Kevin Daignault, 55, says his wife, Susan, just happened to notice her smartphone light up in the early morning hours of Dec. 29, 2017, having somehow missed dozens of other urgent calls from a small office on Cox 6 at the MGH.

Karen Turvey, CNP, of Transplant Surgery, was repeatedly dialing the couple with the news that a donor heart had become available – and Daignault was first in line to receive it.

“We packed a bag and got on the road,” says Daignault. He and Susan immediately set out on the more than five-hour drive to the MGH from northern Vermont. “Six hours later it felt surreal to be at the hospital being prepared for transplant surgery.”

It was days later – while in recovery – that Daignault learned he was the 500th patient to receive a heart transplant at the MGH, which began its heart transplant program in 1985.

“Kevin was also the 40th transplant we performed in 2017, which is almost double the number we achieved for patients two years ago,” says David D’Alessandro, MD, surgical director of MGH Heart Transplantation and a member of Daignault’s care team.

Kerry Gaj, NP, of Transplant Surgery, credits this increase to the strong, dedicated leadership of both D’Alessandro and Greg Lewis, MD, medical director for Heart Transplantation, as well as the “close coordination the program enjoys with other experts in heart failure.”

With a referral from Steiner, Daignault underwent surgery at the MGH in October to receive a left ventricular assist device (LVAD), a mechanical heart pump. He then was placed on the transplant list as Status Code 1A, a high priority for transplant based on medical needs. Daignault’s heart was transplanted less than three months after the LVAD placement, just in time for the new year.

“It really feels like a new lease on life,” says Daignault. “I feel like I’m starting life all over again.”

Specialty pharmacy pilot program launches

ENBREL, HUMIRA, SOVALDI, XELODA.

For many people suffering from chronic inflammatory arthritis, gastrointestinal illnesses and certain cancers, medications like these can be highly effective in managing conditions and improving overall quality of life, but also very expensive and challenging to manage at home. Traditionally, these specialty medications are prescribed by clinicians, obtained at a chain store pharmacy or outside specialty pharmacy and self-administered by the patient at home.

Enter the new Partners HealthCare Specialty Pharmacy. The program was first rolled out to patients within the MGH Department of Rheumatology in December 2017. It replaces typical third-party pharmacies by delivering medications directly to patients, securing these medical supplies at a lower cost. The team also provides medication management guidance and financial assistance services.

“The current specialty pharmacy process is extremely fragmented with no patient status information being sent back to the provider once the prescription is transmitted to an outside specialty pharmacy,” says Chris Fortier, PharmD, MGH chief pharmacy officer. “The Partners Specialty Pharmacy allows providers a direct line to a pharmacy team dedicated to Partners patients and offers clinicians real-time patient information in the eCare record specific to the patient’s utilization of that specialty medication.”

The Partners Specialty Pharmacy staff uses Epic – the electronic health record – to help patients with the assessment, monitoring and management of high-cost drugs. The team also streamlines the complex prior-authorization process for clinical teams, reducing cost and paperwork for physicians and practice staff.

The program already has grown to include MGH Gastroenterology and will extend to Oncology in March, when it also will be rolled (Continued on page 4)
“Our whole goal is to preserve patient safety. The situation is serious, but because of the work of everyone around the hospital – whether it’s changing an NPO [nothing by mouth] strategy before patients go to the OR, whether it’s exchanging saline for lactated ringers, or any of the other alternatives we’ve introduced – the quality of patient care has been the same. It’s just delivered in a different way.”

– Paul Biddinger, MD, chief of the Division of Emergency Preparedness

MEMBERS OF THE MGH Hospital Incident Command System (HICS) IV Fluid Working Group gather around a conference room in the Founders Building. Will Rosales, senior manager of MGH Materials Management, begins the meeting by reviewing the supply chain spreadsheet, a document that has become like a daily newspaper, detailing the good and difficult news the group can expect that day.

The list is long.

“We are placing the maximum orders daily,” he says. “As you know, it’s peaked and flowed at different times. But we look OK for today.”

WHEN HURRICANE MARIA tore through Puerto Rico Sept. 20, 2017, its path of destruction included three Baxter International manufacturing plants, which produced more than 40 percent of the United States’ supply of saline fluid bags. Although more than 1,500 miles away, the MGH has seen and felt the ripple effect of Mother Nature’s wrath – experiencing first-hand how the massive destruction there has become a major disruption here.

Within days of the storm, staff throughout the hospital jumped into action, knowing that the tens of thousands of bags of fluids the hospital relies on every week would soon be in jeopardy. Various departments began to investigate alternate ways to obtain supplies, and staff worked to outline potential workarounds and clinical treatment alternatives. In November, the MGH activated its HICS team to help coordinate the response, bringing together representatives from major departments throughout the institution.

In the five months since the hurricane made landfall, the HICS team – and its accompanying subcommittees and advisory groups – have met on a daily basis, sometimes multiple times a day, to evaluate, assist and strategize for today, tomorrow and the coming weeks and months. There have been dozens of clinical alternatives introduced, in addition to staff closely adhering to the situation’s repeated mantra that “conservation is key.”

While this specific IV fluid bag shortage is a first for the MGH, it is one that its staff members are well-equipped to handle thanks to the hospitalwide emphasis on continual emergency preparedness efforts, and lessons learned from past experiences. This crisis comes on the heels of numerous other emergencies, including caring for the badly injured patients following Boston Marathon bombings, and planning for possible outbreaks of H1N1, Ebola, and other epidemics.

“We have not been caught off guard by this, in that we have the emergency management structure internally on a long-term basis, as this is one of the most extended events that we’ve seen. But the training and preparation we work on every day of the year – coupled with the dedication and commitment of our staff – makes this manageable.”

– Ali Parmar, senior administrative manager, Center for Disaster Medicine, when a recent fluid bag supply order is fulfilled

LISA MARTINO SITS in the empty Materials Management conference room, tucked in the basement of the Lunder Building. Laptop open, the department manager concentrates intensely on a document filling the screen. The only sound in the room is the click of keys as Martino enters the morning’s clinical supply statuses. She details some entries with an accompanying color – bright hues that are in stark contrast to the spreadsheet’s sea of black and white words and numbers. Yellow depicts caution. Red denotes critical. Then there are the black squares with the most concerning status – out.

While always part of her job duties, this monitoring, updating, ordering, adjusting – and readjusting – has become a much more in-depth and time-consuming part of daily life.

“This is a unique case,” Martino says. “It’s taken up a good portion of my time. Looking at reports, compiling the data, discussing them at the HICS working group meetings – it takes about three hours a day.”

Martino says the HICS structure and the dedication of its active team members have helped alleviate some of the concerns that come with any shortage. “We all typically work together on a smaller scale – a much smaller scale – on backorder issues,” she says. “But here, everyone is in the room. We ask for and need everyone’s input. I’m not a clinician, so working closely with the larger team helps me to prioritize what needs to be done. And, it’s not just the emergency group. There have been a lot of conservation efforts put into place and we’ve seen a decrease in usage allocations. Everybody has really made these great, strong efforts to conserve products.”

TECHNICIANS IN THE Central Pharmacy IV Compounding Unit pump fluid from a large IV solution bag into smaller bags. More than 1,000 intravenous medication doses are mixed in IV fluid bags daily in this room. After the storm, the Department of Pharmacy started making its own IV fluid bags to fulfill the needs of the hospital. It’s a time-intensive process,
and one of the adaptive measures the MGH introduced in October.

“It’s really nerve-wracking not knowing when – or if – there is a reliable supply coming in,” says Lindsey Smith, PharmD, manager of Pharmacy Operations. “It’s one of those things that you really don’t know what you have until it’s taken away from you. But, I do not think we ever deviated too far from our norm. I think we were really helped by the collaborative approach we took.”

Smith points to the silver racks of supplies – a glaring visual reminder of exactly what is available at any given moment. “Imagine walking in here and seeing only a small supply when there normally are 7,000 units available,” she says. “There were three times when we ran almost to zero. We all take patient care very seriously, and we know what it would mean if the fluids were gone.”

“There have been 47 adaptive strategies implemented since October. Staff have really come together to help with conservation efforts and this has been immensely helpful.”

– Sue Algeri, RN, associate chief nurse

ELEVEN FLOORS AWAY – on the Cardiac Care Step-Down Unit on Ellison 10 – Kate Benacchio, RN, clinical nurse specialist, reviews the daily medical supply spreadsheet. On her desk – surrounded by Post-It notes and a child’s colorful Crayola drawings – are a stack of Practice Updates created by the Patient Care Service Quality and Safety Office. The documents feature updates to Epic orders and other key information specific to the IV fluid bag shortage.

“Because this was so unexpected, it caught us off guard,” Benacchio says. “I don’t think you realize how much of an impact one single storm can make. It’s been interesting to see how we have evolved in the four to five months since this happened.”

Benacchio says although the shortage has been challenging at times, it also has been rewarding to see the dedication and commitment across so many levels of the institution. As Benacchio walks through the unit, she passes by a nurse guiding and encouraging a patient on his second lap around the reception desk, and she closely monitors the screens beeping in rhythm of the hearts of the nearby patients. An alarm sounds and Benacchio races to a nearby room, gently redirecting the patient at risk for falls from trying to get out of bed unassisted.

“Nurses are really good at improvising and getting the job done,” she says. “I feel really lucky to work in an institution that values nursing. Nurses are always at the table and they are well represented. We are in the thick of things and our input is valued and appreciated – and listened to. And, it’s not just nursing leadership, we all sit at the table equally. It’s really refreshing to see.”

“Although this situation has been – and continues to be – challenging, it also has allowed us to gain an incredible education and helpful insights into future emergencies. The lessons we’ve learned from these collaborative efforts will help drive our planning in the years to come.”

– Rob Krupa, Planning, Training and Exercise program manager, Center for Disaster Medicine

QUALITY AND SAFETY are commitments that the hospital and its caregivers stress when talking with patients, their caregivers and families. “It’s true that how care is provided may look a bit different in some areas, but the goal of providing kind, compassionate, top-notch care remains top of mind,” says Colleen Snydeman, RN, director of Quality and Safety for Patient Care Services. “We’ve kept quality and safety at the forefront of everything we are doing because we don’t want this shortage to impact patient care.”

Snydeman says to ensure ongoing high-quality care her team has been encouraging staff to submit safety reports – documenting anything they see that could impact quality and safety – which are monitored 24 hours a day, seven days a week. “It’s important that we detect any problems early and make immediate changes,” she says. “These are the guiding principles – every day, whether or not we are in a situation like this shortage – and we keep them front and center to everything we do.”
LOW-NORMAL THYROID LEVELS MAY AFFECT A WOMAN’S FERTILITY

New research suggests that a slightly underactive thyroid may affect a woman’s ability to become pregnant, even when the gland is functioning at the low end of the normal range. The study found that women who have unexplained infertility were nearly twice as likely to have higher levels of a hormone that stimulates the thyroid gland than women with infertility related to a known cause.

Thyroid-stimulating hormone (TSH) is produced by the pituitary gland and tells the thyroid gland to produce more hormones when needed. Elevated TSH levels can be a sign that the thyroid gland is underactive. The researchers, led by Pouneh K. Fazeli, MD, MPH, of the MGH Neuroendocrine & Pituitary Tumor Clinical Center, compared TSH levels in female patients between the ages of 18 and 39 who had difficulty conceiving. Of that group, 187 women had difficulty conceiving for unknown reasons, while 52 had partners with severe male factor infertility.

The researchers found that women with unexplained infertility had significantly higher levels of TSH than those whose infertility had a known cause. Of that group, 187 women had difficulty conceiving for unknown reasons, while 52 had partners with severe male factor infertility.

The researchers found that women with unexplained infertility had significantly higher levels of TSH than those whose infertility had a known cause. More research is needed to determine whether treating higher TSH levels with thyroid hormone can improve the chance of getting pregnant.

NEW EVIDENCE SUPPORTS HIV SCREENING IN YOUNG ADULTHOOD

Research led by Anne Neilan, MD, MPH, of the MGH Division of Infectious Diseases and the Medical Practice Evaluation Center, finds that 25 is the best age to screen for HIV among people not at high risk for the disease.

The Centers for Disease Control and Prevention (CDC) currently recommends that every American be tested for HIV at least once between ages 13 and 64. Given that large age range, Neilan and her research team sought to refine the recommended age range to make screening more effective.

The study used data from the CDC that documented new diagnoses of HIV from 2009 to 2013. In that period, the highest rates of new infections were among people ages 22 to 25. Using a computer simulation model it had developed, the research team determined that testing at age 25 would be the most effective in improving rates of diagnosis and individual outcomes, as well as the most cost-effective.

The results do not apply to youth at high risk of contracting HIV, who should be screened more frequently.

MANY BRAIN TUMOR PATIENTS DO NOT RECEIVE ADEQUATE END-OF-LIFE CARE

Patients with brain tumors called malignant gliomas often experience quickly deteriorating physical health, and the average survival time for the aggressive and highly fatal glioblastomas is 15 months. Previous research has demonstrated the benefits of hospice services for patients with terminal illnesses, but no prior study has analyzed how glioma patients use these services.

The MGH Cancer Center team, led by Justin Jordan, MD, MPH, analyzed information from a database of nearly 12,500 patients who were treated for and died from malignant gliomas.

They found that 37 percent of patients received no hospice care prior to death. For those who did use hospice services, the average length of stay was 21 days. However, 23 percent of patients enrolled less than a week before death, and 11 percent enrolled less than three days before death, probably limiting the benefits they and their families could receive from hospice services.

Further research is needed to understand barriers to hospice enrollment for patients with malignant gliomas.