person clinical coverage per day for five days a week (with providers on call to provide remote consultation on weekends if needed). The program is currently housed within the hospital's Department of Internal Medicine.

In addition to services for patients, South Shore Hospital's addiction team organizes significant trainings and educational opportunities for hospital staff to build their awareness about substance use disorders and capacity to treat patients. This has included stigma training for all nurses, presentations for physicians at department meetings, and capacity building to ensure that all physicians working in the ED or inpatient units are able to prescribe buprenorphine.

⁹ Data from the Center for Health Information and Analysis (CHIA) fiscal year 2021 hospital profile

¹⁰ https://d18unesthp5g3j.cloudfront.net/www.southshorehealth.org/assets/2023-09/south-shore-health-fact-sheet-2023_final.pdf

Patient identification and engagement

Patients who need ACS are identified with the following methods:

Request from ED



Patients are screened in the ED for drug and alcohol misuse, and those who screen positive are seen and triaged by an SBIRT clinician. If the ED provider or SBIRT clinician believes that an addiction consult is needed, they can place a request. Consults are provided in the ED or in the inpatient units, for those patients who are admitted.

Request from Hospitalist



Providers and nurses working on the inpatient medical floors can place a consult request if they identify a patient who could benefit from addiction services.


Upon receiving a consult request, an ACS team member will connect with the person who ordered the consult to learn more about what support they need, and then will review the patient's information and go visit the patient. The team approaches patients in a non-judgmental and supportive manner, engaging them as partners in care planning. Patients are made aware of next steps, they are aware that the addiction consult team will meet them, talk to them about their issues and map out a treatment plan together

"I would say most of the time patients are really receptive to talking to an addiction professional because we know what we're talking about. This is stuff we do all day, every day. And we're not coming at it with a stigmatizing sort of language and stuff like that. So the conversation usually flows pretty well in terms of getting a thorough substance use history. And then seeing what's going on recently. And from there, from a whole lot of listening, we'll discuss treatment and what treatment looks like. And find a good plan with them."

– ACS team member

Services provided in the hospital

South Shore Hospital has addiction treatment guidelines that hospitalists can use to do some addiction treatment on their own, reserving ACS for cases when individualized consultation is needed. As one team member said:



“...the protocols work so well...So [the consult service] is used as a precious resource, and the hospitalists are quite smart and talented, and so they’re like, ‘Yeah, I know how to manage this patient, I’m only gonna use the service for something that’s extraordinary’”.

– ACS team member


When consults are requested, the consult provider makes an assessment and then develops a recommendation which can be implemented by the ACS team or by the patient’s attending physician. South Shore Hospital’s ACS program primarily focuses on opioid use disorder (OUD) and alcohol use disorder (AUD). They offer medications for OUD and AUD, and provide withdrawal management support customized to each patient’s individual needs, including use of methadone or buprenorphine if appropriate. For stimulant use disorders, the ACS team can offer comfort medications and connections to outpatient services for further treatment. The peer recovery coach is an important part of the team and supports patients to feel informed and comfortable making decisions about how to proceed with treatment and other services.

For patients who are not seeking treatment, the ACS team offers harm reduction support, including education on overdose risk, safer use practices, and how to use naloxone (Narcan), and also provides information on where safer use supplies are available. In addition, they provide education and treatment for infectious diseases associated with drug use, such as Hepatitis C and HIV. For patients that may be using drugs in the hospital, the team prioritizes patient safety and works with the patient to ensure that they are comfortable and that their withdrawal is being managed properly to reduce the desire to use.

Services and connections provided at discharge

At discharge, the hospital provides patients with naloxone (Narcan) as well as wound care kits with multilingual instructions and fentanyl test strips. They provide referrals and connections to a variety of follow-up treatment services. Patients can also receive follow-up care at South Shore Hospital’s bridge clinic, which provides treatment for all substance use disorders, including buprenorphine for OUD, naltrexone for OUD and AUD, off-label medications for treating stimulant use disorder, and contingency management to motivate treatment across conditions.

The program's Medical Director is also the Medical Director of a local Opioid Treatment Program (OTP) and can facilitate smooth transitions and coordination of care for patients who need methadone treatment. In addition, the recovery coach can provide transportation to the OTP for the first week after discharge for patients who need this support. South Shore Hospital does not currently dispense methadone to outpatients under the 72-hour rule¹¹ but is working towards being able to do this to make care transitions even smoother.



"If someone is getting connected to methadone, a methadone clinic, and they have barriers, including transportation, this peer recovery coach will actually drive them to the clinic for a period of up to a week ... So it can really be helpful for that recovery coach to meet people in the hospital, make that initial connection. And then if they need transportation, they can help them for that first week after discharge."

– ACS team member

¹¹ Drug Enforcement Administration. "DEA's Commitment to Expanding Access to Medication-Assisted Treatment." DEA, <https://www.dea.gov/press-releases/2022/03/23/deas-commitment-expanding-access-medication-assisted-treatment>

UMass Memorial Medical Center

University of Massachusetts Memorial Medical Center (UMass Memorial) is an academic medical center located in Worcester, MA. It has 793 staffed beds and is considered a High Public Payer hospital, with 66% of patient service revenue from public payers¹². UMass Memorial serves Worcester, Shrewsbury, Millbury, West Boylston, Leicester, and Holden.

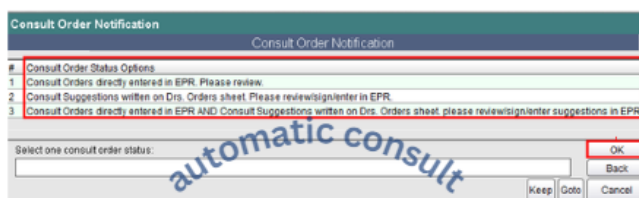
Program background and staffing

UMass Memorial's Addiction Consult Services (ACS) program was started in 2017 when the hospital received a grant to expand access to substance use disorder (SUD) services. The program was developed in response to staff requests for addiction psychiatry services to support the needs of patients admitted to the hospital. After the grant funding ended, UMass Memorial retained some of the staff from the original program, though staffing was reduced from the original level. Currently, the ACS team comprises two recovery coaches, one addiction psychiatrist (available for about three hours per day) who is the program's medical director, and two social workers, one of whom also has a program manager role. The program is also sometimes supported by a fellow. The ACS team is housed within the Psychiatry Department, and the services are currently included in the department's budget. ACS services are provided for all medical and surgical floors at both the University and Memorial hospital campuses. UMass Memorial does not have a bridge clinic, though it does have outpatient psychiatry services for patients with SUD, including those with co-occurring mental health disorders.

Patient identification and engagement

Patients who may be eligible for ACS are identified through multiple pathways:

Automatic Consult



All patients who are admitted with a known SUD receive an automatic consult order.

Referral by Hospital Staff



For patients who get admitted to the hospital for any reason, the attending physician, floor social workers, or case managers may identify a SUD or possible substance misuse and can order an addiction consult

¹² Data from the Center for Health Information and Analysis (CHIA) fiscal year 2021 hospital profile

Electronic Health Record Screening



A built-in system in the Epic electronic health records searches for relevant terms (Suboxone, methadone, heroin, fentanyl, substance use disorder, etc). Identified records will be sent via email to ACS team every morning; a recovery coach will visit the patient to assess their needs before a formal consult is ordered. This system has helped identify patients who were missed by the hospital attendings and social workers. In 2022, an additional system was set up to identify patients who are high utilizers or have visited the hospital multiple times.

Community Referrals



Occasionally, the team receives referrals from community providers (e.g., nursing homes, external recovery coaches, local outpatient therapists) who are familiar with UMass Memorial's addiction services and know of a patient who has been recently admitted and may need ACS.


Once a patient is identified, a member of the ACS team visits the patient, with the specific staff person for the initial engagement selected based on the patient's immediate needs and/or prior knowledge of the patient, if the ACS team has interacted with them in the past. For example, if the consult is ordered specifically for medication management or if the patient needs support with an active psychiatric condition in addition to SUD, the addiction psychiatrist will be the person the patient meets with first. In most other cases, a recovery coach will do the initial visit to provide peer support, and will elevate the case to a social worker and/or the addiction psychiatrist if needed.

"We do have a pretty good team. ... a lot of times, I can say, you know what, let's start with a recovery coach. [Other] times, I feel like maybe they need some clinical expertise, so let's start with a social worker. [Or], I see the consult was ordered specifically for med management, so I'm asking [an addiction] psychiatrist to step in. And I say, you know what ... can you chime in and answer some questions about meds, how to medicate a patient? So we are very flexible about how we start with the patient."

– ACS program manager

Services provided in the hospital

The ACS team is most often asked to provide consultation for patients with alcohol use disorder, followed by opioid use disorder. The team helps patients map out their care plan; for example, asking if they are interested in getting started on medication for opioid use disorder or alcohol use disorder if relevant, if they want peer services while admitted, if they would like residential or outpatient treatment services after discharge, and whether there are other non-substance use related needs they may have.



“Most of the time it’s asking whether they want some medication-assisted treatment; can we get them started on anything? We can brainstorm with the patient about what is that you need, what kind of referral, who would you like to follow up with on an outpatient basis? Where do you want to go from here? And the list goes on and on and on.”

– ACS team member


The addiction psychiatrist is able to support patients with withdrawal management, including dosing methadone in the hospital, and can initiate or continue buprenorphine or injectable naltrexone treatment. The addiction psychiatrist can also provide recommendations for medication for stimulant use disorder if appropriate. In addition to medication, the ACS team provides supportive psychotherapy and motivational enhancement therapy as well as peer support. The ACS team also recognizes that some patients are not looking for treatment or do not want to stop using drugs, and supports patients to reflect on the role drug use plays in their lives and the impacts it has, both positive and negative. They also provide information about how to be safer while using substances. Once the ACS team tends to the patient, they document any necessary follow-up or referrals, which are then completed by inpatient social workers or the attending physician.

Services and connections provided at discharge

Although UMass Memorial has an outpatient psychiatry clinic, the ACS team noted that the capacity is very limited, and they are not always about to refer their patients to these outpatient services. Therefore, they typically refer patients to external providers in the community for ongoing services. The team also provides all patients with contact information for the Addiction Psychiatry program manager in case they need to get in touch, and offers patients the opportunity to continue working with their recovery coaches after discharge, typically for three months though some patients continue for longer.

For patients who are on medication for opioid use disorder or alcohol use disorder, the ACS team makes referrals to outpatient providers that can provide ongoing medication treatment and will also make the initial appointment for patients if possible.

For patients on buprenorphine, the ACS addiction psychiatrist typically will provide prescriptions to cover the gap until the patient has an appointment with an outpatient provider, because they do not have a bridge clinic that can do this. For patients who need methadone treatment, the team can coordinate care with a local Opioid Treatment Program (methadone clinic). In some cases, a recovery coach will drive patients to their first outpatient appointment after discharge to support a smooth care transition.



“We can provide any patient with [medication], whether it’s for alcohol or opioids, and we provide scripts for those. After working for the last few years here at UMass, I managed to build some relationships with some outpatient providers, so hooking the patient up, whether it’s methadone or Suboxone, is not a problem anymore for me. I can always secure those, knowing that the patient will be getting those meds on the very next day after discharge, without any problems.”

– ACS team member

The ACS team can also help patients connect with other services, including intensive outpatient programs and peer support groups. For patients seeking residential treatment, the team noted that they will try to find a treatment bed, but that it can be very difficult to find a placement for patients after hospitalization because they typically do not need detoxification services, which is the standard first step in the residential continuum of care.

For harm reduction services, the addiction psychiatrist will sometimes recommend that the medical team write a prescription for naloxone that the patient can pick up at a pharmacy. For some high-risk patients, the ACS team will provide a naloxone kit at bedside and provide education to the patient and family members or other support people. In addition, the hospital recently acquired a small quantity of harm reduction kits from AIDS Project Worcester, which include supplies such as fentanyl test strips, clean syringes, and condoms. The ACS team provides this kit at bedside to patients who would most benefit from these supplies, and also refers patients to AIDS Project Worcester for ongoing harm reduction services.

Cross-cutting themes

Core components of successful programs

This section highlights commonalities in ACS program structure, services, and approach across the six hospital models.

Minimum staffing

Though the six programs profiled in this report vary in their specific staffing setups and sizes, they all share a common minimum team structure consisting of a prescribing provider (MD or NP) and peer support specialist or resource navigation staff, such as recovery coaches. Most programs also have a nurse and a social worker on the team. Beyond this core structure, there are variations across the hospitals. For example, Holyoke Medical Center utilizes recovery coaches that are employed by an external organization, while other hospitals employ their own recovery coaches. Some programs have staff that split their time between inpatient units and a bridge clinic or other outpatient service, and the large academic medical centers (MGH and BMC) utilize trainees and have a rotation model for the consult physicians.

Withdrawal management

All participating programs focus on effective withdrawal management as the first step in a patient's care, including management of opioid, alcohol, and stimulant withdrawal. Participants emphasized that managing withdrawal and focusing on patient comfort is critical for building trust and encouraging patients to stay in the hospital to receive the medical care they need. All hospitals utilize methadone (or sometimes buprenorphine) for opioid withdrawal management and facilitate connections to outpatient treatment providers for medication maintenance after hospital discharge, if desired. BMC, Holyoke Medical Center, and MGH are able to dispense up to three days of methadone after discharge under the 72-hour rule¹³ while coordinating care with an OTP, and some of the other hospitals are working on developing their capacity for this. Hospitals use off-label medications or comfort medications for stimulant withdrawal management, and medications such as phenobarbital for alcohol withdrawal, with injectable naltrexone for ongoing treatment of alcohol use disorder, if desired.

Bridge clinic and/or other outpatient SUD clinic

All six hospitals operate either a low-barrier bridge clinic or another model for outpatient SUD treatment services (such as office-based addiction treatment), or both. Hospitals with a bridge clinic often utilize this for transitional treatment while the patient is establishing a relationship

¹³ Drug Enforcement Administration. "DEA's Commitment to Expanding Access to Medication-Assisted Treatment." DEA, <https://www.dea.gov/press-releases/2022/03/23/deas-commitment-expanding-access-medication-assisted-treatment>.

with an outpatient provider for ongoing treatment, either internal to the hospital system or external in the community. This allows for smoother care continuity after hospital discharge, and gives patients an opportunity to continue their care in a trusted environment and stabilize while determining the best long-term plan. One interview participant expressed the importance of having an outpatient service along with the inpatient ACS:

“Don’t do a consult service unless you have an outpatient program. A bridge clinic, something. ... The value is significantly diminished. You lose a lot more patients who will not follow up with someone else. People like seeing the person they saw in the hospital, in the office. You need to have a bridge program or something similar that you can take care of patients in.”

Patient-centered harm reduction approach

All participating hospitals take a patient-centered harm reduction approach when providing addiction services in the inpatient setting. As one provider said,

“The goal should be that no one dies in the hospital and no one leaves prematurely because they feel like they were mistreated in the hospital.”

This includes prioritizing trust-building, respectful treatment, and patient safety rather than treating substance use punitively; meeting patients where they are and respecting their preferences about the services that they want or don't want (20); educating other hospital staff about harm reduction to foster culture change (21); and advocating for hospital policies that do not stigmatize or unnecessarily restrict freedom for people who use drugs or have a SUD (22). Patients’ descriptions of their care experiences hospitals illustrate the positive impact of these approaches (20) (see sidebar).

Programs strive to create an environment that allows for open conversations about drug use, so that patients can feel comfortable expressing if they are experiencing withdrawal and want to use drugs in the hospital. This allows the ACS team to adjust their approach to withdrawal management to better meet the patient’s needs and relieve their symptoms. One ACS provider described this approach:

“We try to bring it up gently, and I know that’s a huge fear of patients, is being locked up somewhere where they don’t have access to their substance. But our goal

Patients' descriptions of positive care experiences at Boston-area hospitals

“They tried to meet my needs, asking me what would help, pretty much I played a part in any decision that was being made. You know, I felt good about that. ... they wanted my input, that was great. ... You know, I was able to tell them what is best [for me].” (54-year-old male)

“I felt like a human being in there” (51-year-old male)

“They listen to you”, “they’re nice to you” (30-year-old male)

really is to have the methadone or Suboxone right there ready so that we're adequately treating them with what they need."

Hospitals also offer specific harm reduction services, including providing patients with fentanyl and xylazine test strips, and providing naloxone (Narcan); most hospitals are able to provide naloxone directly at bedside to patients at discharge, but Lowell General Hospital provides a prescription and is working towards being able to distribute it directly. While all hospitals would like to be able to provide safe use supplies such as syringes or pipes to patients at discharge, only MGH and Holyoke Medical Center currently do so. The other hospitals refer patients to community programs that can provide these supplies. Providing safer use kits takes effort to build buy-in and overcome resistance as well as develop protocols, as MGH described:

"It definitely took a lot of interdisciplinary efforts to be prepared to [give out kits] because we needed to ensure that the hospital and inpatient staff were onboard and understood what we were doing. And then sort of the actual logistical workflow of doing it, and where does it go in the patient's belongings, and how do they get it before discharge and stuff like that. So I think that generally ... it took some effort. It took going to nursing and other different leadership committees to kind of get buy-in and support for doing it. It wasn't something that we could just start doing the way that we've done in some of our outpatient programs where we have kind of the ability to just go ahead and do it. And then it took working with our pharmacy team and stuff like that to figure out what the workflow was going to be."

In addition, all ACS teams provide education to patients on safer use practices, risks to be aware of with the current drug supply, and resources such as the Massachusetts Overdose Prevention Helpline. Hospitals also provide education, testing, and treatment for infections and other conditions associated with substance use, such as xylazine wound care.

Barriers and challenges

This section summarizes challenges that the participating ACS programs have faced or continue to face, grouped into five themes: 1) Access to follow-up care, 2) Stigma among hospital providers and staff, 3) Financial sustainability, 4) Staffing, and 5) Regulatory barriers.

Access to follow-up care

Insufficient access to post-discharge follow-up care was a significant challenge for participating hospitals. Participants expressed that ACS programs have limited impact if they are unable to connect patients to ongoing services that they need after they leave the hospital. Ideally, when hospital care is no longer necessary, patients should be seamlessly transitioned to the level of care that is most appropriate for them, such as residential treatment, outpatient care, and/or community-based harm reduction services. However, in reality, there are insufficient SUD treatment programs and harm reduction services to meet the need. Thus, an immediate transition to follow-up care is not always possible, and patients are sometimes discharged without the SUD support they need, creating conditions where they are likely to be readmitted at some point in the future. While hospitals can transition patients to their own bridge clinics or outpatient services, these are not always intended for long-term care and sometimes have their own capacity limitations. One ACS provider said:

“And so we’re only as good at connecting people to the services that exist, and there’s really a lack of rapid easy access to medications, a lack of rapid easy access to counseling, a lack of rapid easy access to residential treatment, especially with a really short length of stay in the hospital and pressure to discharge patients. We are connecting people only to the imperfect at best, broken more likely accurate, treatment system.”

Participants highlighted there are geographic inequities in access to SUD treatment and harm reduction services, with programs being concentrated in the Eastern part of MA, and services closing in the Western part of the state, which creates more competition for the programs that remain. Some stakeholders also noted that there is a particular dearth of dual diagnosis programs for people who need SUD and mental health care. Further, in some places, community stigma has created a barrier to developing harm reduction programs.

There are also barriers to access for the programs that are available; for example, insurance coverage can limit patients’ access to certain programs. In addition, intake and referral policies at some Opioid Treatment Programs (OTPs) create barriers to smooth transitions for patients who need methadone treatment. One program shared an example in which their local OTP only does new patient intakes once a week. Even if the hospital were to dispense 72 hours of methadone doses while transitioning a patient to OTP care, depending on the day of discharge

there could still be a gap of multiple days before the patient can begin ongoing treatment with the OTP. Some participants suggested that having resource navigators or specialists can help overcome some barriers, as these staff can build relationships with community providers and can develop knowledge of the available resources and what their strengths and limitations are.

Finally, participants repeatedly emphasized that many patients who receive ACS at their hospitals have significant needs related to social determinants of health (SDOH), including housing. There are very limited resources and services to support patients with their SDOH needs, and without this, it is difficult or impossible for a person to stay engaged in SUD treatment, even if they are smoothly transitioned into treatment after their hospital stay. Participants stated that hospitals are not equipped to support patients with the pressing social needs that are deeply intertwined with substance use; as one provider stated:

“[When] somebody’s in crisis they come to the hospital. But the reason they had that crisis isn’t only because of a reversible medical issue it’s because of all the social determinants of health and, you know, those are getting harder for a lot of folks. And [hospitals] don’t have all the tools or solutions to help people with that”

Stigma among hospital providers and staff

Stigma towards people who use drugs or people with SUD was a common challenge that hospitals faced, particularly when their ACS programs were new. Participants talked about facing resistance from colleagues about using medication for opioid use disorder treatment and about harm reduction services and approaches; for example, some hospital providers and staff do not want safe drugs use supplies provided to patients because they consider this to be “enabling”. One ACS provider described this challenge:

“It’s really the foundational shift from addiction as a moral problem to addiction as a disease. If you shift and understand it as a disease, then we do harm reduction for all kinds of disorders and diseases while people work on getting changes made, particularly like diabetes that have major behavioral components to them. It’s hard, and we don’t censure people or sanction them or tell them that, “No, you can’t have treatment until you’ve already corrected the problem.” This is what we used to do with people with addiction. So yes, the idea of addressing needs while people are still actively using, working on helping them think about reducing their harm, causes people to react feeling like perhaps what we’re actually doing is making it easier for someone to use. If I give you clean materials to use so that you’re not going to get sick, is there a mixed message there that I’m condoning your use? So we’ve had to really struggle with helping people see that it’s not about condoning or not condoning. It’s not on us to make that decision for them. They make that decision. It’s about us doing our job and helping them stay as safe and well as they can, and that’s actually what we do.”

Though stigma remains an ongoing challenge to some extent, participants noted that they have made progress in building support for harm reduction services. As one ACS team member said,

“Nurses used to look at me like I had ten heads but now they’re way more open to [harm reduction] and excited about it too.”

Hospital stakeholders also highlighted that standard hospital policies, such as room/possession searches and limitations on visitation for people with SUD, can reinforce stigma and be at conflict with harm reduction approaches, because they treat drug use punitively rather than encouraging patients to stay in the hospital to receive the medical care that they need. For example, a 30-year-old male patient described how the search policies at a Boston-area hospital make him feel:

“One time what happened when I was in the hospital, I was doing drugs in the bathroom of the hospital, so they catch me ... [now] every time I go to that hospital, I got this thing on the computer that [says] I got to be searched no matter what, my book bag whatever I’m carrying, all my clothes and everything. ... I get angry because like, I don’t know, I’m not in the mood for you to come and strip me down, search me and I’m not in the mood for that. I’m over here because I overdose and you want to come and strip me and search me. Either give me the treatment ... or I’m out of here, I’m not doing this.”

Provider burnout can compound this issue by making it harder for providers to take extra measures to encourage patients to stay in the hospital when SUD symptoms manifest as challenging behaviors. One person elaborated on how providers and staff are not trained in harm reduction approaches, and there is a need to provide education to help people unlearn what they were taught, and relearn new ways of working with people who have SUD:

“And hospitals in particular are really designed to be sort of abstinence spaces. That’s the mindset. That’s how people have been trained and they think that that is doing right by the patient and that’s the safe thing to do. [...] Everyone wants patients to be safe and staff to be safe. That’s what they’re working towards. [...] And so some of it is really about how do we educate, how do we reorient around what does safety mean and how do we get there? And so one example I’ll use is to me safety means someone doesn’t die of an overdose while they’re in our hospital and they don’t leave prematurely, which we know increases their risk of dying once they leave. And to do that, the strategies to get there are actually to give people more pain meds to manage their withdrawal more aggressively, to make them feel welcomed and not penalized, to help them feel like they can stay in the hospital. Whereas I think people who haven’t been exposed to addiction medicine much, they often have learned -- have been trained with this mindset of we need to prevent

people from using drugs so the way to do that is to sort of crack down on them more so to search their belongings, to not let them have visitors, to not let them leave the unit, to not give them pain meds. So it's actually the exact opposite of what I would suggest is helpful."

Participants also described lack of knowledge and comfort related to addiction and SUD treatment approaches among general medical staff, which can be linked to stigma because of how some providers and staff think of SUD differently than other conditions that they treat. For example, participants said that many hospital providers are not comfortable dosing pain medications for people who have SUD and are not comfortable ordering methadone for withdrawal management, even when the hospital has protocols they can follow. ACS programs can step in to help with this, but they are sometimes called when a specialty consult is not really needed. If other medical providers had more knowledge and comfort, patients would be able to have their needs met faster and ACS teams could focus on cases that need their expertise. Some participants also suggested that there is a need for more widespread education on addiction and how it presents in patients, trauma and how it relates to addiction, overdose response, and best practices for xylazine wound care.

Financial sustainability

Participating hospitals generally agreed that ACS programs are not financially sustainable on insurance reimbursement alone, and that funding is a major challenge. Some noted that because of financial constraints, they do not have enough staff coverage to be able to see all the patients who need a consult or to provide all of the services they would like to, especially when the same staff team is responsible for covering multiple sites. Participants described a number of billing limitations and challenges. First, although addiction services are often critical to helping patients stay in the hospital to receive necessary care for other medical conditions, the payment the hospital receives based on Diagnosis-Related Group (DRG) codes does not sufficiently cover ACS costs. In addition, while MD and NP consult services can be individually billable, the reimbursement rate is typically lower than for other specialties, and other care providers on the team (such as social workers or recovery coaches) are not individually billable in the inpatient setting or are billable in a limited way. There are administrative hurdles to billing, such as provider credentialing processes and prior authorization, and these are especially burdensome to smaller hospitals with less resources. Participants also highlighted inconsistencies in what different payers cover.

Overall, there is a need for more resources on how to optimize reimbursement for ACS, including information about coding best practices, when board certification in addiction medicine or addiction psychiatry is required for billing a specialty consult, and how to ensure that consults are recognized as a specialty service (e.g., updating NPI taxonomy for providers). Furthermore, participants highlighted that ACS can produce long-term cost savings (e.g., by reducing readmissions), but that in the short term, there could be an increase in length-of-stay.

It is challenging to understand the true return on investment for ACS, and there is a need for more studies in this area. ACS team members described sustainability challenges:

“But unfortunately, addiction doesn’t reimburse super-well, right, we’re not doing procedures, we’re not doing heart cath, and so I think we’re always a little bit worried that we’re at the bottom of the totem pole or chopping block, however you wanna put it, as far as when the hospitals are in a pinch.”

“We are not even close to [covering our salaries through billing]. So every single year, to get to the budget, “we” meaning our department, in the hospital, every single time we have to justify the need for our existence. And it’s a struggle.”

Staffing

Some participants shared challenges related to staffing, including difficulty hiring qualified people for provider and recovery coach positions and challenges retaining recovery coaches. It can be difficult to find candidates who have the right combination of skills, qualifications, and harm reduction mindset, in part because there are not enough addiction training programs. Programs may also encounter resistance to hiring peer staff, particularly if they do not have traditional educational qualifications and/or have a history of criminal-legal systems involvement, and program leaders may need to build buy-in about the value of these roles and work to update hiring policies accordingly. One hospital also highlighted challenges with different staffing models; for example, when consult providers are staffed primarily on ACS, they can develop deep skills but are more prone to burnout, while using a rotation model can be better for provider satisfaction but does not facilitate skill-building at the same level. In addition, this hospital uses an NP-led model where NPs provide consults without a supervising MD, and there were challenges working out operational details due to differences between NP and MD scheduling and pay models.

Regulatory barriers

Hospitals described some challenges with regulations related to SUD treatment. These included:

- Policies intended to curb overprescribing of opioid medications for pain management can result in people with serious medical conditions such as cancer being refused pain medications by their primary physician and being referred to ACS for pain management, even when there is no concurrent SUD
- Challenges navigating regulations around the 72-hour rule¹⁴ for methadone provision

¹⁴ Drug Enforcement Administration. "DEA's Commitment to Expanding Access to Medication-Assisted Treatment." DEA, <https://www.dea.gov/press-releases/2022/03/23/deas-commitment-expanding-access-medication-assisted-treatment>

- Privacy regulations (42 CFR Part 2)¹⁵ limiting information-sharing in a way that holds programs back from being able to operate to their full potential
- Not having clarity about the regulations regarding who can distribute clean syringes for harm reduction in the hospital and whether or not Narcan can be provided at bedside vs. with a prescription
- Challenges building awareness about MOUD policies among providers outside of the ACS team; for example, the removal of the waiver requirement for buprenorphine prescribing¹⁶ and the ability for any provider to order methadone for withdrawal management for inpatients

¹⁵ Substance Abuse and Mental Health Services Administration. "The 42 CFR Part 2 Final Rule: Confidentiality of Substance Use Disorder Patient Records." SAMHSA, [https://www.samhsa.gov/newsroom/press-announcements/202007131330#:~:text=The%2042%20CFR%20Part%202,substance%20use%20disorders%20\(SUD\).](https://www.samhsa.gov/newsroom/press-announcements/202007131330#:~:text=The%2042%20CFR%20Part%202,substance%20use%20disorders%20(SUD).)

¹⁶ <https://www.samhsa.gov/medications-substance-use-disorders/waiver-elimination-mat-act>

Where to start

Implementation guidelines for other hospitals

For other hospitals that are interested in developing an ACS program, participating hospitals offered their guidance on how to get started.

Identify champions and build support

To facilitate change, hospitals need a leadership champion who is willing to support ACS and promote non stigmatizing, harm reduction-oriented addiction care throughout the hospital. In addition to leadership, identifying additional allies and champions who are committed to addiction care can build a base of support across departments and roles and be the catalyst for formalizing a program. As one ACS team member said,

"...look for other people who are passionate about doing this work, and they may just not be doing it because there isn't a space to do it. But if you can get different champions, especially across disciplines together, it just makes everything stronger."

To build support and buy-in among key stakeholders, program developers can make the case using multiple angles (e.g., positive patient outcomes, reduced readmissions and possible long-term cost savings, improved provider satisfaction) and highlighting evidence from the literature (23). It can be helpful to frame the value of ACS in terms of how it can further the hospital's overall goals and mission, rather than highlighting deficits in the current approach.

Develop the staffing model

Building a strong staff team of people who are passionate about addiction care is essential, along with supervision and support structures for those staff. Interview participants highlighted that hospitals can start small and build as they go, as even a small team can have impacts that can then help build the hospital's commitment to and investment in the program over time. Participants recommended a minimum team consisting of a prescribing provider, a social worker or other behavioral health provider, and a recovery coach or other peer support specialist, emphasizing the importance of a team-based approach including people who have lived experience with addiction (24). This gives patients access to support in multiple areas, including management of withdrawal and medical effects of substance use in addition to therapy, peer support, and resource navigation. From the initial core staffing, the team can grow based on patient needs and available resources.

One hospital stakeholder described the importance of peer support specialist staff:

“The consultation of peers to [providers], to leadership, to functioning teams is just incredible. I think ... you can’t really take care of ... someone with [a substance use] disorder, all by yourself. You’re going to need a team. You’re going to need other colleagues.”

Develop protocols for care within the hospital and connections to follow-up services

New programs need to develop processes for how they will identify patients who may need ACS, triage cases, and determine which staff person should make the first contact with the patient. In addition, participating hospitals recommended developing protocols for using methadone for withdrawal management, leveraging resources from other systems and literature on current best practices for dosing (25). This can help alleviate discomfort or skepticism about methadone among providers and staff who are not trained in addiction medicine, especially when high doses are recommended. Developing protocols for alcohol and stimulant withdrawal management will also be helpful. Additionally, it is critical to develop processes for connecting patients to follow-up care after discharge, including workflows for ensuring medication continuity with OTPs for methadone and other providers for other medications. Hospitals with a bridge clinic can use that to facilitate smooth handoffs to ongoing care after discharge. Hospitals should also build relationships with other service providers in their community to develop communication and referral workflows, which is especially essential if there is no bridge clinic.

Devote time to education and advocacy within the hospital

For an ACS program to be successful, it must be understood, perceived as helpful, and utilized by inpatient providers and staff. It is important for new programs to provide training and education about substance use disorders and addiction treatment and harm reduction in general, as well as what the ACS team can offer and how to request a consult. Trainings need to be provided to current hospital staff, and can also be integrated into orientations for new hires. Trainings and informational sessions are also an opportunity for the ACS team to advocate for the service, build collaborative relationships with colleagues, and raise awareness about the evidence base for the specific services the ACS team provides.

Recommendations

Opportunities for the field

This section summarizes recommendations for hospitals and their funders and partners in three categories: 1) Improving ACS programs, 2) Improving connections to services after discharge, and 3) Facilitating sustainability.

Improving ACS programs

Implement policies and protocols that support harm reduction goals

ACS programs vary in the extent to which they are able to implement harm reduction approaches, and hospitals should continuously review and refine policies and protocols to this end. This includes using effective methadone dosing for withdrawal management to help patients be comfortable for their hospital stay and reduce desire to use drugs in unsafe ways or without disclosing to the hospital care team. In addition, traditional hospital security policies are often at odds with harm reduction; for example, people who use drugs and people with SUD may have their possessions confiscated, undergo room searches, have limited or no visitation, and may not be permitted to leave their rooms, while other patients are not treated with this increased level of security. These policies are punitive, reinforce stigma, and diminish trust, and can make it more likely for people to engage in unsafe drug use, not less. Hospitals should implement policy reforms to ensure that people who use drugs are not subjected to unnecessary or inequitable restrictions. Finally, hospitals can work towards distributing harm reduction supplies, such as naloxone and syringes, to patients in the most accessible way possible, ideally at bedside. In all of these areas, hospitals that are at the leading edge of harm reduction can provide guidance and informational resources (26) to those that are at an earlier stage to help them navigate regulations, learn new protocols, and build buy-in for changes.

Address stigma among hospital staff and leadership

For an ACS program to thrive, it must be supported by staff and leadership within the hospital. Though the issue of stigma has received increased attention in recent years, there remains a need for hospitals to implement interventions that provide evidence-based education about substance use disorders and addiction treatment and reduce stigma among medical professionals. In particular, interventions that include contact with people in recovery have been shown to reduce clinician stigma towards people with SUD (27) and are likely to be especially impactful in the inpatient setting, where clinicians tend to witness complications and critical medical situations associated with SUD and do not have regular contact with patients as they go through a recovery process. As one interview participant stated,

“...providers in the hospital and staff in the hospital don’t get to see the long haul outcome. And so they only see the immediate crises. They don’t get to see that that person then went on and got connected to care, got their kids back, started working full-time, now gives back to the community. They only got to see them when they were overdosed in crisis.”

Peer support specialist staff such as recovery coaches can help reduce stigma through the course of their day-to-day work; however, stigma reduction should not become their responsibility. Rather, stigma needs to be addressed in a widespread and comprehensive manner, including in medical training so that new providers both understand and support modern evidence-based approaches to SUD care.

Improving connections to services after discharge

An ACS program’s ability to promote positive long-term outcomes depends on its ability to successfully connect patients to ongoing harm reduction and substance use treatment services after hospital discharge. There is a need to both expand existing services as well as improve connections to the services that exist.

Improve connections to OTPs for patients who need methadone maintenance treatment

Hospitals should build relationships with local OTPs to the extent possible, and develop communication processes and workflows to support medication continuity for patients on methadone treatment. This includes patients who were receiving methadone prior to their hospital stay as well as those who are initiated on methadone in the hospital. Disruptions in treatment or delays receiving medication can increase overdose risk and it is essential to have well-functioning systems in place to coordinate care, communicate about dosages, and facilitate smooth transitions from the hospital to the OTP. Hospitals can utilize the 72-hour rule¹⁷ to dispense methadone for three days until care is established at an OTP, and some may benefit from specific guidance and resources on how to do so from other hospitals that have the experience. In addition, OTPs should ensure that intake processes are flexible and frequent enough that patients discharged from the hospital can receive their next dose without a gap.

Expand access to methadone

Even with the smoothest handoffs between hospitals and OTPs, some patients will face significant barriers to receiving methadone from an OTP after discharge; for example, people in rural areas where OTPs are sparse, people without access to transportation, and people whose

¹⁷ Drug Enforcement Administration. "DEA's Commitment to Expanding Access to Medication-Assisted Treatment." DEA, 23 March 2022, <https://www.dea.gov/press-releases/2022/03/23/deas-commitment-expanding-access-medication-assisted-treatment>.

schedules are inconsistent with OTP hours. OTPs should utilize the methadone take-home exemption¹⁸ to the fullest extent that is allowable and appropriate for each patient, but even with this, patients must visit an OTP at least on a monthly basis. OTPs can take other measures to improve access, such as mobile methadone services (28), and funders should invest in these efforts. Ultimately though, policy change is needed to truly promote widespread access to methadone by allowing office-based methadone prescription and pharmacy dispensing. The Modernizing Opioid Treatment Access Act (MOTAA)¹⁹, introduced in 2023, is an example of legislation that would achieve this if passed.

Support post-discharge planning and connections to follow-up care

In addition to methadone, patients discharged from the hospital need to be able to access a variety of other services that support harm reduction and recovery goals. With the appropriate funding, ACS programs can hire resource navigators or care coordinators that can help identify options for follow-up care and make warm handoffs. As with OTPs, hospitals can also focus on building relationships and developing care coordination processes with other local programs and services that are relevant to patients who have received ACS while hospitalized.

Invest in bridge clinics and community-based harm reduction and treatment services

Even with funding for resource navigation and care coordination, hospitals will be limited by the availability of local harm reduction, substance use treatment, and other relevant services. There needs to be investment in community-based services, particularly in regions that are currently under-resourced, as well as bridge clinics that can provide immediate care after hospital discharge while also helping patients establish long-term care at the location of their choice. Without a robust system of community-based care, inpatient ACS services cannot achieve their full potential.

Facilitating sustainability

Sustainability is a major challenge for ACS programs, even those within large, well-resourced hospital systems whose leadership support the work. The following recommendations can support program sustainability:

Optimize reimbursement within the current structures

With the complexities of the insurance reimbursement system especially across multiple payers, some hospitals do not bill for all reimbursable services. Though there are limitations to

¹⁸ Substance Abuse and Mental Health Services Administration. "Methadone Guidance." SAMHSA, <https://www.samhsa.gov/medications-substance-use-disorders/statutes-regulations-guidelines/methadone-guidance>.

¹⁹ United States Congress. "Text - S.644 - 118th Congress (2019-2020): A bill to amend the Internal Revenue Code of 1986 to modify and make permanent bonus depreciation." Congress.gov, <https://www.congress.gov/bill/118th-congress/senate-bill/644>.

reimbursement rates and covered services, all hospitals can start by understanding what can be reimbursed and how to optimize billing. Information sharing across hospitals can facilitate this so that newer programs can learn from their more experienced peers rather than reinventing the wheel. Specific guidance on how to bill ACS services, including information on whether board certification in addiction medicine/psychiatry is required to submit a specialty consult claim, how to avoid rejection of claims for duplication of services, and which DRG codes to use for operational billing. Additionally, hospitals in Massachusetts should explore whether their inpatient peer support specialist services qualify to be reimbursed through MassHealth's recovery support navigator benefit, and how to bill accordingly.

Increase reimbursement rates and coverage of addiction services

For ACS services to be truly sustainable, there must be insurance reforms that support more payment for addiction services. This includes higher reimbursement rates for addiction medicine and addiction psychiatry specialists such that they are valued similarly to other specialties such as cardiology. Bundled payment structures should be reviewed to determine whether higher rates are needed when ACS services are provided during a patient's hospital stay. Additionally, payers should provide reimbursement for peer support specialist services in a structure that is aligned with the context of inpatient care.

Study the return-on-investment of ACS services

While it is clear that ACS programs support positive patient outcomes and there is some preliminary evidence that ACS is associated with lower 30-day hospital readmissions (13–15), there remains a need for more research on how these services impact healthcare costs beyond the initial hospital stay. For example, research studies can build more robust evidence on the impact of ACS on readmission rates, as well as other outcomes such as emergency department utilization, and long-term healthcare costs associated with SUD and other health conditions. This can help build a business case for hospitals and payers to invest in these programs.

Use governmental and philanthropic funding to fill gaps

Even with insurance reforms and optimized billing, hospitals will still face startup costs to launching ACS programs as well as ongoing operational costs that are not covered through insurance reimbursement alone. Government and philanthropic funding can be used to fill gaps and support hospitals to be able to create and maintain ACS programs that are a critical intervention for the worsening overdose crisis.

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Appendices

Appendix A: Methods

Hospital selection and data collection

This project was led by the Institute for Community Health (ICH), with funding and support from RIZE Massachusetts Foundation (RIZE). ICH and RIZE began by engaging a panel of expert advisors to guide hospital selection and define the scope of inquiry for data collection. Four advisors were selected based on their knowledge of the landscape of hospital-based addiction treatment in Massachusetts: 1) Dr. Todd Kerensky, South Shore Hospital; 2) Dr. Bill Soares, Baystate Medical Center; 3) Dr. Sarah Wakeman, Mass General Brigham; and 4) Leigh Simons, Massachusetts Health & Hospital Association.

ICH and RIZE met with each advisor to discuss the project concept, get initial feedback, and identify potential hospitals to consider including. The aim was to identify hospitals that already have established inpatient addiction consult services for the purposes of learning from these existing models. With input from advisors, we identified an initial list of 26 hospitals to explore further. After a search of publicly available information (published literature, news articles, hospital websites), we excluded 11 for which we could not confirm that an inpatient addiction consult program was in place. We then engaged in a prioritization process to narrow down the remaining 15 hospitals to a set of six to include in the study. Advisors provided input into selection criteria, with general agreement that geographic diversity and having a mix of academic and community hospitals were important factors to consider. We also considered hospital size in the selection to ensure that the final set included a range of sizes. With consideration for diversity in these three factors, we identified the final six hospitals: Boston Medical Center, Holyoke Medical Center, Lowell General Hospital, Massachusetts General Hospital, South Shore Hospital, and UMass Memorial Medical Center.

ICH contacted program leadership at each hospital to invite them to participate, and all agreed. ICH then reviewed available documentation about the inpatient addiction consult program at each hospital (e.g., published articles, slide summaries, program write-ups), and asked each hospital to select up to four providers or staff who could participate in stakeholder interviews. ICH facilitated semi-structured interviews with stakeholders following the guide in Appendix B. Interviews were audio-recorded and professionally transcribed. ICH staff coded transcripts according to domains from the interview guide, and analyzed coded excerpts to develop hospital profiles and identify cross-cutting themes. ICH shared each profile with program leadership at that hospital in order to check for accuracy, and incorporated feedback into final profiles.

Patient data

Qualitative data and quotes from patients came from the Boston Overdose Linkage to Treatment Study (BOLTS), a qualitative examination of racial and ethnic inequities in treatment access and engagement following opioid overdose in Boston. ICH led BOLTS in collaboration with the Boston Public Health Commission, Boston Medical Center, and Boston University School of Public Health. BOLTS included qualitative interviews conducted in 2021 with 59 overdose survivors in Boston. For this project, ICH searched BOLTS transcripts for references to inpatient hospital care, and conducted a sub-analysis of relevant excerpts to identify the stories and quotes used in this report.

Appendix B: Interview guide

Topic Area	Questions
Background	<p>Please start by introducing yourself: your name , what your role is and which department, and what your work looks like.</p> <p>How long have you been at [hospital]?</p> <p>Follow up as needed: How much time do you spend on the inpatient addiction consult service vs. other activities?</p> <p>If possible, please provide some background on the history of the substance use services at [hospital]</p> <p>Range of SUD-related services and communities served? (<i>probe: bridge clinic?</i>)</p> <p>How did [hospital] get to where they are now with the hospital-based addiction care program/addiction consult service? (i.e., how did the program get started, and how has it developed over time?)</p>
Services	<p>Next, I'd like to learn about who receives addiction services in inpatient units.</p> <p>How do you identify which patients need addiction services? (<i>probe: universal screening? Common points at which patients are identified - e.g., emergency department</i>)</p> <p>What happens next once a patient is identified as needing services? (<i>probe: how do staff talk to patients about it? Who has these conversations?</i>)</p> <p>What addiction services does [hospital] provide in the inpatient setting?</p> <p>Who delivers these services? (<i>probes: roles, number of available staff, training</i>)</p> <p>What is the organizational structure for managing these services? For example, are the services provided through a specific department or multiple departments? Who oversees the services?</p> <p>Probes:</p> <p>Does [hospital] provide MOUD? If so, which medications?</p> <p>Harm reduction</p> <p>Is there a protocol for having conversations with patients around if they intend to use drugs in the hospital or after discharge?</p> <p>If so, what follow up occurs?</p> <p>What harm reduction services are available during the hospital stay and at discharge? (e.g., Narcan, syringe services, fentanyl testing, safe use education)</p> <p>What other policies/protocols are in place that are relevant to people who use drugs, for example, security or drug searching policies?</p> <p>What services are provided for stimulants and polysubstance use?</p> <p>Is recovery coaching/peer services available? How are these services utilized?</p> <p>What connections are made to additional services upon discharge? If so, how? (<i>probes: outpatient services at the hospital or in the local community, residential services if desired</i>)</p>

Program Data and Outcomes	<p>What type of program data/metrics are tracked?</p> <p>What outcomes has [hospital] seen from the work that has been done of the hospital-based addiction care program? (<i>probe: any studies/evaluations, patient stories (de-identified)</i>)</p>
Resources and Funding	<p>What resources are most crucial to [hospital] for conducting this work?</p> <p>Resources currently available</p> <p>Resources that are missing, but would be useful to take this work to the next level</p> <p>How are services funded?</p> <p>Billable vs. other funding sources?</p> <p>[If not addressed already] What other resources are important for a program like this, in addition to funding?</p> <p>What are some of the gaps and opportunities with regard to funding and resources?</p>
Barriers and Facilitators	<p>What have been facilitators for program success? What has helped get the program to where it is now?</p> <p>What barriers or challenges do you face with this work? What gets in the way of being able to provide the best possible care and services? (<i>probes: legal, regulatory, funding, stigma, data sharing, availability of local outpatient services, ACS team embedded within departments, working as a multidisciplinary team, etc.</i>)</p> <p>Are there any barriers specifically related to implementing harm reduction practices in the hospital setting?</p> <p>Probes:</p> <p>Awareness and attitude towards HR (internally and among community members)</p> <p>Regulatory challenges</p> <p>What challenges has the program encountered in the past? How were past challenges addressed?</p>
Recommendations	<p>What recommendations would you provide for other hospitals who want to build or grow a hospital-based addiction care program? (<i>probe: where to start, what to expect</i>)</p> <p>What are the core components that a program needs to have in place?</p>
Wrap up	<p>Thank you so much for your time....</p> <p>Is there anything we discussed today that you don't want us to include in the report?</p> <p><i>If we have not already identified next steps for this site:</i></p> <p>Could you please suggest colleagues who we could interview for this project? We plan to conduct a total of 4 interviews per site. However, if you believe there are more than 4 key people that we must interview for this project from your site, we could accommodate by conducting group interviews with staff in similar positions/roles (physicians, nurse practitioners, social workers, recovery coaches, program coordinators).</p> <p>Do you have documents about the program you could share with us? (e.g., papers or presentations, grant proposals that describe the program, workflow documents, etc.)</p>

Appendix C: Center for Health Information and Analysis (CHIA) profiles for each participating hospital

Boston Medical Center

2021 Hospital Profile

OVERVIEW

City/Town:	Boston, MA	Tax Status:	Non-profit
Region:	Metro Boston	Trauma Center Designation:	Adult: Level 1, Pedi: Level 2
Hospital Type:	Academic Medical Center	Total FTE's in HFY21:	8,986.00
Total Staffed Beds in HFY21:	449, 7th Largest Hospital	FY21 Case Mix Index:	1.47
Hospital System Affiliation:	Boston Medical Center Health System	Public Payer Mix²:	73.2%: HPP Hospital
Hospital System Surplus (Deficit) in HFY21:	\$154,785,000	Percent of Total GPSR - Medicare/Medicaid/Commercial:	29% / 39% / 19%
Change in Ownership HFY17-HFY21:	Not Applicable	CY20 Commercial Statewide Relative Price:	1.17

FINANCIAL

GROSS AND NET PATIENT SERVICE REVENUES (GPSR & NPSR)

	HFY17	HFY18	HFY19	HFY20	HFY21
Inpatient GPSR	\$827.0M	\$941.6M	\$959.0M	\$931.7M	\$1,036.8M
Outpatient GPSR	\$1,693.2M	\$2,450.0M	\$2,584.7M	\$2,304.3M	\$2,642.2M
Total GPSR	\$2,520.2M	\$3,391.6M	\$3,543.7M	\$3,236.0M	\$3,679.1M
Inpatient NPSR per CMAD	\$14,350	\$13,749	\$14,234	\$16,282	\$16,202
Inpatient NPSR	\$458.0M	\$453.2M	\$473.7M	\$482.2M	\$540.1M
Outpatient NPSR	\$608.4M	\$781.6M	\$832.0M	\$661.9M	\$775.1M

REVENUE & EXPENSES

	HFY17	HFY18	HFY19	HFY20	HFY21
Operating Revenue	\$1,325.7M	\$1,481.4M	\$1,661.8M	\$1,843.1M	\$1,929.7M
Non-Operating Revenue ⁴	\$15.8M	\$11.2M	\$26.1M	\$34.6M	\$36.4M
COVID Funding Included in Operating Revenue ⁵	-	-	-	\$202.0M	\$60.0M
Total Revenue	\$1,341.5M	\$1,492.6M	\$1,687.9M	\$1,877.6M	\$1,966.1M
Total Expenses	\$1,312.9M	\$1,443.2M	\$1,651.2M	\$1,785.2M	\$1,920.1M
Total Surplus (Deficit)	\$28.6M	\$49.4M	\$36.7M	\$92.5M	\$46.0M
Operating Margin	1.0%	2.6%	0.6%	3.1%	0.5%
Non-Operating Margin	1.2%	0.7%	1.5%	1.8%	1.9%
Total Margin	2.1%	3.3%	2.2%	4.9%	2.3%

SOLVENCY AND LIQUIDITY

	HFY17	HFY18	HFY19	HFY20	HFY21
Total Net Assets or Equity	\$1,262.3M	\$1,344.1M	\$1,327.5M	\$1,323.9M	\$1,420.5M
Current Ratio	1.9	1.7	2.0	1.8	1.9
Debt Service Coverage Ratio	2.5	1.5	5.3	6.5	5.2
Cash Flow to Total Debt	12.4%	13.0%	13.8%	15.8%	12.8%
Equity Financing Ratio	56.1%	54.2%	54.7%	48.3%	51.8%
Average Age of Plant	12.0	12.0	12.0	10.0	11.0

UTILIZATION

Licensed Beds in HFY21:	449
Available Beds in HFY21:	449
Staffed Beds in HFY21:	449
HFY21 Percentage Occupancy:	88.2%
Inpatient Discharges in HFY21:	22,667
Change HFY20-HFY21:	4.2%
Percent of Total Region Discharges in HFY21:	8.0%
Percent of Statewide Total Discharges in HFY21:	3.0%
Inpatient Days in HFY21:	144,493
Change HFY20-HFY21:	5.3%
Percent of Total Region Inpatient Days in HFY21:	8.5%
Percent of Statewide Total Inpatient Days in HFY21:	3.6%
Average Length of Stay in HFY21:	6.37
Change HFY20-HFY21:	1.0%
Emergency Department Visits in HFY21:	102,300
Change HFY20-HFY21:	(38.0%)
Percent of Total Region Emergency Department Visits in HFY21:	14.2%
Percent of Statewide Total Emergency Department Visits in HFY21:	4.0%
Outpatient Visits in HFY21:	2,162,580
Change HFY20-HFY21:	22.2%

TOP DISCHARGES BY INPATIENT CASE (DRG) IN FY21

Inpatient Case (DRG) ⁶	Discharges	Percent of Total Hospital Discharges
Normal Neonate Birth	1,896	7.83%
Vaginal delivery	1,462	6.04%
Major Resp Infect & Inflam	1,067	4.40%
Cesarean delivery	798	3.29%
Heart failure	745	3.07%
Septicemia & Disseminated Infections	722	2.98%
Procedures for obesity	380	1.56%
Sickle cell anemia crisis	352	1.45%
Infectious & Parasitic Dis Incl Hiv W/ O.R. Proc	325	1.34%
Diabetes	315	1.30%

TOP DISCHARGES BY COMMUNITY IN FY21

Community ⁶	Discharges	Percent of Total Community Discharges
Boston, MA	3,759	21%
Dorchester, MA	3,341	36%
Dorchester Center, MA	1,711	28%
Roxbury, MA	1,430	38%
Mattapan, MA	920	29%
Brockton, MA	859	6%
Quincy, MA	797	7%
Revere, MA	708	11%
Chelsea, MA	698	16%
Hyde Park, MA	645	16%

For descriptions of the metrics, please see the technical appendix.

¹ Data from the FY2017 through FY2021 CHIA Cost Reports and Financial Statements.

² High Public Payer Hospitals (HPP) reported a minimum of 63% of gross patient service revenue from public payers.

³ Effective FY 2020 supplemental revenue is not included in net patient service revenue for all hospitals. Prior to FY 2020, reporting of supplemental revenue varied by hospital.

⁴ There was an accounting change adopted by most hospitals beginning in FY 2020 in which unrealized gains and losses on investments are now recognized as non-operating income.

⁵ Federal and State COVID-19 relief funding was distributed to hospitals as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act beginning in FY2020. A portion of this funding was reported as operating revenue.

⁶ Inpatient cases and communities with less than 25 discharges have been omitted from the Top Discharges by Inpatient Case (DRG) and Top Discharges By Community charts.

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Holyoke Medical Center

2021 Hospital Profile

OVERVIEW

City/Town:	Holyoke, MA
Region:	Western Massachusetts
Hospital Type:	Community-High Public Payer Hospital
Total Staffed Beds in HFY21:	199, Mid-Size Hospital
Hospital System Affiliation:	Valley Health System
Hospital System Surplus (Deficit) in HFY21:	(\$999,134)
Change in Ownership HFY17-HFY21:	Not Applicable

Tax Status:	Non-profit
Trauma Center Designation:	Not Applicable
Total FTE's in HFY21:	1,112.00
FY21 Case Mix Index:	1.04
Public Payer Mix ² :	76.6%: HPP Hospital
Percent of Total GPSR - Medicare/Medicaid/Commercial:	47% / 30% / 17%
CY20 Commercial Statewide Relative Price:	0.73

FINANCIAL

GROSS AND NET PATIENT SERVICE REVENUES (GPSR & NPSR)

	HFY17	HFY18	HFY19	HFY20	HFY21
Inpatient GPSR	\$80.4M	\$81.6M	\$84.4M	\$84.3M	\$101.8M
Outpatient GPSR	\$229.6M	\$249.8M	\$284.3M	\$257.9M	\$302.4M
Total GPSR	\$310.1M	\$331.3M	\$368.7M	\$342.2M	\$404.2M
Inpatient NPSR per CMAD	\$7,488	\$8,550	\$8,825	\$10,272	\$12,818
Inpatient NPSR	\$43.4M	\$54.8M	\$54.1M	\$56.6M	\$72.3M
Outpatient NPSR	\$93.4M	\$90.4M	\$102.5M	\$81.9M	\$79.0M

REVENUE & EXPENSES

	HFY17	HFY18	HFY19	HFY20	HFY21
Operating Revenue	\$153.2M	\$167.2M	\$178.5M	\$186.7M	\$185.5M
Non-Operating Revenue ⁴	\$1.6M	\$0.4M	\$0.4M	\$4.8M	(\$0.7M)
COVID Funding Included in Operating Revenue ⁵	-	-	-	\$23.5M	\$0.0M
Total Revenue	\$154.8M	\$167.6M	\$178.9M	\$191.6M	\$184.8M
Total Expenses	\$151.8M	\$162.2M	\$174.2M	\$173.3M	\$184.0M
Total Surplus (Deficit)	\$3.0M	\$5.4M	\$4.7M	\$18.3M	\$0.8M
Operating Margin	0.9%	3.0%	2.4%	7.0%	0.8%
Non-Operating Margin	1.0%	0.2%	0.2%	2.5%	(0.4%)
Total Margin	2.0%	3.2%	2.6%	9.5%	0.4%

SOLVENCY AND LIQUIDITY

	HFY17	HFY18	HFY19	HFY20	HFY21
Total Net Assets or Equity	(\$10.7M)	(\$0.9M)	(\$16.4M)	(\$10.8M)	\$10.5M
Current Ratio	1.4	1.4	1.3	1.6	1.3
Debt Service Coverage Ratio	3.3	4.9	4.0	7.9	2.1
Cash Flow to Total Debt	16.9%	22.6%	18.4%	40.7%	9.9%
Equity Financing Ratio	(12.3%)	(1.0%)	(18.1%)	(10.0%)	9.3%
Average Age of Plant	28.0	27.0	29.0	28.0	23.0

UTILIZATION

Licensed Beds in HFY21:	205
Available Beds in HFY21:	205
Staffed Beds in HFY21:	199
HFY21 Percentage Occupancy:	39.7%
Inpatient Discharges in HFY21:	5,442
Change HFY20-HFY21:	(0.8%)
Percent of Total Region Discharges in HFY21:	5.9%
Percent of Statewide Total Discharges in HFY21:	<1%
Inpatient Days in HFY21:	28,802
Change HFY20-HFY21:	17.5%
Percent of Total Region Inpatient Days in HFY21:	6.3%
Percent of Statewide Total Inpatient Days in HFY21:	<1%
Average Length of Stay in HFY21:	5.29
Change HFY20-HFY21:	18.3%
Emergency Department Visits in HFY21:	39,834
Change HFY20-HFY21:	(8.5%)
Percent of Total Region Emergency Department Visits in HFY21:	11.4%
Percent of Statewide Total Emergency Department Visits in HFY21:	1.6%
Outpatient Visits in HFY21:	159,543
Change HFY20-HFY21:	12.4%

TOP DISCHARGES BY INPATIENT CASE (DRG) IN FY21

Inpatient Case (DRG) ⁶	Discharges	Percent of Total Hospital Discharges
Septicemia & Disseminated Infections	502	9.28%
Heart failure	279	5.15%
Major Resp Infect & Inflam	260	4.80%
Major Depressive Disorders	258	4.77%
Bipolar disorders	212	3.92%
Procedures for obesity	209	3.86%
Schizophrenia	165	3.05%
Chronic Obstructive Pulmonary Disease	158	2.92%
Kidney & Urinary Tract Infections	136	2.51%
Cva & Precerebral Occlusion W/ Infarct	107	1.97%

TOP DISCHARGES BY COMMUNITY IN FY21

Community ⁶	Discharges	Percent of Total Community Discharges
Holyoke, MA	2,351	43%
Chicopee, MA	1,072	15%
South Hadley, MA	525	29%
Springfield, MA	391	2%
Westfield, MA	145	3%
Granby, MA	138	22%
West Springfield, MA	123	4%
Easthampton, MA	108	7%
Ludlow, MA	45	2%
Southampton, MA	41	7%

For descriptions of the metrics, please see the technical appendix.

¹ Data from the FY2017 through FY2021 CHIA Cost Reports and Financial Statements.

² High Public Payer Hospitals (HPP) reported a minimum of 63% of gross patient service revenue from public payers.

³ Effective FY 2020 supplemental revenue is not included in net patient service revenue for all hospitals. Prior to FY 2020, reporting of supplemental revenue varied by hospital.

⁴ There was an accounting change adopted by most hospitals beginning in FY 2020 in which unrealized gains and losses on investments are now recognized as non-operating income.

⁵ Federal and State COVID-19 relief funding was distributed to hospitals as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act beginning in FY2020. A portion of this funding was reported as operating revenue.

⁶ Inpatient cases and communities with less than 25 discharges have been omitted from the Top Discharges by Inpatient Case (DRG) and Top Discharges By Community charts.

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Lowell General Hospital

2021 Hospital Profile

OVERVIEW

City/Town:	Lowell, MA
Region:	Northeastern Massachusetts
Hospital Type:	Community-High Public Payer Hospital
Total Staffed Beds in HFY21:	353, Large Hospital
Hospital System Affiliation:	Tufts Medicine
Hospital System Surplus (Deficit) in HFY21:	\$165,227,000
Change in Ownership HFY17-HFY21:	Not Applicable

Tax Status:	Non-profit
Trauma Center Designation:	Adult: Level 3
Total FTE's in HFY21:	2,489.76
FY21 Case Mix Index:	0.98
Public Payer Mix ² :	67.1%: HPP Hospital
Percent of Total GPSR - Medicare/Medicaid/Commercial:	45% / 20% / 29%
CY20 Commercial Statewide Relative Price:	0.85

FINANCIAL

GROSS AND NET PATIENT SERVICE REVENUES (GPSR & NPSR)

	HFY17	HFY18	HFY19	HFY20	HFY21
Inpatient GPSR	\$406.4M	\$428.1M	\$412.4M	\$400.8M	\$466.5M
Outpatient GPSR	\$774.8M	\$821.8M	\$856.3M	\$775.0M	\$862.6M
Total GPSR	\$1,181.2M	\$1,249.9M	\$1,268.7M	\$1,175.8M	\$1,329.0M
Inpatient NPSR per CMAD	\$11,506	\$11,435	\$10,591	\$10,456	\$11,617
Inpatient NPSR	\$222.9M	\$228.0M	\$204.5M	\$182.2M	\$202.6M
Outpatient NPSR	\$214.8M	\$226.2M	\$249.5M	\$226.5M	\$248.1M

REVENUE & EXPENSES

	HFY17	HFY18	HFY19	HFY20	HFY21
Operating Revenue	\$451.8M	\$472.6M	\$472.0M	\$477.1M	\$501.5M
Non-Operating Revenue ⁴	(\$1.8M)	\$7.7M	\$0.9M	\$5.1M	\$19.2M
COVID Funding Included in Operating Revenue ⁵	-	-	-	\$31.3M	\$11.5M
Total Revenue	\$449.9M	\$480.3M	\$472.9M	\$482.1M	\$520.7M
Total Expenses	\$447.6M	\$457.1M	\$458.8M	\$469.7M	\$492.8M
Total Surplus (Deficit)	\$2.3M	\$23.2M	\$14.1M	\$12.4M	\$27.9M
Operating Margin	0.9%	3.2%	2.8%	1.5%	1.7%
Non-Operating Margin	(0.4%)	1.6%	0.2%	1.0%	3.7%
Total Margin	0.5%	4.8%	3.0%	2.6%	5.4%

SOLVENCY AND LIQUIDITY

	HFY17	HFY18	HFY19	HFY20	HFY21
Total Net Assets or Equity	\$160.4M	\$161.0M	\$137.8M	\$123.7M	\$160.4M
Current Ratio	1.2	1.2	1.1	1.1	1.2
Debt Service Coverage Ratio	2.0	3.6	3.3	4.5	3.4
Cash Flow to Total Debt	9.8%	18.0%	14.8%	8.2%	13.6%
Equity Financing Ratio	32.1%	32.9%	30.3%	20.4%	27.3%
Average Age of Plant	10.0	11.0	13.0	15.0	14.0

UTILIZATION

Licensed Beds in HFY21:	428
Available Beds in HFY21:	428
Staffed Beds in HFY21:	353
HFY21 Percentage Occupancy:	61.1%
Inpatient Discharges in HFY21:	17,777
Change HFY20-HFY21:	(3.9%)
Percent of Total Region Discharges in HFY21:	13.5%
Percent of Statewide Total Discharges in HFY21:	2.4%
Inpatient Days in HFY21:	78,693
Change HFY20-HFY21:	1.6%
Percent of Total Region Inpatient Days in HFY21:	12.5%
Percent of Statewide Total Inpatient Days in HFY21:	2.0%
Average Length of Stay in HFY21:	4.43
Change HFY20-HFY21:	5.7%
Emergency Department Visits in HFY21:	83,429
Change HFY20-HFY21:	3.3%
Percent of Total Region Emergency Department Visits in HFY21:	16.9%
Percent of Statewide Total Emergency Department Visits in HFY21:	3.3%
Outpatient Visits in HFY21:	159,360
Change HFY20-HFY21:	16.7%

TOP DISCHARGES BY INPATIENT CASE (DRG) IN FY21

Inpatient Case (DRG) ⁶	Discharges	Percent of Total Hospital Discharges
Normal Neonate Birth	1,523	8.58%
Vaginal delivery	1,184	6.67%
Major Resp Infect & Inflam	1,138	6.41%
Septicemia & Disseminated Infections	929	5.23%
Heart failure	881	4.96%
Cesarean delivery	493	2.77%
Cardiac Arrhythmia	367	2.06%
Other pneumonia	344	1.93%
Kidney & Urinary Tract Infections	328	1.84%
Acute Kidney Injury	309	1.74%

TOP DISCHARGES BY COMMUNITY IN FY21

Community ⁶	Discharges	Percent of Total Community Discharges
Lowell, MA	8,513	71%
Dracut, MA	2,084	66%
Tewksbury, MA	1,274	38%
Chelmsford, MA	1,200	50%
Tyngsboro, MA	638	61%
North Chelmsford, MA	474	56%
Westford, MA	454	28%
Billerica, MA	405	13%
Pelham, NH	319	48%
North Billerica, MA	278	25%

For descriptions of the metrics, please see the technical appendix.

¹ Data from the FY2017 through FY2021 CHIA Cost Reports and Financial Statements.

² High Public Payer Hospitals (HPP) reported a minimum of 63% of gross patient service revenue from public payers.

³ Effective FY 2020 supplemental revenue is not included in net patient service revenue for all hospitals. Prior to FY 2020, reporting of supplemental revenue varied by hospital.

⁴ There was an accounting change adopted by most hospitals beginning in FY 2020 in which unrealized gains and losses on investments are now recognized as non-operating income.

⁵ Federal and State COVID-19 relief funding was distributed to hospitals as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act beginning in FY2020. A portion of this funding was reported as operating revenue.

⁶ Inpatient cases and communities with less than 25 discharges have been omitted from the Top Discharges by Inpatient Case (DRG) and Top Discharges By Community charts.

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Massachusetts General Hospital

2021 Hospital Profile

OVERVIEW

City/Town:	Boston, MA
Region:	Metro Boston
Hospital Type:	Academic Medical Center
Total Staffed Beds in HFY21:	1,063, Largest Hospital
Hospital System Affiliation:	Mass General Brigham
Hospital System Surplus (Deficit) in HFY21:	\$3,162,199,000
Change in Ownership HFY17-HFY21:	Not Applicable

Tax Status:	Non-profit
Trauma Center Designation:	Adult: Level 1, PEDI: Level 1
Total FTE's in HFY21:	13,135.00
FY21 Case Mix Index:	1.90
Public Payer Mix ² :	59.5%
Percent of Total GPSR - Medicare/Medicaid/Commercial:	41% / 14% / 38%
CY20 Commercial Statewide Relative Price:	1.42

FINANCIAL

GROSS AND NET PATIENT SERVICE REVENUES (GPSR & NPSR)

	HFY17	HFY18	HFY19	HFY20	HFY21
Inpatient GPSR	\$4,137.0M	\$4,438.5M	\$4,330.1M	\$4,445.7M	\$4,926.3M
Outpatient GPSR	\$4,570.5M	\$4,872.9M	\$5,707.3M	\$5,209.7M	\$6,198.0M
Total GPSR	\$8,707.5M	\$9,311.5M	\$10,037.4M	\$9,655.5M	\$11,124.3M
Inpatient NPSR per CMAD	\$14,904	\$16,159	\$16,967	\$16,145	\$16,404
Inpatient NPSR	\$1,324.5M	\$1,486.3M	\$1,586.7M	\$1,472.8M	\$1,579.7M
Outpatient NPSR	\$1,460.6M	\$1,417.6M	\$1,518.8M	\$1,472.7M	\$1,785.4M

REVENUE & EXPENSES

	HFY17	HFY18	HFY19	HFY20	HFY21
Operating Revenue	\$3,935.7M	\$4,073.0M	\$4,490.5M	\$4,518.3M	\$4,996.0M
Non-Operating Revenue ⁴	\$7.0M	(\$1.7M)	\$0.7M	\$0.5M	\$5.2M
COVID Funding Included in Operating Revenue ⁵	-	-	-	\$203.0M	\$82.6M
Total Revenue	\$3,942.6M	\$4,071.2M	\$4,491.3M	\$4,518.8M	\$5,001.2M
Total Expenses	\$3,719.1M	\$3,820.6M	\$4,060.2M	\$4,282.5M	\$4,760.0M
Total Surplus (Deficit)	\$223.5M	\$250.6M	\$431.1M	\$236.3M	\$241.2M
Operating Margin	5.5%	6.2%	9.6%	5.2%	4.7%
Non-Operating Margin	0.2%	0.0%	0.0%	0.0%	0.1%
Total Margin	5.7%	6.2%	9.6%	5.2%	4.8%

SOLVENCY AND LIQUIDITY

	HFY17	HFY18	HFY19	HFY20	HFY21
Total Net Assets or Equity	\$2,468.3M	\$2,488.4M	\$2,701.8M	\$2,810.6M	\$3,194.2M
Current Ratio	1.7	1.7	1.4	1.2	0.8
Debt Service Coverage Ratio	5.6	5.6	7.8	6.0	5.9
Cash Flow to Total Debt	38.6%	43.0%	59.3%	28.3%	30.0%
Equity Financing Ratio	62.5%	63.0%	64.3%	54.2%	58.3%
Average Age of Plant	8.0	9.0	10.0	10.0	11.0

UTILIZATION

Licensed Beds in HFY21:	1,063
Available Beds in HFY21:	1,063
Staffed Beds in HFY21:	1,063
HFY21 Percentage Occupancy:	87.6%
Inpatient Discharges in HFY21:	50,632
Change HFY20-HFY21:	0%
Percent of Total Region Discharges in HFY21:	17.9%
Percent of Statewide Total Discharges in HFY21:	6.7%
Inpatient Days in HFY21:	339,944
Change HFY20-HFY21:	6.3%
Percent of Total Region Inpatient Days in HFY21:	20.0%
Percent of Statewide Total Inpatient Days in HFY21:	8.5%
Average Length of Stay in HFY21:	6.71
Change HFY20-HFY21:	6.3%
Emergency Department Visits in HFY21:	101,640
Change HFY20-HFY21:	3.1%
Percent of Total Region Emergency Department Visits in HFY21:	14.1%
Percent of Statewide Total Emergency Department Visits in HFY21:	4.0%
Outpatient Visits in HFY21:	833,451
Change HFY20-HFY21:	7.6%

TOP DISCHARGES BY INPATIENT CASE (DRG) IN FY21

Inpatient Case (DRG) ⁶	Discharges	Percent of Total Hospital Discharges
Normal Neonate Birth	3,009	5.97%
Vaginal delivery	2,242	4.45%
Major Resp Infect & Inflam	1,641	3.25%
Cesarean delivery	1,124	2.23%
Heart failure	1,097	2.17%
Mod Ext Proc Unrel To Principal Diag	997	1.97%
Craniotomy except for trauma	944	1.87%
Major Small & Large Bowel Procedures	829	1.64%
Septicemia & Disseminated Infections	760	1.50%
Infectious & Parasitic Dis Incl Hiv W/ O.R. Proc	632	1.25%

TOP DISCHARGES BY COMMUNITY IN FY21

Community ⁶	Discharges	Percent of Total Community Discharges
Boston, MA	4,880	27%
Revere, MA	2,355	38%
Chelsea, MA	1,707	40%
Lynn, MA	1,530	12%
Cambridge, MA	1,255	17%
Everett, MA	1,241	26%
Medford, MA	1,193	22%
Somerville, MA	1,113	21%
Winthrop, MA	1,046	53%
Charlestown, MA	1,043	57%

For descriptions of the metrics, please see the technical appendix.

¹ Data from the FY2017 through FY2021 CHIA Cost Reports and Financial Statements.

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⁴ There was an accounting change adopted by most hospitals beginning in FY 2020 in which unrealized gains and losses on investments are now recognized as non-operating income.

⁵ Federal and State COVID-19 relief funding was distributed to hospitals as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act beginning in FY2020. A portion of this funding was reported as operating revenue.

⁶ Inpatient cases and communities with less than 25 discharges have been omitted from the Top Discharges by Inpatient Case (DRG) and Top Discharges by Community charts.

South Shore Hospital

2021 Hospital Profile

OVERVIEW

City/Town:	South Weymouth, MA
Region:	Metro South
Hospital Type:	Community Hospital
Total Staffed Beds in HFY21:	445, 8th Largest Hospital
Hospital System Affiliation:	South Shore Health System
Hospital System Surplus (Deficit) in HFY21:	\$51,946,986
Change in Ownership HFY17-HFY21:	Not Applicable

Tax Status:	Non-profit
Trauma Center Designation:	Adult: Level 2
Total FTE's in HFY21:	3,910.00
FY21 Case Mix Index:	1.06
Public Payer Mix ² :	61.6%
Percent of Total GPSR - Medicare/Medicaid/Commercial:	48% / 12% / 34%
CY20 Commercial Statewide Relative Price:	1.07

FINANCIAL

GROSS AND NET PATIENT SERVICE REVENUES (GPSR & NPSR)

	HFY17	HFY18	HFY19	HFY20	HFY21
Inpatient GPSR	\$534.0M	\$541.9M	\$555.2M	\$547.8M	\$601.8M
Outpatient GPSR	\$647.8M	\$690.3M	\$732.9M	\$691.8M	\$841.9M
Total GPSR	\$1,181.8M	\$1,232.2M	\$1,288.0M	\$1,239.5M	\$1,443.7M
Inpatient NPSR per CMAD	\$11,443	\$11,019	\$11,300	\$11,155	\$11,827
Inpatient NPSR	\$298.7M	\$297.3M	\$325.9M	\$333.5M	\$380.5M
Outpatient NPSR	\$264.4M	\$278.2M	\$287.3M	\$267.1M	\$314.3M

REVENUE & EXPENSES

	HFY17	HFY18	HFY19	HFY20	HFY21
Operating Revenue	\$594.3M	\$615.3M	\$653.0M	\$684.1M	\$746.5M
Non-Operating Revenue ⁴	\$7.8M	\$1.5M	(\$2.2M)	\$26.0M	\$53.4M
COVID Funding Included in Operating Revenue ⁵	-	-	-	\$38.0M	\$0.3M
Total Revenue	\$602.1M	\$616.8M	\$650.9M	\$710.1M	\$799.9M
Total Expenses	\$592.4M	\$606.1M	\$647.3M	\$685.0M	\$750.0M
Total Surplus (Deficit)	\$9.6M	\$10.7M	\$3.6M	\$25.1M	\$49.9M
Operating Margin	0.3%	1.5%	0.9%	(0.1%)	(0.4%)
Non-Operating Margin	1.3%	0.2%	(0.3%)	3.7%	6.7%
Total Margin	1.6%	1.7%	0.5%	3.5%	6.2%

SOLVENCY AND LIQUIDITY

	HFY17	HFY18	HFY19	HFY20	HFY21
Total Net Assets or Equity	\$288.7M	\$304.6M	\$341.3M	\$369.6M	\$403.5M
Current Ratio	1.5	1.5	1.4	1.0	1.0
Debt Service Coverage Ratio	2.5	2.7	2.2	3.1	4.3
Cash Flow to Total Debt	9.9%	12.9%	10.9%	13.0%	21.2%
Equity Financing Ratio	42.9%	45.7%	49.9%	44.3%	48.8%
Average Age of Plant	14.0	12.0	12.0	10.0	10.0

UTILIZATION

Licensed Beds in HFY21:	460
Available Beds in HFY21:	445
Staffed Beds in HFY21:	445
HFY21 Percentage Occupancy:	81.3%
Inpatient Discharges in HFY21:	30,486
Change HFY20-HFY21:	6.4%
Percent of Total Region Discharges in HFY21:	40.9%
Percent of Statewide Total Discharges in HFY21:	4.0%
Inpatient Days in HFY21:	132,068
Change HFY20-HFY21:	4.4%
Percent of Total Region Inpatient Days in HFY21:	38.6%
Percent of Statewide Total Inpatient Days in HFY21:	3.3%
Average Length of Stay in HFY21:	4.33
Change HFY20-HFY21:	(1.8%)
Emergency Department Visits in HFY21:	63,944
Change HFY20-HFY21:	11.0%
Percent of Total Region Emergency Department Visits in HFY21:	25.5%
Percent of Statewide Total Emergency Department Visits in HFY21:	2.5%
Outpatient Visits in HFY21:	541,739
Change HFY20-HFY21:	19.4%

TOP DISCHARGES BY INPATIENT CASE (DRG) IN FY21

Inpatient Case (DRG) ⁶	Discharges	Percent of Total Hospital Discharges
Normal Neonate Birth	2,649	8.71%
Vaginal delivery	1,882	6.19%
Major Resp Infect & Inflam	1,331	4.37%
Septicemia & Disseminated Infections	1,293	4.25%
Cesarean delivery	1,144	3.76%
Heart failure	1,013	3.33%
Kidney & Urinary Tract Infections	714	2.34%
Cardiac Arrhythmia	483	1.58%
Chronic Obstructive Pulmonary Disease	447	1.47%
Cellulitis & Other Skin Infections	422	1.38%

TOP DISCHARGES BY COMMUNITY IN FY21

Community ⁶	Discharges	Percent of Total Community Discharges
Quincy, MA	2,974	28%
Braintree, MA	2,232	52%
South Weymouth, MA	1,739	70%
Hingham, MA	1,532	65%
Rockland, MA	1,528	62%
Marshfield, MA	1,502	56%
Weymouth, MA	1,456	66%
East Weymouth, MA	1,287	65%
Scituate, MA	1,258	67%
Abington, MA	1,125	50%

For descriptions of the metrics, please see the technical appendix.

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⁴ There was an accounting change adopted by most hospitals beginning in FY 2020 in which unrealized gains and losses on investments are now recognized as non-operating income.

⁵ Federal and State COVID-19 relief funding was distributed to hospitals as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act beginning in FY2020. A portion of this funding was reported as operating revenue.

⁶ Inpatient cases and communities with less than 25 discharges have been omitted from the Top Discharges by Inpatient Case (DRG) and Top Discharges By Community charts.

For more information, please contact:

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UMass Memorial Medical Center

2021 Hospital Profile

OVERVIEW

City/Town:	Worcester, MA
Region:	Central Massachusetts
Hospital Type:	Academic Medical Center
Total Staffed Beds in HFY21:	793, 4th Largest Hospital
Hospital System Affiliation:	UMass Memorial Health Care
Hospital System Surplus (Deficit) in HFY21:	\$220,736,000
Change in Ownership HFY17-HFY21:	Not Applicable

Tax Status:	Non-profit
Trauma Center Designation:	Adult: Level 1, PEDI: Level 1
Total FTE's in HFY21:	7,901.26
FY21 Case Mix Index:	1.55
Public Payer Mix ² :	66.0%: HPP Hospital
Percent of Total GPSR - Medicare/Medicaid/Commercial:	42% / 22% / 30%
CY20 Commercial Statewide Relative Price:	1.14

FINANCIAL

GROSS AND NET PATIENT SERVICE REVENUES (GPSR & NPSR)

	HFY17	HFY18	HFY19	HFY20	HFY21
Inpatient GPSR	\$2,071.7M	\$2,056.2M	\$2,241.3M	\$2,306.2M	\$2,561.9M
Outpatient GPSR	\$2,650.3M	\$2,669.9M	\$2,944.2M	\$2,817.3M	\$3,396.5M
Total GPSR	\$4,721.9M	\$4,726.0M	\$5,185.5M	\$5,123.5M	\$5,958.4M
Inpatient NPSR per CMAD	\$12,473	\$12,425	\$13,432	\$13,893	\$14,692
Inpatient NPSR	\$710.5M	\$722.1M	\$822.0M	\$828.2M	\$906.1M
Outpatient NPSR	\$732.5M	\$720.3M	\$747.4M	\$766.8M	\$897.7M

REVENUE & EXPENSES

	HFY17	HFY18	HFY19	HFY20	HFY21
Operating Revenue	\$1,686.4M	\$1,731.3M	\$1,878.8M	\$2,018.4M	\$2,154.7M
Non-Operating Revenue ⁴	\$16.3M	\$9.5M	\$12.3M	\$19.9M	\$49.3M
COVID Funding Included in Operating Revenue ⁵	-	-	-	\$131.9M	\$22.3M
Total Revenue	\$1,702.7M	\$1,740.8M	\$1,891.1M	\$2,038.3M	\$2,203.9M
Total Expenses	\$1,680.8M	\$1,739.1M	\$1,842.8M	\$1,991.9M	\$2,139.5M
Total Surplus (Deficit)	\$21.9M	\$1.7M	\$48.3M	\$46.4M	\$64.4M
Operating Margin	0.3%	(0.4%)	1.9%	1.3%	0.7%
Non-Operating Margin	1.0%	0.5%	0.6%	1.0%	2.2%
Total Margin	1.3%	0.1%	2.6%	2.3%	2.9%

SOLVENCY AND LIQUIDITY

	HFY17	HFY18	HFY19	HFY20	HFY21
Total Net Assets or Equity	\$89.1M	\$177.3M	\$194.8M	\$434.1M	\$479.3M
Current Ratio	1.1	1.2	1.8	1.1	1.1
Debt Service Coverage Ratio	1.3	2.4	3.8	3.5	9.9
Cash Flow to Total Debt	11.9%	9.0%	15.5%	10.6%	22.7%
Equity Financing Ratio	7.0%	14.7%	14.4%	26.4%	32.2%
Average Age of Plant	10.0	14.0	14.0	13.0	13.0

UTILIZATION

Licensed Beds in HFY21:	818
Available Beds in HFY21:	818
Staffed Beds in HFY21:	793
HFY21 Percentage Occupancy:	84.3%
Inpatient Discharges in HFY21:	39,789
Change HFY20-HFY21:	2.2%
Percent of Total Region Discharges in HFY21:	54.1%
Percent of Statewide Total Discharges in HFY21:	5.3%
Inpatient Days in HFY21:	244,037
Change HFY20-HFY21:	10.5%
Percent of Total Region Inpatient Days in HFY21:	61.0%
Percent of Statewide Total Inpatient Days in HFY21:	6.1%
Average Length of Stay in HFY21:	6.13
Change HFY20-HFY21:	7.9%
Emergency Department Visits in HFY21:	108,168
Change HFY20-HFY21:	(2.3%)
Percent of Total Region Emergency Department Visits in HFY21:	38.2%
Percent of Statewide Total Emergency Department Visits in HFY21:	4.2%
Outpatient Visits in HFY21:	940,820
Change HFY20-HFY21:	15.1%

TOP DISCHARGES BY INPATIENT CASE (DRG) IN FY21

Inpatient Case (DRG) ⁶	Discharges	Percent of Total Hospital Discharges
Normal Neonate Birth	3,492	8.86%
Vaginal delivery	2,607	6.61%
Septicemia & Disseminated Infections	1,791	4.54%
Major Resp Infect & Inflam	1,558	3.95%
Cesarean delivery	1,313	3.33%
Heart failure	791	2.00%
Infectious & Parasitic Dis Incl HIV W/ O.R. Proc	636	1.61%
Per Coronary Inter W/ Ami	488	1.23%
Chronic Obstructive Pulmonary Disease	428	1.08%
Acute Kidney Injury	427	1.08%

TOP DISCHARGES BY COMMUNITY IN FY21

Community ⁶	Discharges	Percent of Total Community Discharges
Worcester, MA	12,574	60%
Shrewsbury, MA	1,787	59%
Marlborough, MA	1,072	26%
Fitchburg, MA	1,016	21%
Leominster, MA	984	21%
Webster, MA	892	39%
Auburn, MA	892	50%
Holden, MA	766	56%
Southbridge, MA	749	34%
Millbury, MA	703	50%

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