McLean Hospital
2017 Year in Review

McLEAN: ON THE FRONT LINE OF THE OPIOID CRISIS
McLean Hospital is dedicated to improving the lives of people and families affected by psychiatric illness. McLean pursues this mission by:

Providing the highest quality compassionate, specialized and effective clinical care, in partnership with those whom we serve;

Conducting state-of-the-art scientific investigation to maximize discovery and accelerate translation of findings towards achieving prevention and cures;

Training the next generation of leaders in psychiatry, mental health and neuroscience;

Providing public education to facilitate enlightened policy and eliminate stigma.
Year in Review

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On the cover: Hilary S. Connery, MD, PhD, clinical director of McLean’s Division of Alcohol and Drug Abuse
Dear Friends,

While this annual report is a perennial opportunity to reflect on the prior year, at this time we are at an especially momentous juncture, which prompts me to go further in this letter and comment on the decade past. Our beloved David Barlow, after completing 10 years of service as Board of Trustees chair and 18 years of overall board service, has decided to step down, handing the baton of leadership to Carol Vallone as his able, inspiring successor.

During David’s tenure at the helm, McLean has accomplished tremendous growth in services, with more than a 30 percent increase in inpatient and residential beds and extension of our reach beyond Massachusetts, from Maine to the Middle East. His commitment to compassionate, evidence-based, highest-quality care is reflected in McLean’s selection by U.S. News & World Report as the top freestanding psychiatric hospital for the 15th consecutive year, and number one among all hospitals for psychiatry in 2017. Given David’s own career accomplishments in biopharmaceuticals, it has been no mere coincidence that McLean successfully elevated its research portfolio to greater than $50 million in 2017, the largest in the hospital’s history. Finally, given that David is an expert in business and strategy, it is understandable that under his leadership, McLean implemented a highly successful multi-year strategic plan and is now embarking on the next phase of planning, having already achieved more than a decade of consistently positive fiscal performance and completed its largest ever ($107 million) fundraising campaign. While we cannot thank David enough for his tireless, dedicated service to the hospital and its mission, I speak for the entire McLean community in expressing our deep, eternal gratitude and admiration for his integrity, humanity, guidance, and support.

In the pages that follow, appropriately titled Connections, you will find stories that capture key highlights for 2017. Perhaps most notable among them was the completion of the largest and most complex single project in McLean’s greater-than-200-year history—our conversion to an integrated electronic health record, adopting Partners eCare. In tandem, emblematic of McLean’s role as an innovator, we launched the first-of-its-kind Institute for Technology in Psychiatry to enhance care effectiveness, access, and cost-efficiency, as well as enabling new, promising modes of research, by ushering in the field of digital psychiatry. Through these exciting enterprises, we are transcending historical obstacles and becoming a more connected organization, on the forefront of a health care revolution, while respecting and maintaining our fundamental values.

These successes are a testament to McLean’s community—the clinicians, researchers, educators, administrators, donors, trustees, and volunteers who passionately pursue our mission of improving lives of individuals and families affected by psychiatric illness.

In striving to bring together the best of science and compassion, leveraging new technologies will become more important than ever. Thus, it is fitting that longtime member of the board Carol Vallone has been selected and has agreed to become our next board chair. Given her sophisticated knowledge of online applications, drive for customer service, and unsurpassed energy, with her leadership and all of you, we are well positioned to build upon David’s legacy and further enhance McLean’s success globally.

With warmest regards,

Scott L. Rauch, MD
President and Psychiatrist in Chief
Rose-Marie and Eijk van Otterloo Chair of Psychiatry

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Dear McLean Family,

Reflecting on my treasured tenure at McLean Hospital as trustee for 18 years and board chair for the past 10 years, I’m deeply grateful for the McLean community’s daily commitment to advancing the hospital’s compelling mission to improve the lives of people and families affected by psychiatric illness and behavioral disorders. Each member, from Belmont to regions around the globe, strives to discover, develop, deliver, and disseminate innovative and compassionate care for people in need.

As chair, I’ve been blessed to serve alongside President and Psychiatrist in Chief Dr. Scott Rauch. Scott’s integrity, vision, and transformational leadership have enabled McLean to build upon its storied legacy toward ever greater heights. Guided by thoughtful strategies and keen execution, Scott and his team of exceptionally talented and dedicated researchers, clinicians, educators, nurses, social workers, administrators, and staff have fully positioned McLean for continued growth, financial stability, and mission-driven success.

Generous donors and dedicated volunteers are also essential members of McLean’s community. Among these vital partners are McLean’s insightful and resolute trustees, the inspiring leaders and ambassadors of the hospital’s National Council and Board of Visitors, and all whose gifts breathe life into our mission.

Facing fierce and unrelenting challenges over the past 10 years, we, as a community, have made significant progress in honoring our worthy mission, including:

• Expanding our clinical services, inside and outside of Massachusetts
• Recruiting the country’s best and brightest clinicians and researchers
• Attaining record-setting research funding
• Educating record levels of professionals and consumers
• Topping the U.S. News & World Report rankings each year
• Launching a globally recognized public awareness campaign
• Completing a $100 million capital fundraising campaign
• Improving McLean’s financial health year over year
• Strengthening our mutually beneficial efforts with our parent, Partners HealthCare
• Positioning McLean as a global leader in psychiatry through high-quality clinical care, innovative research, and unsurpassed professional education

McLean Hospital is stronger now than ever before. As patients and their families are the centerpiece of McLean’s community and mission, we will continue to eschew complacency and drive toward improving the field of psychiatry through innovative care and advanced technologies. I’m therefore delighted that Carol Vallone will succeed me as chair of the board. Carol’s energy, leadership in technology-based education, and steadfast dedication to McLean give me great confidence in her stewardship as McLean’s next chair.

With infinite gratitude for your friendship and commitment to McLean’s powerful mission, I look forward to joining you in community and shared purpose for many years to come.

With warmest regards,

David S. Barlow
Chairman of the Board
Mona Potter, MD, left, and Katie Thorpe Blaha, PhD, of the McLean Anxiety Mastery Program, work directly with public school systems to support the growing mental health needs of students.

Partnership Helps Public Schools Support Student Mental Health
Growing up has never been easy.

Multiply the normal angst of the teenage years by the deluge of smartphones, texts, tweets, Instagram photos, and Snapchat snaps. Then add the realities of post-9/11 societal stress, poverty, homelessness, anxiety, depression, and substance abuse, and you have a new reality.

That’s what was facing the Falmouth Public Schools in Massachusetts, when in 2016, school district leaders met up with Mona Potter, MD, and Katie Thorpe Blaha, PhD, of the McLean Anxiety Mastery Program at a special education conference. »
“We have been seeing a great increase in the social-emotional and psychiatric needs of our students across grade levels, particularly over the past few years,” said Charles A. Jodoin, director of student services for the 3,400-student Cape Cod school system.

“We realized that because the profile of the student really has changed over the past years, many of our teachers needed new tools in their toolbox. They needed to have a new lens to be able to see the effects of anxiety and depression, the effects of poverty, the effects of trauma on children, and to be able to be better informed on how best to help these students be ‘available’ to learn.”

That moment helped launch a partnership through which McLean clinicians offer training in evidence-based practices, case consultation, and program development for all Falmouth school staff within a three-tier framework, according to Potter.

“Tier 1 is universal intervention, some things that are good for everyone to learn,” she said. Tier 2 focuses on children-at-risk—for example, those who might have frequent visits to the nurse’s office due to complaints of stomachaches and headaches. These students may not meet criteria for a psychiatric diagnosis, but the interventions are designed to prevent issues from becoming larger.

Students in Tier 3 are identified as having a mental health diagnosis that interferes with their ability to access their educational curriculum.

“These are the kids who are so anxious they can barely make it to the school, and if they do, they’re not able to sit in class. They’re spending the majority of the time in the nurse’s or counselor’s office,” explained Potter.

The students range across the age and grade spectrum, from pre-K to high school.

Thorpe Blaha points to a wide variety of stressors, from traditional spats between male and female friends to technology-based issues like social media, the internet, or the 24-hour news cycle.

“People who are not in a state of anxiety might use social media differently or experience it differently,” she explained. “If I am anxious and I am on social media, the way I use social media actually exacerbates my anxiety.”

The partnership launched in September includes regular weekly teleconferences between McLean and Falmouth faculty that provide the tools the staff need to help students tackle social and emotional challenges. The sessions also focus on helping avoid “empathy fatigue” that can develop while working with students, many of whom can be hospitalized for their issues.

Jodoin said it is still early to draw broad conclusions, but there are initial signs of success. At the end of December 2016, 17 Falmouth students had been hospitalized, and home tutoring costs for the first three months of the school year were close to $16,000. For the same period in 2017, only four students had been hospitalized, at the cost of approximately $500.

In addition to working with Falmouth, the McLean team also has been working with districts including Belmont, Burlington, Dracut, Foxborough, and Wilmington, with plans to further expand in the coming year.

The reason is simple, Potter said.

“You cannot treat a child in isolation. A child is part of systems: a family system, a school system. Our clinical work is greatly enhanced when we collaborate with these systems. We have found that schools feel they cannot ignore the growing social-emotional demands of their students. They are hungry to learn the language we teach the children when they come to us, and we are eager to share.”

Falmouth High School Counselor Laura Finton, LICSW, works with students as part of a collaboration between the school and McLean Hospital.
The increase in anxiety in today’s students
takes a toll not only on the youngsters, but also
on the education professionals who work to help
them through their days. A collaboration between
the Falmouth, Massachusetts, public school
system and the McLean Anxiety Mastery Program
is paying dividends for students and staff alike.

Laura Finton, LICSW, is an adjustment counselor at the 833-student
Falmouth High School. She has seen an upturn in anxiety and stress.
On some days, two or three students would be at her door in need of
“intense therapeutic help.”

“It was getting a little overwhelming from my end too. Sometimes
they’re quiet when they’re stuck, and sometimes they’re explosive. It’s
hard to manage. The toolbox I had was broken.”

Enter the McLean collaboration, which offers trainings with adjust-
ment counselors, psychologists, and special education staff; program
development for the district’s therapeutic classrooms; professional
development presentations for a broader audience of district staff;
and help with individual cases, with an eye to both the student and
the need to avoid “empathy fatigue” that might ripple to the student.

“I was starting to rebuild [a toolbox], but I was doing it haphazardly,
pulling from here, there, and everywhere, and they really helped
me to do this in a more systematic way,” she said of the partnership
launched in September 2017.

The program has reached into every corner of the school system,
said Charles A. Jodoin, Falmouth’s director of student services. It
started with professional development workshops that went “from
the very top of the administrative ladder right to the entire staff.”

It now includes weekly Tuesday morning teleconferences with
McLean where school staff can join in for broad guidance or
individualized assistance across the 3,400-student system.

“These sessions are done virtually, so each school has the technology
capability of logging in, and we can, if we want, have all seven
schools on at once, or we have various folks call in or log in at certain
times while others log off,” said Jodoin.

The results to date have been rewarding, with fewer hospitalized
students—and more confident professional staff.

“You’re the only mental health professional in the building when
you’re the adjustment counselor,” said Finton. “Everyone else is an
educator or a guidance counselor. It’s a different background, so
you’re the one making the decision that this kid needs to go to crisis
counseling. … Oftentimes you’re going home saying ‘Did I make the
right call?’

“Our kids have been invisible and kind of lost for years. Our
administration sees these kids and sees the struggles that staff are
having as well, and that’s what brought the collaboration.”
Mounted on the wall in David’s room at an assisted living facility west of Boston is a small, white box. It emits a low hum, but otherwise, it is hard to know it is there. But, while people in the room may not notice the box, the box is noticing everything that goes on in the room. The box houses a highly sophisticated sensor called Emerald, and it is helping clinicians find better ways to care for seniors, especially those with mental illness.

Originally created to detect falls by older adults, Emerald uses wireless radio signals to determine the location and motion of a person in their living environment. It can see through walls, pick up on spatial locations, and map where someone is in three dimensions. It can tell when someone is standing, sitting, or sleeping. When a person is still, Emerald can monitor breathing.

According to Ipsit Vahia, MD, medical director of Geriatric Psychiatry Outpatient Services and the Institute for Technology in Psychiatry at McLean, “the sensor facilitates far more complex data analysis of a patient than we currently have.” For this reason, he and his colleagues have teamed with MIT’s Computer Science and Artificial Intelligence lab to test Emerald’s capabilities for helping seniors with mental health conditions.

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David volunteers his time to researchers to help them understand how technology may be leveraged to improve mental health care.
Ipsit Vahia, MD, talks with his patient David about the research work they are doing together.

My frustration has always been that we are limited in the information we have about how people do, day-to-day, in their living environment,” said Vahia. At present, he explained, clinicians often receive information “that can be biased and subjective based on the patient’s own memory—or it may be limited by staff members not being present for certain incidents or events.”

Emerald helps address these problems, said MIT’s Dina Katabi, PhD, whose lab developed Emerald. She explained that the device is “a passive sensor that doesn’t require the user to change their behavior in any way,” which produces a more accurate picture of a patient’s activities and conditions. The sensor is also an improvement on current information-gathering systems. According to Katabi, “Most technologies on the market today, such as wearables, require direct interaction with the patient, and many of these patients don’t have the mental capacity to use them properly.”

For David, Emerald is helping his doctors better understand his bipolar disorder and anxiety and improve his treatment. With Emerald, Vahia said, “we can track how well he is responding to medication and make adjustments.”

For another patient, Vahia said the device has detected sleep disturbances, including evidence of pacing at night. Based on this information, Vahia said the patient may have obstructive sleep apnea, a condition that had not been previously detected. As a result, changes have been made to the patient’s medication, and tests are underway to check for sleep apnea.

Information gathered by Emerald is helping individual patients right now, but the McLean-MIT study may drive long-term improvements. Katabi explained that McLean doctors use Emerald-derived data “to diagnose various issues and contribute to clinical assessments.” At MIT, Katabi and her team “interpret these diagnoses and distill them into algorithms and machine learning that we use to further our insights.” These algorithms, she said, “produce clinically relevant data on gait, sleep, and behavior.” Some of this information, she said, has been used to show “physical ability, levels of cognition, life expectancy, and more.”

Vahia is encouraged by the current tests using Emerald, but he says there is more to do. “Now that we’ve demonstrated that it is feasible to use this in a clinical setting, our next step is to establish that the measurements that we get from the sensor are valid compared to the current standard of behavior monitoring,” he said.

For David, taking part in the Emerald study is providing an opportunity to improve his life—and the lives of others. The son of a scientific researcher, David understands the importance of the study and how “this amazing instrument” may lead to innovations in care. “I’ve had my share of episodes,” said David. “And it’s certainly nice to think I could do something to help other people.”
As a member of the McLean Board of Trustees for more than a decade, Carol Vallone has had a bird’s-eye view of the hospital’s performance. Now, in her 11th year and poised to take on the role of chair, Vallone is looking toward the future and is eager to build on the strong foundation laid by her predecessors.

“Since serving on the board, I have watched the hospital build a solid financial foundation under Chair Kate Feldstein, PhD, and experience significant financial growth with the guidance of Chairman David Barlow,” said Vallone. “As I look at where we’ve been and where we need to go, I see the next phase in McLean’s evolution as being one of accelerated growth and global expansion. The hospital is stronger than it ever has been before.”

With a tremendous drive for success, a big vision for the future, and an unyielding commitment to McLean and its mission, we are extremely fortunate to have Carol Vallone serving as our new chair. Having joined the board more than a decade ago, Vallone has been deeply involved with hospital operations and planning. She has served as the chair of McLean’s Ventures Committee, as a member of the Marketing Task Force, and most recently has taken on the role of chair of the Strategic Planning Committee. Vallone has a stellar 19-year career launching, scaling, and selling market-leading online learning companies serving the higher education market. In a true example of her dedication to McLean, Vallone has shifted her focus and is spending more time serving the hospital and the health care industry. As a seasoned business leader in technology and online learning, with a strong background in designing growth strategies that generate financial results, she is in a position to guide McLean as we look to grow our physical and virtual reach globally.

“This is an exciting time for McLean,” said Vallone. “McLean is the number one psychiatric hospital in the country; the stage is set. Now is the time to be bold and innovative and to revolutionize the delivery of psychiatric services.”

“The hospital is stronger than it ever has been before.”

“Now is the time to be bold and innovative and to revolutionize the delivery of psychiatric services.”

“This is an exciting time for McLean.”
ON THE FRONT LINE OF THE OPIOID CRISIS

It was a problem we never used to speak about, something that afflicted those “down on their luck” or residents of “skid row” who could not cope with their lives. They dealt with those challenges with alcohol and drug abuse, the drug of choice frequently heroin.

Today, addiction—particularly to opiates like heroin and synthetic opioids like oxycodone and fentanyl—affects all levels of society and is finally being considered a national public health emergency. The recently published report of the President’s Commission on Combating Drug Addiction and the Opioid Crisis notes 175 lives are lost daily to addiction.

The Centers for Disease Control and Prevention reported that in 2015 drug overdose death rates increased for all age groups, with the greatest percentage increase among adults aged 55–64. In 2015, 21 states had age-adjusted drug overdose rates that were statistically higher than the national rate, with New Hampshire, Massachusetts, and Maine among states with the highest rates.

Having opened its first specialized alcohol and drug treatment service in the mid-1970s, McLean has continued to expand its substance use treatment and research programs to meet the needs of its patients and their families. Today, McLean’s Division of Alcohol and Drug Abuse is among the hospital’s largest and most in-demand service lines, according to Roger D. Weiss, MD, the current division chief.

Currently, approximately 40 percent of the 135 patients admitted monthly for detoxification and stabilization at McLean have a current opioid use disorder. Approximately 25-30 percent of these adults are women, and 65 percent have had a previous substance-related hospitalization. The division also enrolls approximately 120 patients with opioid use disorder per year to its ambulatory clinic.

Medical therapies generally take two forms. Antagonist treatment, such as extended-release naltrexone, works by blocking the effects of opiates. Agonist treatment, most commonly buprenorphine, replaces the shorter-acting opiate the patient is addicted to with a longer-acting, less-addictive opiate that reduces craving and enables patients to function effectively. Long-acting methadone is another form of agonist treatment.

“Many studies have shown that people do significantly better when they are on medication for opioid use disorder than when they are not treated with medication,” said Weiss.

Medications are combined with a strong psychosocial treatment component, which includes treatments that were developed by researchers in the Division of Alcohol and Drug Abuse. These McLean-developed treatments include integrated group therapy for patients with co-occurring mood disorders, a women’s recovery group, and individual therapy for people with coexisting opioid use disorders and anxiety disorders.
Bertha K. Madras, PhD

Understanding the impact of opioids on the brain has given Madras an important perspective on how to fight addiction. A psychobiologist at McLean, Madras has brought her scientific training to several federal government roles, most recently in advocating for the President’s Commission on Combating Drug Addiction and the Opioid Crisis to place a high priority on treatment over punishment.

Shelly F. Greenfield, MD, MPH

Policy and education—both for the public and for clinicians—are at the heart of Greenfield’s work as McLean’s chief academic officer. The incoming president of the American Academy of Addiction Psychiatry has a long-standing interest in developing treatment for women through the Women’s Recovery Group. She helped develop an online course on the opioid crisis for Harvard University and also played a key role in creating a cross-discipline curriculum in substance abuse disorders for Harvard Medical School students.

Roger D. Weiss, MD

As chief of McLean’s Division of Alcohol and Drug Abuse, Weiss has focused on treatment and clinical research with substance-dependent patients. In addition to overseeing a division that offers inpatient, outpatient, and specialized residential care to hundreds of patients a month, Weiss is a principal investigator in the federally funded Clinical Trials Network, which has looked at, among other things, the impact of combining medication and counseling to control or eliminate addictive behavior.
But treatment, which includes an inpatient program, four residential programs, a partial hospital program, an outpatient program, and a hospital consultation service, is only part of the division’s work. Training and research are equally critical.

Weiss is also a principal investigator of the Clinical Trials Network (CTN), supported by the National Institute on Drug Abuse (NIDA). The partnership between academic research centers, community drug abuse treatment programs, and general medical settings has designed and conducted multi-site, large clinical trials across the country.

“Before the Clinical Trials Network was formed, many clinical trials examining treatments for patients with substance use disorders were done in academic research centers, but after they were completed, they never really got implemented into the field,” said Weiss.

“In this most recent iteration of the Clinical Trials Network, the emphasis has shifted to doing studies in general medical settings like emergency departments, primary care, etc., which is where a lot of people with drug problems go. We conduct these studies with the idea that if a treatment is found to be successful, people in treatment programs could institute it right away.”

McLean is also on the leading edge of clinical research on the differences between men and women in terms of responding to treatment for addiction, including opioid use disorders, added Shelly F. Greenfield, MD, MPH, McLean’s chief academic officer and chair of the NIDA CTN’s Gender Special Interest Group.

This work led Greenfield to develop the Women’s Recovery Group for women with substance use disorders who have a range of substance problems, co-occurring psychiatric disorders, ages and stages of life, and trauma histories. Greenfield is working with clinical psychologist Dawn E. Sugarman, PhD, to develop both a web-based curriculum and a mobile app for patients with substance use disorders that are gender-responsive.

Education and training remain an important part of any academic medical facility. Greenfield and Hilary S. Connery, MD, PhD, the division’s clinical director, have played a lead role with other Harvard Medical School-affiliated institutions to overhaul its curriculum so physicians-in-training receive instruction on chronic pain and substance abuse disorders throughout their education and in rotations as varied as emergency medicine, surgery, primary care, obstetrics and gynecology, and pediatrics. Weiss is the director of the Partners HealthCare addiction psychiatry fellowship, which trains psychiatrists who have completed their residency training in the specialized field of addiction psychiatry.
Connery is also working with colleagues within the Middlesex Opioid Taskforce and the Waltham, Massachusetts, Health Department’s Opioid Outreach Collaborative to raise awareness about opioid-related suicide. A key component of that effort is to present evidence that not all overdoses are accidental, particularly among people experiencing chronic pain and/or opioid addiction.

“A lot of patients who get naloxone rescue don’t engage in follow-up treatment, and obviously opioid use disorder is a lethal illness, but it’s a lethal illness for which we have very good treatment that will save lives,” she said.

But that rescue can also lead to a “really horrible” withdrawal syndrome that can make patients angry or aggressive and lead them to look for opioids to stop the withdrawal. The collaborative is trying to enhance the capacity for follow-up.

“If a person becomes actively suicidal, having prescription opioids or heroin is the same as having a gun,” she said. Working with police, local emergency rooms, and community treatment centers, the goal is to identify people discharged post-overdose in need of outreach follow-up to offer treatment supports to them and to their families and partners.

Olivera J. Bogunovic, MD

As medical director of Ambulatory Services in McLean’s Division of Alcohol and Drug Abuse, Bogunovic leads a medication-assisted treatment program for opioid addiction and a benzodiazepine taper program. Her investigative work focuses on developing specialized treatments for elderly patients with substance use disorders and treatment guidelines for benzodiazepine use disorder.

“It’s time to create a community-wide collaborative where rapid response and rapid initiation of treatment are available to patients, post-overdose, for all who are willing to seek treatment and are open to that.”

Beyond Massachusetts, Greenfield, who was recently named president of the American Academy of Addiction Psychiatry, and Bertha K. Madras, PhD, the former deputy director for demand reduction of the Office of National Drug Control Policy under President George W. Bush and current psychobiologist at McLean, make regular appearances in Washington, DC, providing guidance to policymakers as they struggle to address the national opioid crisis.

“We are in the middle of an epidemic, with hundreds of people losing their lives every day,” said Greenfield. “But we are fighting each day to develop tools and policies that will stem the loss of life.”

“From the clinical and research work we are doing at McLean to the education initiatives we have launched at the state level to our advocacy work on Capitol Hill, we are on the front line in providing care, developing new treatments, and advocating for policy strategies that will provide effective solutions to this nationwide public health emergency.”

Hilary S. Connery, MD, PhD

Connery, who is clinical director of McLean’s Division of Alcohol and Drug Abuse, developed a Harvard Medical School-wide curriculum on substance use disorders. She also works to educate first responders and the public about the nature of overdose, particularly how to spot potential for and combat suicide by opioid.
OPIOID ADDICTION: EXPLORING SCIENTIFIC SOLUTIONS

The ultimate solution to the opioid crisis is answering the question of what causes addiction and whether it is possible to treat it more effectively or even prevent it. That's the challenge Elena H. Chartoff, PhD, is taking on in her laboratory.

As director of the Neurobiology of Motivated Behavior Laboratory at McLean Hospital, she is exploring the mechanisms that connect depression and anxiety with drug addiction. The work aims to help with understanding basic brain functions that control mood and motivated behavior.

“We're trying to understand the opiate withdrawal syndrome,” she said. “After stopping opioid use, a withdrawal syndrome emerges, comprising physical and psychological signs. Although physical withdrawal signs subside in 48 to 72 hours, the psychological effects, including anxiety, dysphoria, and irritability, can last weeks or months and can be exacerbated by drug-associated stimuli. That's what makes it so hard to quit.”

Chartoff and her team have been able to show that the nucleus accumbens (NAc), a key part of the brain's reward circuitry, is an area necessary for psychological withdrawal from opioids. The reaction involves dopamine, a brain chemical that affects sensations of pleasure and emotional pain, and glutamate, a brain chemical necessary for basic neuron-to-neuron communication throughout the brain.

When portions of the NAc are excited, this can trigger depressive behavior. Receptors for dopamine and glutamate could be targets for treatment, which currently relies on methadone or buprenorphine, which are also opioids.

Working in conjunction with clinical research by R. Kathryn McHugh, PhD, a psychologist in the Division of Alcohol and Drug Abuse, Chartoff’s lab is looking to “back-translate” in rats McHugh’s research efforts demonstrating the importance of distress intolerance (DI) to opioid misuse in humans, using techniques such as how long a person can hold their hand in ice water.

“The higher the DI score in someone with chronic pain using opioids, the higher the likelihood for abuse,” said Chartoff, whose team measures the response in rats to an acoustic startle, a quick sound that induces a reflexive movement.

“The more of a reaction, the more anxious the subject could be,” she explained. The rats are then implanted with an intravenous catheter and self-administer oxycodone by pressing a lever to allow drug delivery through the catheter. By measuring a rat's DI level before drug use, Chartoff’s group has evidence that this can strongly predict how much oxycodone it will take.

The research focuses on glutamate receptors, which are important in how the brain works in many ways, including seizures.

“They work to reduce excitability, and that could be an effective treatment,” similar to the impact of many anti-anxiety drugs that work by enhancing inhibition in the brain, said Chartoff.

The lab includes both females and males in their studies because there is striking evidence, both clinically and preclinically, for sex differences in every facet of the addiction cycle.

“We don't know the particular influences of society, environment, and biology on addiction, which is why it's important to use rodent models to tease out the biological contributions,” she said.
OPIOID EPIDEMIC: McLEAN TAKES ACTION

HOW CAN POLICY CHANGES COMBAT THE OPIOID CRISIS?

When the White House assembled a commission to address how to combat the nation’s opioid crisis, the administration called upon current and former elected officials with a background in administration, law enforcement, and addiction. And Bertha K. Madras, PhD.

A psychobiologist in the Division of Alcohol and Drug Abuse and Division of Basic Neuroscience at McLean Hospital, she is an expert in addiction biology. Madras also knows her way around government, having served as deputy director for demand reduction in the George W. Bush White House Office of National Drug Control Policy. (The United States Senate confirmed her presidential appointment 99-0.)

“Every commission member offered unique contributions. They conveyed their perspective on the opioid crisis at their state level, in terms of identifying the greatest needs and organizing a state government response,” she said of colleagues including Massachusetts Gov. Charlie Baker.

As the sole scientist on the panel, one with a deep understanding of addiction risks, prevention, consequences, and quality treatment, she brought insight into the complex multidimensional nature of the problem.

Within three weeks of the swearing-in ceremony, she had generated an outline of over 250 sections for a future report, which was eventually condensed into about 50 headings. Among the many critical recommendations, two challenges came to mind: “transitioning people with an iatrogenic or non-medically related opioid use disorder into treatment and transitioning people rescued from an overdose into treatment.”

“There is a tremendous need to ensure that people will receive help beyond naloxone rescue from an overdose. A system of warm handoffs after rescue can include initiation of pharmacotherapy combined with immediate access to treatment. We need aggressive approaches beyond overdose rescues, which until very recently were largely limited to administering naloxone and walking away,” said Madras.

Other key priorities among the 56 final recommendations submitted to President Trump on November 1, 2017, focus on prevention, which includes reducing the supply of opioids, and expanding access to treatment. Reduction efforts include working with clinicians to reduce the overall number of opioid prescriptions, doses, and duration by offering alternatives to pain management for specific types of pain conditions. It also includes cutting off the supply of heroin and fentanyl, the cause of the current lion’s share of opioid-related deaths. Expanding quality treatment involves removing a number of barriers to treatment to include pharmacotherapy and provide medical and mental health services.

“We have 14,000 treatment centers in the country, and about one-third or less offer medications to assist in treatment. My vision of the future is a unification of the health care system and the traditional treatment system that will offer a full range of needed health care services.”

It also means reducing insurance barriers to treatment duration and medications (buprenorphine, methadone, naltrexone) used for opioid withdrawal and treatment, added Brian Barnett, MD, a McLean addiction psychiatry fellow who contributed to the report.

Public and private insurers often raise barriers, such as prior authorization requirements, to prescribing these medications, compared to the ease of access to oxycodone or Percocet, which have higher potential to cause addiction, Barnett noted.

“There are ways of exercising incentives and disincentives to reduce the opioid pill count in people’s medicine cabinets and yet not jeopardize effective treatment for pain patients,” said Madras. “We’ll never be able to arrest our way—or to treat our way—out of the opioid crisis. We also need to prevent our way out of our national nightmare.”

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Samuel Plimpton and Wendy Shattuck target their giving to organizations that leverage gifts to achieve returns for society. Sam, senior advisor and partner emeritus at the Baupost Group, LLC, is interested in the long-term value created through investment to address unmet needs.

“There is substantial unmet demand in the field of mental health care,” he said. “Yet, primary research to better understand and treat mental illness is historically underfunded. McLean is at the forefront in research for many psychiatric illnesses that are prevalent and costly in the US, and we want to support that scientific inquiry, the clinical research, and the collaborations on emerging knowledge.”

While Boston is a hot spot for research institutions, there are also world-class organizations in music, fine arts, and higher education. Wendy has a passion for the arts, and together they are committed to institutions that make Boston an attractive long-term urban center of research, education, and culture. These include the Museum of Fine Arts Boston, the New England Conservatory of Music, the Emerald Necklace Conservancy, the Isabella Stewart Gardner Museum, the Boston Symphony Orchestra, Boston Lyric Opera, and Harvard University. Wendy and Sam bring their insights and expertise along with their generous philanthropy to McLean.

Wendy and Sam feel McLean stands apart as a center for psychiatric clinical work and as a leading research organization, and its affiliations with the finest medical schools and teaching hospitals in the world mean that it is well positioned to continue to make valuable contributions to the field of mental health. They support McLean because of its blend of superb clinical services and scientific research excellence.

In addition to providing generous unrestricted gifts that strengthen the full breadth of McLean’s mission, they also make targeted grants to bipolar disorder research. They are particularly drawn to translational research, for which McLean is well known, because of its potential to deliver new treatments and improve care for many in need. One study they have funded is investigating cellular abnormalities that appear both in individuals with diagnosed mental illness and their siblings who do not have the disorder.

“Our early findings suggest that metabolic problems we often see in patients with psychotic disorders may be part of the causal pathways, rather than a downstream effect of medication or lifestyle, as commonly thought,” said Dost Öngür, MD, PhD, chief of McLean’s Psychotic Disorders Division. “We intend to explore this further with the hope of identifying early predictors and interventions that can prevent or lessen the effects of these conditions. Sam and Wendy's contributions have been essential to our pursuing this line of research.”

Sam and Wendy have been donors to McLean since 2006 and members of the McLean National Council, individuals who serve as ambassadors-at-large and major benefactors of the hospital, since 2012. Their philanthropy also helped launch an entirely new service arm at McLean, the College Mental Health Program, which provides tailored services to students in treatment and works closely with colleges and universities to guide their transition back to campus.

Their confidence in McLean is based on the intelligence and dedication of its leadership, together with the curiosity and scientific brilliance of its researchers. McLean has helped their own family as well as the families of many friends. For Wendy and Sam, giving to McLean is a targeted investment in their local community as well as the broader field of mental health care and research that stands to benefit society as a whole.

Ways to Give

Every year, donors make a difference in the lives of people affected by psychiatric illness. Please consider supporting McLean in one or more of the following ways:

- **The Mary Belknap Society:** Unrestricted gifts support a range of programs and help launch initiatives.
- **Targeted Giving:** Whether you choose to give toward a research fellowship, a capital project, or clinical care, you can target your gift to the program that is most meaningful to you.
- **Tribute Giving:** You can leave a lasting legacy through your estate plan or by joining the John McLean Society.

To learn more or to give to McLean today, visit mcleanhospital.org/give.
On April 17, 2017, Ana Febres-Cordero, a suicide survivor, and her father Rafael ran the Boston Marathon to support public awareness and outreach programs focused on eliminating the stigma surrounding mental illness. Ana was inspired to partner with McLean Hospital to develop Deconstructing Stigma: Ana’s Marathon Fund because of a shared mission to eliminate the obstacles that discourage too many people from seeking mental health care and to educate friends, families, and neighbors of those with mental illness about what they can do to help support recovery.

Along with running to raise awareness, Ana is also participating in McLean’s Deconstructing Stigma: A Change in Thought Can Change a Life national public awareness campaign. Deconstructing Stigma currently includes a 235-foot-long physical installation at Boston Logan International Airport featuring a series of larger-than-life photographs of people who have been affected by mental illness and a website with compelling stories told through the eyes of the campaign’s participants.

“The stigma around mental illness is so prominent that people just associate it with weakness,” said Ana. “That’s what’s motivating me to talk about it, because it’s not only about helping the people who are living with mental illness, it’s also about teaching others how to help those who are suffering.”

Ana is a smart, athletic, and talkative young woman who smiles and laughs easily. She also is someone who has felt the heavy weight of depression, lacking the desire to get out of bed for days on end and experiencing uncontrollable and unanticipated bouts of crying and sadness.

It started when she was a junior in high school.

“I would go through these spurts where it would just hit me, and I would be at an all-time low for a month or two and then I would come back up and I would be fine,” she explained. “When
I went to college, it really started to take a toll on me.”

During high school, Ana was not open about her depressive thoughts. She would periodically mention her struggles to her mother, but they managed to tie her sadness to the challenges that many teens face—concerns about physical appearance, the fluctuations of friendships and relationships, and the stress of leaving home for college.

Her depression, however, intensified during her first year of college. While her classmates studied or went to social events, she just stayed in bed.

“I stopped going to classes,” said Ana. “I stopped doing homework. I received emails from my teachers, but I didn’t respond because I didn’t care.”

Ana’s depression became so severe, one night she attempted suicide. Fortunately, her friends realized what was happening and immediately called for help. Once her parents were notified, Ana’s mom drove straight from Massachusetts to Pennsylvania to be by her daughter’s side early in the morning.

With the encouragement of her mother and father, Ana entered into a rigorous treatment plan that helped her address her depression, anxiety, and an eating disorder. She also immediately realized that by keeping her experience a secret, she was adding to the stigma of mental illness.

With the support of her friends and family, Ana decided to share her story in hopes of helping other young adults know that they are not alone. “You don’t have to go through it alone,” Ana explained. “You don’t have to be afraid to reach out for help.”

Today, Ana is a successful student at the University of New Hampshire and an active mental health advocate. If you are interested in supporting Ana’s mission, please visit givemclean.partners.org/AnasRun.
An Epic Leap Into the Future of Health Care
With more than a dozen clinical, technical, and administrative staff looking on from a command center atop Belmont Hill, at 5am on June 24, 2017, McLean Hospital took a giant leap into the future of health care as it flipped the switch and officially “went live” with an electronic health record (EHR). The EHR, which is built using the Epic platform and is known as Partners eCare, is the largest infrastructure endeavor ever undertaken by McLean.

Behind the new workstations, countless hours of training, and hospital-wide meetings to discuss workflows and customized builds to make the system work at McLean is a sophisticated tool that impacts nearly every McLean employee and all patients.

“This is an incredibly powerful system that touches every facet of the hospital, from helping us more efficiently schedule outpatient appointments and track admissions to streamlining our billing system,” said Michele L. Gougeon, executive vice president and chief operating officer for McLean. “The benefit for patients and their families is our ability to now more effectively share information between our own programs, as well as across the Partners system.”

While eCare enhances the ability of providers to coordinate care, it also makes it easier for patients to track their own care through the website Patient Gateway and simplifies paying bills. Another benefit to the system is greater communication between mental health and primary care providers within the Partners network, according to Brent P. Forester, MD, MSc, chief of McLean’s Division of Geriatric Psychiatry and medical director of behavioral health in the Center for Population Health at Partners HealthCare.

“Epic provides us with an opportunity to better integrate mental health within primary care and allows us to proactively work with primary care physicians to share information that helps us proactively identify people at risk for depression prior to a crisis,” explained Forester, who estimates that between 10 and 15 percent of patients seen within Partners hospitals have a lifetime history of depression. “Epic has allowed us to make depression an active discussion point, rather than something that goes unrecognized in the primary care setting.”

John B. Roseman, MD, clinical content lead for psychiatry within Partners eCare, was instrumental in launching eCare at McLean and in other locations within Partners. Through his lens as a clinician, he sees the tremendous opportunities eCare has created for his colleagues and patients.

“eCare was implemented to improve care coordination and to enhance patient care quality and safety. While the implementation has been a huge effort and enhancements to the system continue every day, Epic has already significantly improved many aspects of how we do our jobs and coordinate care for our patients,” explained Roseman, who is also the assistant medical director of McLean’s Electroconvulsive Therapy Service. “It is a very powerful tool, and we are continuing to refine the system and are learning to use it to its full potential.”

Thank you to the following people for the countless hours they dedicated to ensuring a successful launch of Partners eCare at McLean.

Kelly Beane  
Paula Bolton  
Alisa Busch  
Linda Flaherty  
Joseph Gold  
Michele Gougeon  
David Lagasse  
Mary “Patty” McGearry  
Carol Aboud  
Blaise Aguirre  
Frank Aikeins  
Diane Bedell  
Christina Bonello  
Kelly Carlson  
Keith Comant  
Diane Davey  
Kristopher Dobie  
Paula Bolton  
Alisa Busch  
Linda Flaherty  
Joseph Gold  
Michele Gougeon  
David Lagasse  
Mary “Patty” McGearry  
Carol Aboud  
Blaise Aguirre  
Frank Aikeins  
Diane Bedell  
Christina Bonello  
Kelly Carlson  
Keith Comant  
Diane Davey  
Lyne Kopeski  
Mark Longso  
Michael Macht-Greenberg  
Maria Mastrangelo  
Ann Marie McCarthy  
Lisa McCormack  
Jeanne McElhinney  
Patricia Murphy  
Maria Olivier  
David Olson  
Mark Picciotto  
Lorraine Purinton  
Ann Rapoport  
Jeffrey Rediger  
Christopher Richard  
Mark Robart  
Matthew Robinson  
John Roseman  
Cynthia Ruscitti  
Cecelia Rush  
Sylvia Grace Russell  
Kelly Scanlon  
Darlyn Scott  
Cynthia Seeley  
Karen Slifka  
Laura Stocki  
Dawn Sugarman  
Susan Szulewski  
Sequina Taylor  
Peter Thomas  
Victoria Vargas  

Names in bold indicate team leaders.
## Income Statement

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net patient revenue</td>
<td>$160,997</td>
<td>$154,021</td>
</tr>
<tr>
<td>Other operating revenue</td>
<td>18,934</td>
<td>17,353</td>
</tr>
<tr>
<td>Direct research revenue</td>
<td>37,699</td>
<td>35,632</td>
</tr>
<tr>
<td>Indirect research recovery</td>
<td>11,804</td>
<td>11,100</td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td>$229,434</td>
<td>$218,106</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee compensation and benefits</td>
<td>121,539</td>
<td>116,188</td>
</tr>
<tr>
<td>Supplies and other</td>
<td>54,626</td>
<td>50,370</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>8,979</td>
<td>7,747</td>
</tr>
<tr>
<td>Interest</td>
<td>3,183</td>
<td>2,380</td>
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<tr>
<td>Direct research</td>
<td>37,699</td>
<td>35,632</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td>$226,026</td>
<td>$212,317</td>
</tr>
<tr>
<td>Income/(loss) from operations</td>
<td>$ 3,408</td>
<td>$ 5,789</td>
</tr>
<tr>
<td>Total nonoperating gains/(expenses)</td>
<td>4,801</td>
<td>844</td>
</tr>
<tr>
<td><strong>Excess of revenues over expenses</strong></td>
<td>$ 8,209</td>
<td>$ 6,633</td>
</tr>
</tbody>
</table>

Financials

For the fiscal years ending 9.30.17 and 9.30.16. In thousands of dollars.
### Balance Sheet

<table>
<thead>
<tr>
<th>Assets</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and investments</td>
<td>$14,516</td>
<td>$14,376</td>
</tr>
<tr>
<td>Patient accounts receivable</td>
<td>13,216</td>
<td>15,465</td>
</tr>
<tr>
<td>Other current assets</td>
<td>13,890</td>
<td>8,288</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td><strong>41,622</strong></td>
<td><strong>38,129</strong></td>
</tr>
<tr>
<td>Investments limited as to use and long-term</td>
<td>1,376</td>
<td>3,121</td>
</tr>
<tr>
<td>Property and equipment, net</td>
<td>90,805</td>
<td>92,890</td>
</tr>
<tr>
<td>Endowments</td>
<td>149,789</td>
<td>131,128</td>
</tr>
<tr>
<td>Other assets</td>
<td>6,069</td>
<td>6,516</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>$289,661</strong></td>
<td><strong>$271,784</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities and net assets</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>$26,747</td>
<td>$21,522</td>
</tr>
<tr>
<td>Current portion of accrual for settlements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with third-party payers</td>
<td>521</td>
<td>1,229</td>
</tr>
<tr>
<td>Unexpended funds of research grants</td>
<td>1,883</td>
<td>2,155</td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td><strong>29,151</strong></td>
<td><strong>24,906</strong></td>
</tr>
</tbody>
</table>

| Other long-term liabilities                 | 6,795      | 6,902      |
| Long-term debt                             | 82,271     | 67,247     |
| Net assets                                  | 171,444    | 172,729    |
| **Total liabilities and net assets**        | **$289,661** | **$271,784** |
Leadership

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By the Numbers 10.30.16 to 9.30.17

Services
Average beds in service 218
Admissions 6,371
Inpatient days 69,024
Partial hospital days 38,142
Outpatient visits 51,005
Child/adolescent days 16,379
Residential days 25,729

Staffing
Physicians and psychologists 248
Residents 26
Fellows 66
Nurses 236
Clinical social workers 130
Mental health specialists and community residence specialists 364
Other 643
Total full-time equivalents 1,713

* Carol Vallone named chair in March 2018.