SBH-PHYSICIAN

THE MAGAZINE OF SBH HEALTH SYSTEM MEDICAL STAFF SPRING 2017

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POPULATION HEALTH

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MESSAGE FROM SBH MEDICAL BOARD PRESIDENT

Greetings to My SBH Family,

I am very excited to give you a quick look into this issue of "SBH-Physician." This issue is packed with interesting stories, articles, and columns, all geared towards educating you, but most importantly giving you an inside peek at the inner workings of SBH, and the day-to-day efforts of our dedicated and hardworking physicians and staff.

Our cover story focuses on our new Chief Medical Officer, Dr. Eric Appelbaum. Dr. Appelbaum, who trained under me in the mid-1990s during his combined residency at St. Barnabas Hospital in both Emergency Medicine and Internal Medicine, offers a very personal look at SBH's mission of caring for our patients and the community that we so faithfully serve. He also discusses SBH's groundbreaking wellness initiatives promised with construction of The Bronx Center for Healthy Communities.

We're also very excited to embark on our new baby friendly initiatives, as described by our chair of Ob/Gyn, Dr. Mark Rosing and director of Midwifery Services, Julie Crocco. Meanwhile, the Reach Out and Read Program, as discussed by pediatrician Dr. Sheila Upadhyay, speaks to our renewed efforts to help the parents of our young patients stimulate their children's curiosity and decrease the literacy gap by reading to them beginning as newborns.

Our "Beyond the Lab Coat" series continues with a profile on Dr. Howard Greller, co-host of the popular emergency medicine show on Sirius XM's Doctor Radio. This is a highly informative and entertaining show that I can vouch for first-hand, having appeared on it several years ago. You can also read about the medical toxicology service SBH offers, the only one of its kind in the Bronx, which is run by Dr. Greller with his associate, Bronx-born, bred, and SBH Emergency Medicine residency-trained Dr. Angela Regina. They are our versions of super sleuths, routinely working with little information, and having to figure out poisonings, overdoses, and many times helping to solve the crime, while keeping our patients safe and healthy.

Our ethics columnist, Dr. Steven Reichert, discusses the difficulties and importance of sharing medical condition information with patients and their families, and the ensuing anxieties and problems that may occur from doing this too well. And an article by Dr. Gerard Baltazar takes a look at how research is defining the osteopathic/ allopathic merger, in particular the exciting research being conducted by the SBH Departments of Surgery and Osteopathic Manipulative Medicine/Neuromuscular Medicine residency programs into the use of osteopathic manipulative treatment in patients with traumatic brain injuries.

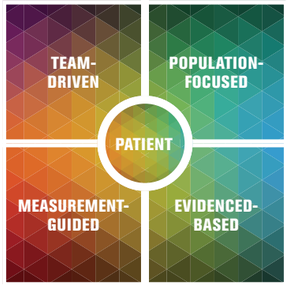
This is a brief glimpse into this issue, as there are many other great articles chock full of information. So don't miss out on your chance to catch up with what's going on with our SBH physicians.

Ernest F. Patti, DO, FACOEP
President, Medical Board

Blending Mental Health Within the Primary Care Setting

By Matthew Grover, MD, Associate Program Director, Psychiatry Residency Program

During my first year of residency at St. Vincent's Hospital-Manhattan, I rotated on inpatient medicine as part of my training. I made wonderful connections during those months, which continued into my second year during my consultation-liaison rotation on the inpatient medical floors. We exchanged information to the benefit of patients and everyone's professional development. However, by my third year of training, I was located in an outpatient psychiatric clinic, a silo that hindered collaboration with both primary care providers and other specialists. The rich collaboration that I had enjoyed with my colleagues was less frequent, often limited to a psychiatry consult in the middle of the night during a call shift. Our ability to communicate effectively was hindered by the traditional clinic models in place in our primary care and specialty clinics.



In contrast to the silos encouraged by traditional clinic models, integrated care seeks to combine the services of mental health providers and primary care providers. There are several different models of integrated care. Some models increase access to primary care providers in behavioral health clinics, while others seek to place mental health services within primary care settings. Providing mental health services within a primary care setting reduces a number of barriers to receiving mental health treatment, most notably the stigma surrounding mental health treatment.

The Collaborative Care Model, which was first championed by Wayne Katon, MD, and colleagues at the University of Washington, is one example of a model that seeks to blend mental health services within primary care settings.

There are many different models of collaborative care, but all share four common elements:

❶ TEAM-DRIVEN
❷ POPULATION-FOCUSED
❸ MEASUREMENT-GUIDED
❹ EVIDENCED-BASED

The team is led by the primary care provider, who is supported by a care manager. The care manager meets with patients in person and also speaks with them by phone, making sure they are engaged in treatment. A consulting psychiatrist provides treatment recommendations for those not meeting expected clinical goals. These patient discussions primarily occur indirectly during regular meetings between the care manager and the consulting psychiatrist. Registries are used to monitor patient engagement and treatment response; treatment response is monitored through measurable outcomes. Evidence-based treatments are provided in order to achieve these outcomes, and a proactive, patient-centered team promotes engagement and treatment adherence.

We have two integrated models currently in place within our SBH Ambulatory Care Center. The Brief Care Clinic, a satellite clinic of SBH Behavioral Health, has been followed for several years and provides short-term (six months) treatment to patients with bereavement, anxiety, and depression using a combination of psychotherapy and medication management.

Recognizing the opportunity for additional growth as part of the New York State Delivery System Reform Incentive Payment (DSRIP) Program, the Depression Care Management Program at the Ambulatory Care Center was launched in January 2017 as our first collaborative care model program. The Depression Care Management Program is focused on treating depression with a combination of problem-solving therapy, behavioral activation, and medication management. Problem-solving therapy is an approach intended to help patients more effectively manage their emotions by developing action plans directed at reducing emotional distress and enhancing well-being. Behavioral activation's aim is to work with depressed patients to increase their engagement in activities and decrease their overall level of avoidance, which can exacerbate depressive symptoms. The team is led by Guido Macchiavello, MD, and Mercedes Ruiz, LMSW, is the depression care manager. I am currently the consulting psychiatrist in both programs, and we look forward to serving the Ambulatory Care Center and SBH community.

Critical Time Intervention Helps Expose Community-Based Organizations to Value-Based Payment Arrangements

By Meredith Stanford, Project Manager, Bronx Partners for Healthy Communities

Bronx Partners for Healthy Communities (BPHC) is funding an expansion of Critical Time Intervention (CTI) services in the Bronx through the non-clinical workforce. CTI is a nine-month, evidence-based, high-intensity care coordination program, conducted in three phases, that targets high-utilizing patients with serious mental illness who are precariously housed.

Patients enrolled in the program will be referred initially from the inpatient units at BPHC's partner hospitals: SBH Health System and Montefiore Medical Center's Bronx-based campuses.

BPHC is funding the operations of the program within four community-based organizations and has funded the Center for Urban Community Services to train the organizations. CTI provides care transitions support for patients who are often hard to reach by traditional telephonic care transitions programs because of their unstable housing situations. BPHC is funding an expansion of Coordinated Behavioral Care's existing CTI program to a new Bronx-based provider, Project Renewal. In addition, BPHC is funding three new providers: Visiting Nurse Service of New York, SCO Family of Services and Riverdale Mental Health Association.

CTI's nine-month approach has three three-month phases, each with a gradual reduction of intensity in care coordination so that the client can build self-efficacy and meet goals. CTI workers are usually non-clinical professionals with case management experience who are supervised weekly by a licensed mental health professional.

The first phase provides intense specialized support and implements a transition plan for the client. During this time, the CTI worker sets goals with the client in three of six focus areas: housing, mental health, physical health/wellness, employment, life skills and family/friends. Small caseloads not only allow the CTI worker to make in-person visits to either the client's home, shelter or a safe place in the community, but also to accompany the client to medical and behavioral health appointments. The CTI worker leverages family, caregiver and community support systems for the client and helps establish linkages to health homes and other agencies that can provide further sustainable support for housing or other needs. During the second phase, the CTI worker tests the methods of support built in the first phase and adjusts supports that are not serving the client until a sustainable network is built around the client. In BPHC's model, the third phase will occur within the Health Home and the CTI worker will transfer knowledge to the Health Home care manager to reaffirm the roles of the support network.

The evidence-based program has shown great success in connecting patients to medical and behavioral health follow-up appointments, establishing trusted relationships between clients and their providers. One of the BPHC providers, Coordinated Behavioral Care, has shown a 94 percent success rate in preventing readmission within 30 days for patients enrolled in their Pathway Home program. BPHC will collect data throughout 2017 to assess the success of the program.

Funding to all four organizations is structured so they must demonstrate a reduction in avoidable hospital and ED utilization in the cohort served. BPHC linked 25 percent of the annual budget to a 25 percent reduction in these measures. Tying a significant component of payment to performance will enable these community-based organizations to experience value-based payment downside risk and prepare them to be competitive in future value-based payment opportunities. BPHC expects that CTI workers will help clients build trust-based relationships with existing or new medical and behavioral providers that will result in increased adherence to medical and behavioral regimens and in turn decrease avoidable ED and hospital use.

Dr. Lizica Troneci, chair of Psychiatry at SBH Health System, has been a key partner and supporter of the BPHC CTI program and helped to create a referral strategy to enroll patients who meet criteria into the program. Visiting Nurse Service of New York and Riverdale Mental Health Association will take referrals from SBH.

By involving a range of hospital-based and community-based partners, this approach seeks to establish meaningful community supports that will result in greater stability for the patient, as well as reduce hospital and ED utilization.

SBH as Film, TV Site Helps Fund Key Projects

The next time you're riding up the elevator or racing down the hall and see someone who looks like so-and-so, guess what — you might not be mistaken.

For several years now, St. Barnabas Hospital has been a prime location for filming major motion pictures, independent films, television shows, and commercials. In recent years, 60-plus projects were shot at the hospital. In the last six years, these projects brought a total of $680,657 into the hospital's coffers. In 2016 alone, more than $150,000 was generated and used for funding projects such as the Sycamore Grove pathway and benches.

The actors who have filmed projects here read like a roster of Hollywood A-listers: Jake Gyllenhaal, Jessica Chastain, Sarah Jessica Parker, Glenn Close, Seth Rogen, Louis CK, James Spader, James McAvoy, Jim Gaffigan, Lizzie Caplan, Bill Hader, Kristen Wiig, Joseph Gordon-Levitt, and Jonah Hill.

The man behind this money making machine – in addition to generating significant revenue, there are virtually no expenses – is John DiGirolomo, senior vice president for facilities and real estate. While he outwardly displays photos in his office of many of the actors who have filmed at St. Barnabas Hospital, he's a bit more circumspect when it comes to telling the stories behind them.

"Some of the actors have been great," he acknowledges. "When they shot their film here ("The Night Before"), Seth Rogen, Joseph Gordon-Levitt and Anthony Mackie were pulling people out of the elevators to take pictures with them. We've also had some big names who say 'I'm too busy to take a picture,' he says, rolling his eyes and adding, "method actors."

Along with James Andino, deputy director of security, DiGirolomo personally supervises most of the shoots. This has meant constantly chasing after one well-known actor to put out his cigarette and making sure others keep from walking into areas where they don't belong. And, not surprisingly, some actors can be divas.

"One time, late at night while driving home from an out-of-town conference, I got a phone call from a security guard," he recalls. "We need an extra room,' he said. 'What do you mean? What for?' I asked. He said, '[actress's name] is so upset she needs to lie down.' She had just shot a scene that involved a mass killing and her assistant needed to calm her down. I said, 'Tell her it's television. They are not really dead!' "

Sometimes, he gets last-minute requests from crews. "Once the location director asked if I had a CT scan machine available," he says. "I asked when he needed it and he said 'tomorrow,' which of course meant something had fallen

"The actors who have filmed projects here read like a roster of Hollywood A-listers: Jake Gyllenhaal, Jessica Chastain, Sarah Jessica Parker, Glenn Close, Seth Rogen, Louis CK, James Spader, James McAvoy, Jim Gaffigan, Lizzie Caplan, Bill Hader, Kristen Wiig, Joseph Gordon-Levitt, and Jonah Hill."

through somewhere else. Anyway, I called radiology and as luck would have it they had a machine that needed parts and wasn't being used."

The hospital, according to DiGirolomo, has become a favorite location for two reasons: first of all, St. Barnabas is known throughout the industry as a "film friendly" site (and so has quickly gone to the top of the list for location scouts looking to film hospital scenes). The only caveat is that the shooting must not disrupt patient care in any way. Second, the hospital's decommissioned operating room on the fifth floor, not used for years, has become a favorite of location scouts because of its availability and viewing gallery. Other areas in the hospital have also proven popular. The Center for Comprehensive Care, for example, works perfectly as doctors' offices – not surprising, as many are – and the Braker Boardroom makes for an excellent Cabinet room (as it's been used for TV's "Madame Secretary").

"They can do some pretty elaborate things with a set," he says. For the TV show "Damages" with Glenn Close, they built walls and created a waiting room in the hallway by rolling in rolls of walls on dollies complete with wallpaper and pictures. Dr. (Scott) Cooper happened to walk by and said, 'John, why can't you renovate like that?"

Craft Services (aka the food truck), as John and Jim have learned, is another big part of the entertainment culture. For one movie, the parking lot (now used as the site for the new Bronx

John DiGirolomo poses with actor Seth Rogen during filming on the movie, "The Night Before."

Center for Healthy Communities), was turned into what could easily be mistaken as an emergency disaster site. Trailers were parked for the actors and tents were pitched, under which chefs prepared elaborate meals. "They were standing on Third Avenue in the Bronx eating omelets and smoked salmon," DiGirolomo remembers.

Every now and then DiGirolomo gets to play a different role. "They were filming the independent movie "Skeleton Twins" with Bill Hader and Kristen Wiig. It was late at night and they didn't have any more actors so they said, 'John, would you walk across the hallway?' Anyway, months later, I went with my wife to see the movie. I looked down for a second when my wife elbowed me and said, 'You just missed it." Fortunately, he made up for it with a longer scene in the movie "Demolition" alongside (so to speak) Jake Gyllenhaal.

REACH OUT AND READ
Literacy Program Gathers Steam

Dr. Sheila Upadhyay, attending physician in the Department of Pediatrics discusses SBH's work to increase literacy rates in the Bronx. **By Steven Clark**

Once upon a time when children visited their doctor, they could count on getting a lollipop. Today, at SBH, all they want to know is, "Where's my book?"

"This is a wonderful cultural change," says Dr. Sheila Upadhyay, a pediatrician at SBH, who is medical co-director of the hospital's Reach Out and Read program. The program, which has been revitalized over the last year by Dr. Upadhyay, annually prescribes nearly 2,500 books to outpatients up to the age of five.

Reach Out and Read, which was started as a pilot study by a pediatrician at Boston City Hospital in 1989, is an evidence-based program that builds on the relationship between parents and medical providers to develop critical early reading skills in children, beginning in infancy. As recommended by the American Academy of Pediatrics for hospitals and clinics located in underprivileged neighborhoods, Reach Out and Read incorporates early literacy into pediatric practices, equipping parents with tools and knowledge to ensure that their children are prepared to learn when they start school.

"The founder of the program saw a major discrepancy in development between children from lower socioeconomic families and more affluent families," says Dr. Upadhyay. "The difference was in the number of words and the type of interaction between baby and parent. He believed if we started to introduce books to these families, and show parents during their pediatric visits how to interact with their babies, it would help make a difference in preventing language delay."

The program was brought to SBH in 2000 under the direction of Dr. David Rubin, the chairman of the Pediatrics Department, and pediatrician Dr. Karen Greer.

"It's really a great program," says SBH President and CEO Dr. David Perlstein, who as the director of ambulatory pediatrics was integral in developing the program here. "It's shown conclusively that children who participate in the program are far ahead in their language and reading skills than those who are not, and it's been a great determinant of increased school readiness."

Today at SBH, literacy promotional materials line the walls of the pediatric and family medicine clinics' waiting rooms, while exam rooms overflow with books. Patients, including siblings, receive books at their newborn, two-, four- and six-month visits, up until they reach the age of five, when they enter kindergarten (at which time they should have a library with a minimum of 10 books). Residents in family medicine, internal medicine and pediatrics are now trained in early literacy at hospitals across the country.

"Subliminally, it makes a difference for parents to see their health care provider interacting with their baby," says Dr. Upadhyay. "They see the child moving his eyes, giving a social smile. They say, 'I didn't know my baby understood.' We motivate parents to read to their child. We ask them what materials they have at home and if they know where their local library is."

Books also serve as an important diagnostic tool for the pediatrician. "I'm finding that I use the book as a developmental assessment as much as I use the stethoscope for the physical exam," says Dr. Upadhyay. "I watch how the baby is interacting with it. I look at fine and gross motor skills, their parent's interaction with the baby. For a nine-month-old, for example, I want to see that the baby is interested in the book, has a pincer grasp of a book with her fingers, and pays attention to the action as we read with the parent. I explain to parents that it's normal that their infant is mouthing the book. They're still teething and it helps them understand what objects are. If I have a two-year-old who mouths the book, then I'm concerned because they shouldn't be doing that at this age."

Books at the SBH clinics are available in English and Spanish, with the hope to soon have books in French and Arabic as well, says Dr. Upadhyay.

The program is supported financially by the Pediatrics Department and the

> "Between drop-offs at her house and the books people brought to the ceremony, she collected another 600 books."

hospital auxiliary. Yet, says Dr. Upadhyay, it "takes a village" to keep the program going strong. Physicians and staff members, as well as members of their families, routinely come to the clinic to read to the children, and/or to donate new or gently used books.

Dr. Amanda Ascher, an internist at SBH and chief medical officer at Bronx Partners for Healthy Communities, will occasionally find her daughter Aracelis still awake with her head in a book at 2 a.m. It was the 13-year-old's love of reading that convinced her to make Reach Out and Read her bat mitzvah project. Ara collected more than 1,200 books, donated to the program in two batches. The first was the result of a book swap at her school – families donated books to the school and sold them to other students very inexpensively to raise money for the school. Ara asked if any books that didn't sell, and would normally be discarded, could be donated to SBH's pediatric reading program. She then came into the pediatric clinic during spring break and read to the kids in the waiting room. Rather than include an RSVP card for her bat mitzvah, she had people reply to an email address with the automatic reply:

I can't wait to read your email and find out if you can come to my bat mitzvah! Either way, I'd like to let you know about my mitzvah project. I've been volunteering for Reach Out and Read, a nonprofit organization that gives young children a foundation for success by bringing readers and books into pediatric waiting rooms. I collect new or gently used books, bring them to the pediatric waiting room at St. Barnabas Hospital in the South Bronx, and read to kids there while they wait to see their doctors. If you could look around your house for gently used children's books that you no longer need and bring them to my bat mitzvah or let me know how I can get them from you that would be great!

Between drop-offs at her house and the books people brought to the ceremony, she collected another 600 books. She returned to the hospital on Columbus Day to read to the kids again.

Other family members at SBH have also been supportive. The daughter of a hospital nurse, for example, had her girl scout troop run a book drive and conduct a waiting room promotion. Students from local schools have volunteered to read to the children and medical students from the CUNY School of Medicine and Albert Einstein College of Medicine have participated in early outreach literacy programs with the hospital. The librarian from the Belmont Library visits the pediatric clinic on Fridays to read to the children and inform families of available community services.

Dr. Sheila Uphadhyay (right) with local librarians and a Reach and Read program representative.


Various groups and individuals frequently participate in the hospital's Reach Out and Read program. This includes pediatric residents Dr. Miguel Sanchez and. Dr. Dieudonne Nonga.

To find out how you can help SBH's Reach Out and Read program, contact Yvonne Robles, volunteer director (yrobles@sbhny.org), or Dr. Uphadhyay (suphadhyay@sbhny.org).

Saving Lives in the Cardiac Cath Lab

It's a drill that **Dr. Sulejman Celaj**, SBH's director, division of cardiology, and an interventional cardiologist, knows all too well.

The call comes into the hospital's emergency department, letting doctors know that an ambulance is on its way with the victim of a possible ST-segment Elevation Myocardial Infarction (or STEMI). The ER physician electronically receives the victim's EKG, which he sends to Dr. Celaj's phone for him to review. If the attack is a STEMI, Dr. Celaj and his team (comprised of nurses, technicians and a physician assistant) rush to the hospital, assembling within 30 minutes.

Meanwhile, the patient, once stabilized in the ER, is transferred to the cardiac catheterization lab, where medication and catheters are used to open the patient's artery. Time is of the essence (i.e., "time is muscle," according to the slogan used by the American Heart Association). "Unless you can open the artery within 90 minutes, the outcome is worse in terms of mortality," says Dr. Celaj.

An estimated 1.4 million Americans suffer heart attacks each year, approximately 400,000 of which are STEMIs. A STEMI is caused when a blood clot forms, completely blocking an artery in the muscle. This can result in damage that affects a large area of the heart and extends deep into the heart muscle. Percutaneous coronary intervention (PCI) is often the first treatment option. This can involve both angioplasty and stenting. Clot-busting medications may also be used.

The non-STEMI (or NSTEMI) patient is seen about three times as frequently by the cardiac catheterization laboratory according to Dr. Celaj. In addition to appearing different on the EKG, the heart damage with a NSTEMI does not extend through the full depth of the heart muscle. Additionally, these heart attacks are caused by differing amounts of clotting proteins and platelet blood cells. Clot-blotting medications are not always effective and although PCI may be part of the treatment, opening the artery within a short time is always a priority. More involved diagnostic tests may be necessary to determine eventual treatment.

New EP Lab to Open

The cardiac catheterization laboratory is scheduled to open an Electrophysiology (or EP) Lab, with Dr. Salim Baghdadi, a fellowship-trained electrophysiologist, to offer electrophysiology services beginning this spring. This will provide patients in the community with a large range of arrhythmia services without ever leaving the Bronx.

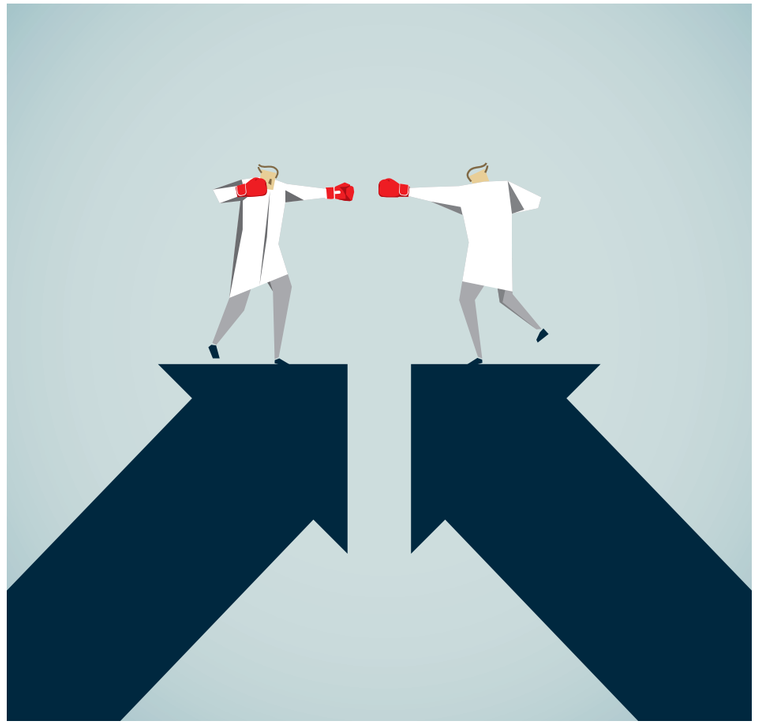
Dr. Baghdadi will perform diagnostic and treatment procedures for patients who, because of the flow of electrical impulses that coordinate the heart's contractions, can experience fast or irregular heartbeats. The use of sophisticated cardiac catheters, coupled with state-of-the-art computerized technology, will allow him to "see" into a patient's beating heart.

"An irregular heartbeat can be harmless or it can be very dangerous, even fatal," says Dr. Baghdadi. "It's a sign that the heart is not pumping blood as efficiently as it should, which affects the delivery of oxygen throughout the body." Common symptoms are palpitations, dizziness and syncope. The normal heart beats between 50 – 100 times per minute, or approximately 100,000 times a day. An abnormally rapid or irregular heartbeat may occur when an electrical short circuit occurs within one of the heart's four chambers. The resulting arrhythmia's fast or irregular heartbeat, a "tachycardia," can affect people of any age.

Some patients may have their condition controlled by medication. However, in cases where the medication – commonly, beta blockers, calcium channel blockers and antiarrhythmic drugs – doesn't work or the patient seeks a cure rather than a treatment for the condition, the EP Lab services will soon be available.

Worlds Unite: How Research Can Define the Osteopathic/Allopathic Merger

After more than 100 years of operating separately, the organizations that administer allopathic and osteopathic physician training are merging into a single entity. **By Gerard A. Baltazar, DO, FACOS, Director, Surgical Critical Care**



Although it may be easier to believe that there are no longer any distinctions between the MD and DO worlds, DO training is structured on unique osteopathic principles and the use of osteopathic manipulative treatment (OMT), neither of which is standard in allopathic training.

As the organizations align their standards, questions remain whether osteopathic distinctiveness will become fully integrated into the healthcare educational system or be extinguished.

Press releases state that both organizations will work to "incorporate the tenets of osteopathic medicine," suggesting that physicians-in-training will gain access to osteopathic education and modified training standards. However, biases may hamper such progress – e.g., an article in "Forbes" titled "Osteopathic Physicians vs. Doctors" suggests that DOs are unnecessary for healthcare, and comments to a social media post promoting OMT suggest that the "practice of the pseudoscience of OMT is a sham to justify [the DO's] continued independent existence."

The MD and DO worlds may seem at odds; classically, osteopaths stress that physicians augment the body's inherent ability to heal while, in contrast, allopaths suggest that something pathologic must be taken out of or something therapeutic put into the body. However, some scientific evidence suggests that applying osteopathic principles and practice to the standard of care may yield the best outcomes for our patients.

In the surgical literature, it has been demonstrated that patients who received OMT plus preoperative narcotic required the least amount of postoperative narcotic compared to groups who received either or none. It has also been shown that following spinal cord trauma, OMT and analgesic medication each improved pain similarly, yet the combination of the two produced the best long-term reductions in pain.

Researchers have demonstrated that the OMT technique lymphatic pump is equal to or better at preventing postoperative atelectasis (a complete or partial collapse of a lung or lobe of a lung) compared to incentive spirometry. In a series of randomized controlled trials, studies reported that OMT shortens length of stay and decreases mortality among patients suffering pneumonia, particularly the elderly. Furthermore, a pilot study revealed that postoperative hemodynamics may be augmented by OMT.

Multiple studies have associated decreased postoperative ileus and lengths of stay with perioperative OMT. The 2016 OMANT trial revealed that a randomized control trial of OMT after major abdominal surgery is feasible, safe and may improve postoperative pain. And it's been found in studies that OMT may augment healing potential and modulate the inflammatory response at cellular and biochemical levels.

OMT and the Brain

Perhaps the most intriguing opportunity for OMT to benefit surgical patients is the concept of OMT in the cranial field. By palpation, DOs detect aberrations of skull bone position and sense restrictions of fluid flow (e.g., blood, cerebrospinal fluid and lymph) in and out of the cranial vault. Using manual techniques, DOs can realign and mobilize the bones and other cranial and pericranial tissues while modulating intracranial fluids.

DO training standards incorporate the principles and practice of cranial osteopathy, but MD training does not. Despite multimodal evidence of cranial bone motion, including on MRI, the idea that this motion exists faces biases and is even considered fantasy in some allopathic circles. For example, quackwatch.org founder Dr. Stephen Barrett maintains a page titled "Why Cranial Therapy is Silly."

The most common trauma surgery admission to the SBH surgical intensive care unit is traumatic brain injury (TBI), and OMT provides an additional dimension of treatment for this challenging group of patients. For decades, research into modalities that might improve neurological outcomes after TBI have had limited success. Medications such as hypertonic saline may sometimes prevent brain death, but may not have any significant benefit on function. Craniotomy and intracranial pressure monitors have shown similar results. And steroid and vasopressor uses have come and gone as essentially ineffective and potentially dangerous treatments of TBI.

OMT Research at SBH

SBH has a historically osteopathic surgical residency program, a thriving osteopathic manipulative medicine/neuromuscular medicine residency program and a robust institutional review board for research. Performing scientific research at SBH into OMT's potential benefits for surgical patients and specifically for TBI could provide further evidence that integrating osteopathic principles and practice may produce the best patient outcome.

In December 2016, the Departments of Surgery and Osteopathic Manipulative Medicine/Neuromusculoskeletal

Medicine published two IRB-approved case reports of TBI patients treated with OMT, including one patient who underwent a craniotomy. Published in the peer-reviewed "Journal of the American Osteopathic Association" and searchable on PubMed, the reports are the first of their kind and highlight the physiologic underpinnings of OMT in the cranial field. The article discusses movement and adjustment of the craniofacial bones, improved inflammation by optimizing fluid drainage from the cranial vault, pain modulation and treatment of nerves to limit dizziness.

The next scholarly step is to retrospectively analyze cohorts of TBI patients to see if or how much use of OMT may be associated with outcomes. Thereafter, a random control trial may be warranted. In January 2017, the SBH IRB approved an application for the retrospective work, and research has begun.

Focus on research into OMT in the SBH acute care setting may help counter lingering biases against DOs. Prospects for such research are exciting, especially as MD and DO education merges, and both the National Institutes of Health and the American Osteopathic Association offer large grants for such projects. SBH is exceptionally prepared to perform this research and perhaps play a prominent role in defining a unique, fully-integrated form of American healthcare. ■

Emergency Medicine Physician Co-Hosts Popular Radio Show

Dr. Howard Greller, director of research and medical toxicology at SBH Health System, provides real-time medical advice on call-in show. **By Steven Clark**

The talk shifts easily from stories pulled from the day's news – ranging from the constant theme of the opioid epidemic, to the presumed health status of White House Press Secretary Sean Spicer, who admittedly swallows 2 ½ packs of cinnamon gum daily, to more personal takes on life, such as women named Victoria who don't like to be called Vicki and a one-time mentor who went by Lawrence rather than Larry.

It's the Emergency Medicine Show, the longest running and most popular show on Sirius XM's Doctor Radio (Channel 110). Hosting the show, which just celebrated its ninth anniversary and is broadcast live every Thursday morning from a studio that was once a gift shop in the lobby of NYU Langone Medical Center, are emergency medicine physicians Dr. Billy Goldberg (Dr. Billy) and Dr. Howard Greller (known on the show as "Ho-G"), director of research and medical toxicology at SBH.

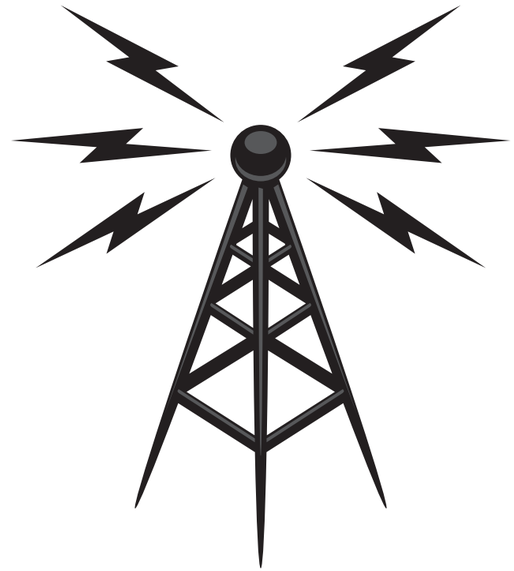
With Doctor Radio promoted by Sirius XM as "real doctors helping real people," the Emergency Medicine Show, according to its long-time producer Melanie Kron, is "more like a morning zoo." The hosts mix a showing of real sympathy and measured advice for callers like Tiffany from Ohio and Pastor Tom from Pittsburgh on such topics as the use of magnesium after a severe asthma attack and the benefits of TENS for a flare up of an old injury, to more than a modicum of shtick. For example, the difference between A-fib and V-fib, Dr. Billy explains to a caller, is that with the latter "you get transferred to ECU, the eternal care unit."

"They have great rapport and are very natural on the air," says Kron – which is easily evident as the two often finish each other's sentences. They first became friends when Goldberg was a young attending and Greller a medical student at NYU in 1995. When they ran into each other at a birthday party several years later, Dr. Billy, needing a radio sidekick for his new radio show, asked his old friend if he would be willing to join him in the radio booth. "I hitched on and have been doing it ever since," says Greller.

The decision to co-host a weekly radio show seems like a natural extension for Greller, who spent a gap year between college and medical school working in LA as a stand-up and improv comic. In addition to playing local comedy clubs, he says his proudest moment was when he learned that Robin Williams had pilfered one of his jokes. "Life and medical school got in the way," he says, in explaining why he left that world. The radio show appears to fill that void.

"Being on the show has been an excellent experience. It's the best part of my week," he says. "I've had encounters in the ER where people will recognize me or say they heard me on the show. It's really nice."

The unique aspect about hosting a show on emergency medicine, he says, is that "We're not beholden to one organ system. Anything goes – and nothing is out of bounds for us. We can go from 10 or 15 minutes of laughing and then speak about end-of-life care, just like we do in the ER."



"The show receives calls from throughout the world — with regulars dialing in from such disparate places as Regina, Canada and a U.S. military base in Germany."

Five or six years ago, SBH senior emergency medicine physician Dr. Ernest Patti was a guest on the show, discussing the benefits of osteopathic therapy.

"We had fun," Patti recalls. "The show does a really good job informing the public on medicine and health issues in an easy-to-listen-to-way. They were a great group of guys in the booth and when Greller came here several years later to be interviewed, I felt we already knew each other."

The show receives calls from throughout the world – with regulars dialing in from such disparate places as Regina, Canada and a U.S. military base in Germany. On one recent show, the caller board in the control booth lit up within minutes of the hosts' opening monologue, with Kron asking callers for their name and location as she typed it on the computer screen shared by Dr. Billy, reminding them to turn their radio down and not to mention on air any names of doctors or hospitals. Although politics are impossible to ignore – discussing health care, for example, can't be shunned entirely – the hosts carefully avoid any fire storms. Mere mention of the word "abortion," however, has a caller complaining to Kron that she doesn't want to listen to another "political show."

The hosts often research topics in real time – as they do during one show, searching for information while discussing a caller's use of the drug Amitiza for constipation. Most callers are well educated – some, in fact, are health care professionals – and can be as passionate as calls made by the Vinnies from Astoria and Joe D's from Brooklyn to local sports radio shows.

Greller keeps a low profile in discussing his radio show at SBH – although the job sometimes finds him, forcing him, during a recent show, to race out of the studio to take a call. Still, some of his colleagues know about his other life.

"One of my residents came in and said his parents are huge fans of the show," Greller says. "He said, 'My mom and dad love you.' That's always nice to hear." ■

CMO's Vision:

AN EMPHASIS ON HEALTH & WELLNESS

Dr. Eric Appelbaum is the new Chief Medical Officer at SBH, replacing Dr. David Perlstein, who is now President/CEO. Dr. Appelbaum, who was previously in charge of the hospital's emergency and ambulatory care departments, has assembled a new leadership team comprised of Dr. Manisha Kulshreshtha and Dr. Daniel Lombardi, associate medical directors; and Dr. Robert Karpinos, medical director of Perioperative Services.

Q&A

WITH DR. ERIC APPELBAUM

Q. You often talk about the importance of the doctor and patient relationship. Why is this so important to you personally and why does it make a difference in the kind of care the hospital provides to the community?

A. To me personally, having practiced here as a resident and then an attending physician, and now in a leadership position, it's all about maintaining patient relationships. That's the reason I became a doctor in the first place – to develop these relationships and to see people through their illnesses and through their health. I'm very fortunate to have patients who have been with me for 15, 20 years.

My residents are surprised when I am with a patient whom I've known for a long time and can recite the names of the patient's children and the like. I want my residents to develop that kind of relationship. It makes the experience that much richer for both the doctor and the patients.

And I take my part of the relationship very seriously – I will advocate for my patients like they're my family, because in my mind they are. I'm fortunate to have had the chance to form these close ties.

But I'm not unique. You could fill up a room with SBH docs who have known patients for years and years and years. That's the model that I learned as a first-year resident and continue to follow. The fact that our docs have decades-long relationships with their patients is a testament to their dedication. That means that the doc has earned that patient's faith and trust. I think that's pretty amazing. One of our pediatricians has treated the same family for more than 30 years – caring for parents, children and grandchildren. That's one of the great things about SBH.

Q. This is your 20th anniversary at SBH. Are you more enthusiastic about the future of the hospital today than when you first came here in 1997 as a resident?

A. Yes, I am, mostly because the healthcare industry has shifted its focus to wellness and because of the power of technology. For example, the use of electronic medical records has enabled us to provide better care. Many of us were worried back when they were first introduced that we'd have a tough adjustment, but it's really been very helpful. So is the fact that the reimbursement landscape has changed so that we're rewarded for keeping patients out of the hospital. That changes the dynamic, and allows us to work as a partner with the patient to develop healthy habits. This, to me, is really rewarding. Having a family and watching them grow has really turned my attention to making sensible food choices and a healthy lifestyle.

I really love the fact that we're going to get to focus on wellness. It's been a personal journey for me to really focus on how healthy or unhealthy I was being, and now that I can bring my colleagues and my patients along on that journey, that's exciting.

Q. What do you see as the hospital's main strengths?

A. In addition to that emphasis on patient relationships that we just discussed, I think another strength is our involvement in the community. We feel a tremendous sense of loyalty to this community and want to see it get healthy. The Bronx Center for Healthy Communities, which will bring affordable housing and a medical village right across the street, has made so many of our staff proud of SBH.

Q. What is your vision as Chief Medical Officer?

A. My vision aligns with the hospital's vision: to be the premier hospital destination in the Bronx, and to provide the right service at the right time at the right cost in a patient-centered manner for our community. Perhaps the only difference from my predecessors – probably because we weren't able to fully execute it before –is the focus around wellness and keeping people healthy. We have to change what we say from "I'll be here when you get sick" to "Here's how I'm going to prevent you from getting sick." The conversations are shifting to nutrition, exercise, weight management, about preventive stuff. Sure, if I do the basic routine screenings that are done in an annual checkup I might not be able to prevent certain things from happening, but if we spend that 45 minutes talking strictly about diet, maybe I can keep you well, and then hopefully extend that to your family.

Dr. Appelbaum with long-time patient, Deirdre Jackson, whom he met during residency training. Their relationship goes beyond the clinic walls.

Q. Are there any initiatives or services on the drawing board we can discuss?

A. The Bronx Center for Healthy Communities is our number one priority, and it's slated to open early in 2019. It has the potential to transform how we do things here at SBH. There will be a gym there so we can partner with our patients to help get them moving, and there'll be a teaching kitchen to show people how to cook in a culturally accepted but healthy way. That's a big shift in how we're treating our patients. Our ambulatory health centers have to be seen as destinations for wellness, not for treating diseases. My goal is to put a sign on the door that says, "Come here to get and stay well."

We've already been doing some of this, like with our diabetic educators and our smoking cessation class. I've already seen it start to creep into the mindset of the physicians as they talk to their patients. We've been partnering with the community through DSRIP and have relationships with our PPS partners like Air Bronx, who take care of asthmatics in a whole different way. We need to become partners with the government and the leadership of the city, the state, and the nation in order to figure out ways to encourage this approach throughout our healthcare system.

Right now, we're also introducing new services. We have three new vascular surgeons who are doing endovascular procedures that haven't been done here before. We're doing some new neurosurgical procedures in the world of pituitary tumors. We are continuing to expand our electrophysiology services. These are all very exciting for our patients.

Q. What do you see as some of the challenges?

A. I don't think SBH is any different from other hospitals in New York City in that recruitment is a challenge. It's not because being in the Bronx is a problem – it's that today it's so much easier for people to move longer distances because the technology allows them to stay connected to their friends and families. It's no longer a big deal for someone who's from this area to pick up and move to Texas, for example. People can go on social media and talk to and literally see their families on the screen every night. They might go for nicer weather, or they might go for more compensation, so we need to stay competitive. The other challenge is reimbursement. Costs go

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up, and reimbursement doesn't, and we have to make sure we control how we do things while remaining true to our vision, our mission and our core values.

Q. Yet, you do seem to attract some incredibly talented and well-trained physicians. How do you accomplish that?

A. First, we've been fortunate to attract people who want to work in underserved areas. That's noble, and we love that. But the second thing is when applicants meet the physicians, staff, and department that they would work in, they get a real sense of family, of camaraderie. I mean, it's not always all about money. As my father always told me, you've got to wake up and want to go to work. Practicing medicine at Hospital A vs. practicing medicine at Hospital B can be very different. There can be a completely different culture, a different climate, and I think we have a good one, and I think it comes across pretty quickly. You could literally interview here at SBH with four or five people, and I can safely say, "Do you realize you've just spoken to about 130 years of experience at this hospital in about an hour?" That's pretty unique. Our passion for what we do comes across right away.

Q. What about the initiatives like Just Culture and the Triple Aim Plus One?

A. One of the initiatives Dr. Lombardi has begun implementing at SBH is Just Culture. Just Culture is a way of looking at accountability and how to strengthen systems to reduce the likelihood of error. Essentially, it's a simple algorithm that looks, not first to assign blame but to determine if our procedures are wrong and to be able to intervene appropriately. So if we set someone up to fail by a bad process, we need to vet that process.

In a Just Culture our first question when an error occurs anywhere in the hospital is whether we've set the responsible staff member up to fail, through unclear policies, a computer error, or some other reason.

The other big initiative is the Triple Aim Plus One, which was developed by the Institute of Healthcare Improvement many years ago. It's a set of three goals – to be patient centered, to provide care at the right cost, and to have good outcomes. The Plus One aspect means providing some degree of joy and satisfaction to our employees. Those three pillars are the foundation for how we will provide medical care and comfort going forward. The real challenge of the Triple Aim is satisfying all three pillars simultaneously. For example, I can improve patient access by loading up an office with too many patients. Well, the access is great, but is that patient centered? And, maybe I've made it low cost because I'm working efficiently, but it's still not really patient centered. So we have to look at all three tenets, and that's an ongoing challenge. We're thinking about it every day, and it drives how we do everything here.

Q. Where do we stand with the Montefiore merger?

A. As you look across New York State, New York City specifically, you see a lot of big systems merging. It's driven by economics, but often these collaborations result in better care for patients. Montefiore is a natural partner here for SBH. We already have a huge list of clinical collaborations with them, so it only makes sense to explore a partnership. And that's how we view it – as a partnership, not a hostile takeover. If we're really committed to continuing our mission to serve this community, the right thing to do is to make sure we can continue to serve. So if that means we merge to better take care of patients, then we have to do what's right for our community.■

SBH to Hold Surgery Lecture Series

The Department of Surgery at SBH Health System in partnership with Albert Einstein College of Medicine are presenting a monthly lecture series on surgical topics of interest to primary care practitioners.

The surgical education series kicked off last November with a lecture by Dr. Ridwan Shabshigh on the topic of testosterone deficiency.

All lectures are suitable for general practitioners, family medicine doctors, internists, nurse practitioners, physician assistants, nurses and surgeons with various specialties.

The care of a patient with such diseases as benign prostatic hyperplasia, degenerative joint disease, and vascular arterial and venous disease, just to name a few, is often shared between surgeon and primary care practitioner, creating the need for there to be intensive collaboration and communications between the two.

Consequently, this places a largely unmet need among primary care practitioners to learn about surgical diseases, their symptoms and signs, and their presentation and prognosis, as well as their non-surgical treatments and indications for referrals.

There is also the need in primary care to counsel patients about their surgical diseases and treatment options, and for surgeons and primary care practitioners to optimize their partnership in the management of these patients.

Upcoming lectures will focus on topics in urology, breast surgery, podiatry, neurosurgery, general surgery, and ENT.

Surgical Education: Free CME for Physicians

Albert Einstein College of Medicine designates each live activity for a maximum of ***1 AMA PRA Category 1 Credit™.*** Physicians should claim only the credit commensurate with the extent of their participation in the activity. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

April 19, 2017
Breast Surgery: An update for primary care practitioners
BERT PETERSEN, MD

May 17, 2017
Podiatry: Primary care assessment and treatment of foot diseases
EMILIO GOEZ, DPM

June 21, 2017
Neurosurgery: Surgical Intervention for the management of back pain
WILLIAM WIRCHANSKY, MD

July 19, 2017
General Surgery: State-of-the-art hernia repair for primary care practitioners
GERARD BALTAZAR, DO

September 13, 2017
ENT: Focus on cases shared between ENT and primary care practitioners
LEACROFT GREEN, MD

October 18, 2017
General Surgery: The gallbladder, an update for primary care practitioners
TBA

November 15, 2017

Urology: Prostate cancer and screening PSA – Controversy and progress in treatment of early-and late-stage disease
RIDWAN SHABSIGH, MD

All events take place at the SBH Auditorium and go from 5:45pm to 7:30pm.
5:45pm-6:30pm: Dinner
6:30pm-7:30pm: Lecture and Q&A

SBH Auditorium at St. Barnabas Hospital
4422 Third Avenue, 1st flr., Bronx, NY 10457

To RSVP, contact Shazije Arifova at 718-960-6127 (sarifova@sbhny.org).

Emergency Medicine Interest Group Meeting Held at Sophie Davis

Drs. Howard Greller, Ethan Abbott, Marianne Haughey, Ernest Patti and Nicholas Avitabile, all attendings with the emergency medicine faculty at SBH, joined with EM residents Drs. Sanchez and Robison (from SBH) and Drs. Singh and Brown from the neighboring Jacobi/Montefiore emergency medicine residency, to provide Sophie Davis/CUNY Medical School students with their first ever Emergency Medicine Interest Group (EMIG) meeting.

The physicians shared their experiences and knowledge with a group of about 45 Sophie Davis/CUNY medical students, most in the Sophie Davis program class of 2017 and some in their MS1 year of the CUNY medical school.

The session, lasting more than two hours, grew out of an interest expressed by the students during their physical diagnosis course.

The topics addressed were wide ranging; the residents discussed how to prepare for applications and interviews and choosing a specialty. The fellowship-trained faculty (Drs. Greller and Avitabile) discussed the opportunities EM provides in consideration of further training and different practice experiences.

Dr. Patti, well known to the students as a member of the faculty, discussed the many roles he has taken on during the course of his career.

Drs. Abbott and Haughey shared their perspective as faculty involved in the educational side of running a residency program. All panel participants shared the stories of what they liked the most and least about the field.

Positives included meeting many people, continuing to serve patients at their perceived greatest moment of need, the ability to continually learn at all points during their career, the diversity of practice options (especially when considering the options afforded by fellowships), and the opportunity to make intense, albeit often brief, connections with patients. Negatives included working weekends and overnight, and the challenging environment – due to the emotional toll, intellectual challenges and the fact that the ED is often the place in the hospital where the failures of social support and healthcare are most visible.

The residents were interested in stories from the clinical side of the emergency department as well as hearing how each of the panel members had come to the decision that this was the field that captured their interest. Many students stayed after the panel ended, and expressed interest in continuing an ongoing club to arrange for more meetings.

SBH Begins Journey Toward Official "Baby Friendly" Designation

Achieving "baby-friendly" status can take a hospital four to five years. It's part of a global program sponsored by WHO and UNICEF.

Dr. Sheila Upadhyay got a first-hand look at what life is like at a "baby friendly" hospital when she gave birth in Manhattan to her son Bodhi 18 months ago.

"The housekeeper would come into my room and ask, 'How's it going [with the breastfeeding]? Can I get you some help?" says Dr. Upadhyay, a pediatrician at SBH. "You could tell that a policy to encourage breastfeeding was in place here and that everyone in the hospital was on board."

Achieving designation as a baby-friendly hospital at SBH began last June and Dr. Upadhyay's personal experience made her an enthusiastic supporter of the initiative.

The aim of the New York City Breastfeeding Hospital Collaborative is for 15 of the city's 40 maternity facilities to achieve baby-friendly designation by 2020. Mothers who give birth at baby-friendly hospitals – with designation a process that typically takes a minimum of four to five years and is financially supported by the city's Department of Health – are more likely to initiate exclusive breastfeeding and to sustain it at six months and one year of age.

"Exclusive breastfeeding rates are very low in New York City, and non-breastfeeding results in lifelong health inequities for a child," says M. Julie Crocco, director of Midwifery Services at SBH. "Studies have shown that if you are dark skinned, an immigrant, or on Medicaid, you are less likely to breastfeed. The Department of Health recognizes this inequity and is working with Bronx hospitals to achieve baby friendly status, giving all mothers the information, confidence, and skills necessary to successfully initiate and continue breastfeeding."

The Baby Friendly Hospital Initiative is a global program sponsored by the World Health Organization (WHO) and UNICEF since the 1990s. It includes four phases: Discovery, Development, Dissemination and Designation. Each phase can take a year or longer to complete.

"The hospital will remove all bottle feeding advertising and product advertising from literature and handouts."

"Breastfeeding is the best standard of care supporting the health of the baby and mother over a lifetime," says Dr. Mark Rosing, chair, Obstetrics and Gynecology at SBH. "When Julie came to me with the idea of getting baby-friendly certification, she said, 'This may not be the most cost-effective initiative for the hospital, but it's about doing the right thing for the patient."

Such an initiative involves educating both patients and hospital staff who work with new mothers to make the task of breastfeeding less daunting. Within the hospital, a multidisciplinary committee comprised of individuals from nursing to IT, dietary to administration, has been created. Changes are being made throughout

“We need the entire staff to talk about this in a positive way. We need to change the culture.” – Julie Crocco

the process from prenatal to post-discharge care, which involves the use of community resources.

This includes incorporating one hour of uninterrupted skin-to-skin contact at birth for non-breastfeeding moms and skin-to-skin contact until first latch and feed for breastfeeding moms. Cesarean moms will bond with their infants during the immediate post-op recovery period. There will be no pacifiers, artificial nipples or formula given to breastfeeding moms. Discharge plans will include breastfeeding support groups and access to such community resources as lactation consultants via WIC and La Leche League. The hospital will remove all bottle feeding advertising and product advertising from literature and handouts. Formula will not be sent home with moms on discharge from the hospital (although the hospital has committed to purchasing formula at fair market value and keeps it locked and out of view).

Breastfeeding classes will be expanded in the antenatal and post-partum periods. In addition, monthly baby showers are being held to help educate expectant mothers in a fun and engaging way.

“We need the entire staff, as Dr. Upadhyay saw when she gave birth, to talk about this in a positive way,” says Crocco. “We need to change the culture.”

In the Bronx, getting new mothers to breastfeed is particularly challenging.

While a study shows that 80 percent of pregnant women here say they are interested in breastfeeding before giving birth, that number drops to 19 percent when they are asked about breastfeeding at the time of their first well baby visit. This is disconcerting as research has long shown that breastfeeding:

- Provides infants with the most complete nutrition possible. Breastfed children have far fewer and less serious illnesses than those who never receive breast milk, and have a reduced risk of SIDS, childhood cancers, obesity and diabetes.
- Helps mothers by providing them with a decreased risk of breast and ovarian cancer, anemia and osteoporosis.
- Saves the family money. Formula has a very high markup.

Biofilms: The Next Target in Antimicrobial Therapy

By Anthonia Ajao, Pharm.D., Assistant Director, Pharmacy Operations

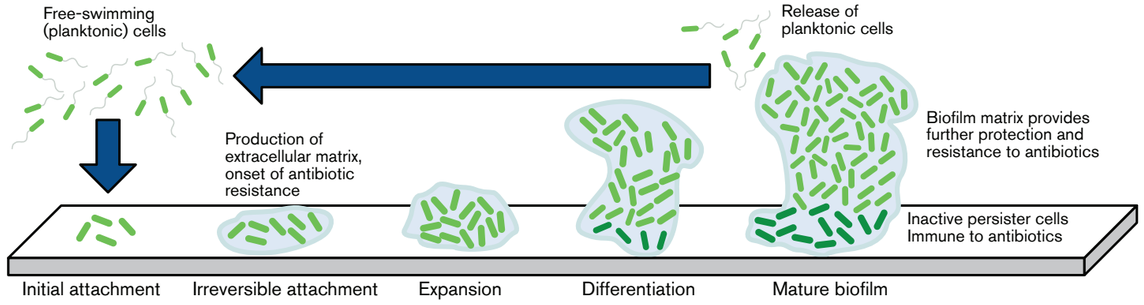

Fig. 1 (Source: Journal of Antibiotics 2014, 3, Pg. 272)

Prescribers are sometimes baffled when the appropriate antibiotic fails to treat an infection. The question is, “Do you know what you’re dealing with?” When the intention is to free the host from an invasion of rapidly dividing and highly adaptive bacteria cells, it is warfare!

Historical analysis has revealed that we do not fully understand the morphological peculiarities of bacteria or their ability to communicate through quorum sensing (cell signaling). These organisms originally thought to be simple planktonic cells have shown to be more complex and have also somehow defied generations of antimicrobial agents.

This brings me to the topic of biofilms and microbial survival strategies. In the biofilm formation process, microorganisms produce extracellular polysaccharides and proteins that enable their irreversible adhesions to living and non-living surfaces (e.g., medical devices and prosthetic implants).

Also, the free-floating (Planktonic) microbial cells group together, form microcolonies and secrete a protective polymeric matrix that encases the new microcolonies known as biofilms. It is worth mentioning that the protective matrix is impermeable to antimicrobial agents. Furthermore, the growth of the encased microbes is significantly slower than that of typical free-floating cells. This provides us with some insight into the ability of biofilms to survive the attack of antimicrobial agents. How do you kill non-growing or slow growing microbial cells when current antimicrobial agents target the rapid growth and replication of microbes? To survive and maintain dominance in their environment, these biofilms pass information to each other through quorum sensing. However, at some point, due to limited nutritional resources, the matrix opens and releases some of the cells to form new biofilms. The clinical consequences of their attack on bodily systems include chronic recalcitrant infections. To give a fuller picture, the life cycle of the biofilm is shown above (Fig.1).

The ability of biofilms to irreversibly cling to non-living surfaces such as prosthetic implants or catheters has major implications in the hospital setting. Biofilm-infected catheters need to be replaced, as treatment options are currently non-existent for such infections.

Immunocompromised individuals are particularly vulnerable to the highly adaptive cells known as biofilms. Table 1, top of the next page, shows examples of infections caused by biofilm-forming bacteria.

Also, the reduced susceptibility of biofilm bacteria to common antibiotics

TABLE 1		
Examples of different bacterial species involved in infections associated with biofilm development in immunocompromised patients and medical devices.		
Biofilm Bacterial Species	Surface	Disease/Infections
Aerobic/anaerobic bacteria	Surface/deep skin	Chronic wound
Burkholderia cepacia	Lungs	Cystic fibrosis
Enterococcus faecalis	Heart valves Central venous catheters Urinary catheters	Endocarditis
Escherichia coli	Urinary tract Middle ear Protheses	Urinary tract infections Otitis media
Haemophilius influenzae	Middle ear	Otitis media
Klebsiella pneumoniae	Central venous catheters	
Mycobacterium tuberculosis	Lungs	Tuberculosis
Pseudomonas aeruginosa	Lungs Middle ear Contact lenses Central venous catheters Prostheses	Cystic fibrosis Otitis media Nosocomial infections
Staphylococcus aureus	Middle ear Bones Sutures Central venous catheters Prosthetic heart valves Prostheses	Otitis media Musculoskeletal infections Nosocomial infections

Table 1 (Source: Current Opinion in Microbiology 2013, 16, Pg. 582)

TABLE 2				
REFERENCE	ORGANISM	ANTIBIOTIC	MIC OR MBC OF PLANKTONIC PHENOTYPE (μg/ml)	CONCN EFFECTIVE AGAINST BIOFILM PHENOTYPE (μg/ml)
215	S. aureus NCTC 8325-4	Vancomycin	2 (MBC)	20[a]
26	Pseudomonas aeruginosa ATCC 27853	Imipenem	1 (MIC)	>1,024[b]
26	E. coli ATCC 25922	Ampicillin	2 (MIC)	512[b]
208	P. pseudomallei	Ceftazidime	8 (MBC)	800[c]
114	Streptococcus sanguis 804	Doxycycline	0.063 (MIC)	3.15[d]

a Concentration required for 99% reduction.
b Minimal biofilm eradication concentration.
c Concentration required for -99% reduction.
d Concentration required for >99.9% reduction.

Table 2: Susceptibility of planktonic and biofilm bacteria to selected antibiotics. (Source: Clinical Microbiology Reviews, April 2002, Pg. 174)

used in hospitals is well documented (see Table 2).

There are currently no antimicrobial agents that target biofilms on the market or in clinical trials. However, in 2016, researchers at the University of Michigan Life Sciences Institute and School of Public Health announced that they had discovered a new class of anti-biofilm compounds that show activity against a drug-resistant bacterium.

The new compounds, known as cathuitamycins, are able to stop the Acinetobacter baumannii bacteria from forming biofilms. While this represents advancement in the efforts to curb the menace of biofilms, the research is still in the early stages.

So, what is expected of the medical community while we wait for "anti-biofilm" type antibiotics to hit the market? The judicious use of available antibiotics and complying with infection control standards to minimize antibiotics resistance is imperative. Our approach will have to encompass the science and art of antimicrobial therapy.

The science of antibiotic therapy entails assays that effectively identify causative organisms, knowledge of local sensitivity patterns and the inherent properties of the drug choices. As for hospital antibiograms: "To use or not to use, that is no longer the question" especially when treating infections empirically.

Now, where does the art come in? The art of listening to patients and identifying barriers to medication adherence and communicating key information may ultimately determine treatment failure or success.

When Language and Cultural Values Come Between Doctor and Patient

By Steven Reichert, MD, Director, Palliative Care

You are caring for a 75-year-old woman from Korea who was admitted for fatigue and weight loss. Diagnostic tests including a CT scan are highly suspicious for lymphoma. Her family is always at her bedside and, from the time of admission, her son requests that all test requests and results be discussed with him first. The patient does not speak English. When hearing of the probable diagnosis of cancer, the son states that he does not want his mother to be told of the diagnosis because telling her will "kill her."

The consulting oncologist feels that the patient has a very treatable form of lymphoma; however, the patient will first need a biopsy and will subsequently require chemotherapy, which will involve multiple visits to the infusion center. The medical team does not feel that it is appropriate or feasible to administer chemotherapy without discussing the diagnosis with the patient. The son requests that the medical team keep the diagnosis a secret and inform the patient that the planned chemotherapy sessions are vitamin treatments. The son very much wants the chemo; however, he refuses to allow a discussion with the patient. The oncologist will not treat without this discussion. How do you respond?

The guiding principles of medical ethics include autonomy, beneficence (act in the best interest of the patient), non-maleficence (first do no harm), justice (fairness and equality in care), respect and truthfulness. In this situation, the treating physicians have good reason to be concerned that the son's request violates basic principles of medical ethics. As the treating physician, your first responsibility is always to the patient. However, in this case, the patient's son presents a constant obstacle and you hope to avoid conflict. To complicate matters, the son's request will prevent the patient from receiving potentially life-prolonging care as the oncologist will not treat the patient without her informed consent.

There are several factors to consider in this situation. First, one must consider the cultural values that may be involved. While in the U.S., the concept of truth telling with patients is the norm; in many other cultures it is socially appropriate and at times even common to withhold information from patients. In many societies doctors take on a more paternalistic role with their patients (doctor knows best.) Also, it is common for the elderly to rely on their families to make decisions on their behalf. If this is in fact the cultural norm for this family, it may not be appropriate to force western principles of medical ethics on this family. However, lying to patients, especially when treatments like chemotherapy are involved, is certainly a reason

for concern for treating doctors. Providing a treatment, which can cause harm, without patient consent could be considered medical "assault and battery."

Another concern is that keeping a secret from a patient, even one who does not speak English, can be very difficult in the hospital setting. On any given day, between doctors, nurses, aides, students and allied health personnel, a patient likely interacts with more than 20 people. If just one staff member in a moment of kindness, expresses his or her concern – in Korean – to the patient for her cancer, the emotional effect on the patient could be devastating.

So, what is the best way to proceed? The AMA code of ethics recommends that the physician speak with the patient and her family. The physician can inform the patient that they have health matters they need to discuss and should offer the patient the option of being told the clinical situation or if they prefer, they can designate a member of their family to serve as a health care proxy. This allows the patient the right to autonomy with decision making, and opens the framework for a surrogate to make some, or all of the decisions for the patients' health care.

If the patient declines to participate in the discussion, the treating physician can feel comfortable that they are meeting appropriate ethical standards. This shared discussion also preserves the bonds of trust between the family and the treating physician.

"PROVIDING A TREATMENT, WHICH CAN CAUSE HARM, WITHOUT PATIENT CONSENT COULD BE CONSIDERED MEDICAL ASSAULT AND BATTERY."

Conclusion:

The physician meets with both the patient and the son. With a medical translator present, they inform the patient that they have health issues with important decisions which must be made. They ask if the patient would like to be involved in these decisions or would prefer to have her son make the choices. The patient states that she suspected that she was very sick and she knows that she will not live forever. She is worried that she has cancer. Her hopes are to live a fulfilled life and not suffer at the end of life. She states that she is comfortable with her son making complicated medical decisions and she signs a health care proxy form. She does want to know if she will experience pain with any of the planned treatments. She and her son privately discuss the role of chemotherapy, which she begins the next week.

Dr. Deidre R. Chang, a PGY2 in SBH's pediatric residency program, is the first author of an article published in the December issue of "The Journal of Pediatrics."

The article focuses on the importance of early diagnosis of Cytokinesis 8 (DOCK8) deficiency, an immune disorder.

A young boy was hospitalized with atypical symptoms that included persistent viral and bacterial illnesses, a host of severe allergic reactions, and extensive, recurrent dermatitis of the lips and eyes. The child's family, who emigrated from a remote area in Ecuador, had already lost two young sons with similar symptoms. While earlier treatments had improved the child's health intermittently, the disorder remained largely unchanged until a geneticist referred him to an allergy and immunology specialist who tested him for the rare immune disorder. Shortly thereafter, the child was treated with a hematopoietic stem cell transplant (HSCT) from his human leukocyte antigen-matched brother, which proved successful.

Historically, writes Dr. Chang and her fellow authors, the prognosis of patients with DOCK8 deficiency has been very poor with therapy often limited to prophylactic antibiotics and interferon-alpha 2b therapy for treatment of viral infections. Less than half of patients survived past the age of 20 and one third died before 30, with the event-free survival only 18 percent and four percent at ages 20 and 30, respectively. These results, according to the article, "echo the urgency of early diagnosis and curative HSCT, especially to avoid opportunistic infections and malignancies."

"The HSCT treatment is pretty much curative," says Dr. Chang, who co-authored the article with three attendings from Montefiore. "Treating the current infection is only treating one part of the disease. Unless the underlying immune issue is addressed, the prognosis is grim and the child will continue to be in and out the hospital. HSCT has the potential to change the lives of these kids and their families."

To read the article, visit: http://www.jpeds.com/article/S0022-3476(16)30864-2/abstract.

Dr. Sarah Ahn, a board-certified pediatric dentist is the principal investigator for a randomized, double-blind, prospective clinical trial on children comparing the amnestic effects of intranasal midazolam.

By Mana Saraghi, DMD, Attending, Dental Anesthesiology

The trial recently received approval from the Institutional Review Board (IRB), and is being conducted in the department of dentistry's sedation suite, championed by pediatric dental resident Dr. Aleem Noormohamed.

Midazolam is one of the more popular benzodiazepines used in pediatric dentistry as a premedication, and there is consistent level 1 evidence indicating that separation and induction anxiety are ameliorated after its administration. Heightened preoperative anxiety in the pediatric patient leads to OR delays, increases the onset time for sedation and dental anesthesia and can lead to maladaptive psychological outcomes.

While oral premedication is commonly used, there are some limitations to this route, including a long time to onset and peak effects, as well as unpredictable drug absorption due to the first pass effect. The intranasal route of midazolam administration overcomes many of these limitations, and has demonstrated an onset time that is three times faster than that of oral midazolam and relatively higher plasma drug concentrations. Additionally, it produces faster induction times due to reduced patient resistance, and shorter recovery times compared to other routes of midazolam delivery.

In this study, we assess the efficacy of anterograde amnesia when intranasal midazolam is administered prior to anesthetic induction by means of memory tests. The goal of this study is to assess the extent to which amnestic effects are exhibited when fast-acting intranasally administered 0.3mg/kg midazolam is given via atomizer shortly before dental anesthesia induction in pediatric patients receiving dental rehabilitation. Secondary end-points include assessment of the patient's cooperation with regards to parental separation and cooperation towards induction. Our study includes healthy, ASA1 children ages 3-10 who require sedation or dental anesthesia for comprehensive dental care.

Medical Toxicology Service Is Unique in the Bronx

By Steven Clark

The setting is nothing out of the ordinary: a parent and two children sit down for a quiet dinner, sharing a meal and a beverage. Suddenly, the man pushes himself away from the table, starts to vomit and begins convulsing, going into cardiac arrest within minutes. The older child also falls ill, but manages to call 911 before passing out. Only the younger child, understandably frightened, exhibits no symptoms.

An ambulance rushes them to a New York City hospital emergency room. Here, they are met by a team of emergency physicians, including medical toxicologists, who work feverishly to solve the puzzle in hopes of saving their lives. The facts soon become evident: the parent, despondent while going through a traumatic personal situation, had put a deadly poison into the beverage – a substance easily available in the parent's line of work. While the parent had consumed several glasses of the drink, the older child had ingested a small amount, and the younger child none. Working against the clock, the medical team fails to save the parent, but resuscitates the older child.

At the time, Dr. Howard Greller, director of Emergency Medicine Research and Medical Toxicology at SBH, was doing his fellowship training in medical toxicology. It would be just one of the many mysteries he would personally witness over the years.

The emergency department at SBH is the only one in the Bronx with a medical toxicology service, with two board certified medical toxicologists, Dr. Greller and Dr. Angela Regina, providing 24/7 consultation services.

The science of medical toxicology by definition is the interaction of the human body with any external substance that can lead to or cause human disease or derangement in health. While the majority of patients seen by Drs. Greller and Regina involve drug (opioid, mostly heroin) overdoses, they also are available to consult on patients who are treated as the result of pharmaceutical interactions and adverse events, household chemicals or gases, plants, supplements, acts of terrorism (chemical, biologic, nuclear), or envenomation (the injection of venom into the body as a result of an insect or reptile bite). More than 300 patients were seen at the hospital by the medical toxicologists in 2016.

"A good deal of toxicology is detective work in terms of taking a history, examining the patient and making an appropriate laboratory evaluation," says Dr. Greller, who often provides outreach and education at St. Barnabas Hospital for physicians and other clinicians in the ICU and internal medicine and psychiatry departments. "Patients will say that they took something when they didn't, or that they took it in a certain amount they may not have. You can send out a test to see if something is present, but that can take weeks to come back. More often than not, you need to make decisions quickly with minimal evidence."

Toxicologists may use surrogates to try to determine whether or not an exposure has occurred and if the patient will need therapies which might be expensive or can potentially be detrimental. Every case is different, says Dr. Greller, who has seen everything from mass casualties that are the result of carbon monoxide poisoning, to cyanide poisoning that has occurred at the scenes of fires, to patients who deliberately ingest lethal poisons. Time is often critical. In recently treating a patient who had ingested a poisonous substance in a suicide attempt, for example, the fight was against time – the patient had come to the ER hours after ingesting the substance. As a result, his body had already begun metabolizing the substance to its toxic metabolites, resulting in renal damage. The decision was made to treat him both with fomepizole to prevent further metabolism of the parent compound and hemodialysis in order to remove both the parent compound and toxic metabolites.

"There are antidotes available in some cases, but certainly nowhere near as many as there are toxic things that people can get involved with," says Dr. Greller. "While in medicine the pendulum has swung towards the philosophy of a 'cure all' for everything (a pill for every ill), there is no such thing as one size fits all, especially in toxicology.

"At one time, they used to pump the stomach, but today we realize that not everyone needs that, and it may or may not be warranted. Our job is to keep people safe as best as we can and that can mean responding without always having all the information. But that's not just medical toxicology. That's emergency medicine."

Honors:

Charles Gropper, MD, Director of Dermatology will be listed in "The New York Times" Superdoctors section on May 14, 2017.

Jeffrey Lazar, MD, was named a Clinical Quality Fellowship Program Fellow, sponsored by the Greater New York Hospital Association and United Hospital Fund. He and **Nara Rao, DO**, served as 2017 Council of Residency Directors of Emergency Medicine Scientific Assembly Abstract reviewers.

Marianne Haughey, MD, was named co-track chair of medical education in emergency medicine for the 2017 Mediterranean Emergency Medicine Congress-GREAT Joint Conference in Lisbon, Portugal. She was also named chair of the Society of Emergency Medicine/Clerkship Directors of Emergency Medicine Emergency Medicine Interest Group Grant Committee, and a member of the Council of Residency Directors of Emergency Medicine Academic Assembly New Program Leaders Track Planning Committee and the American Academy of Emergency Medicine Women in Emergency Medicine Committee.

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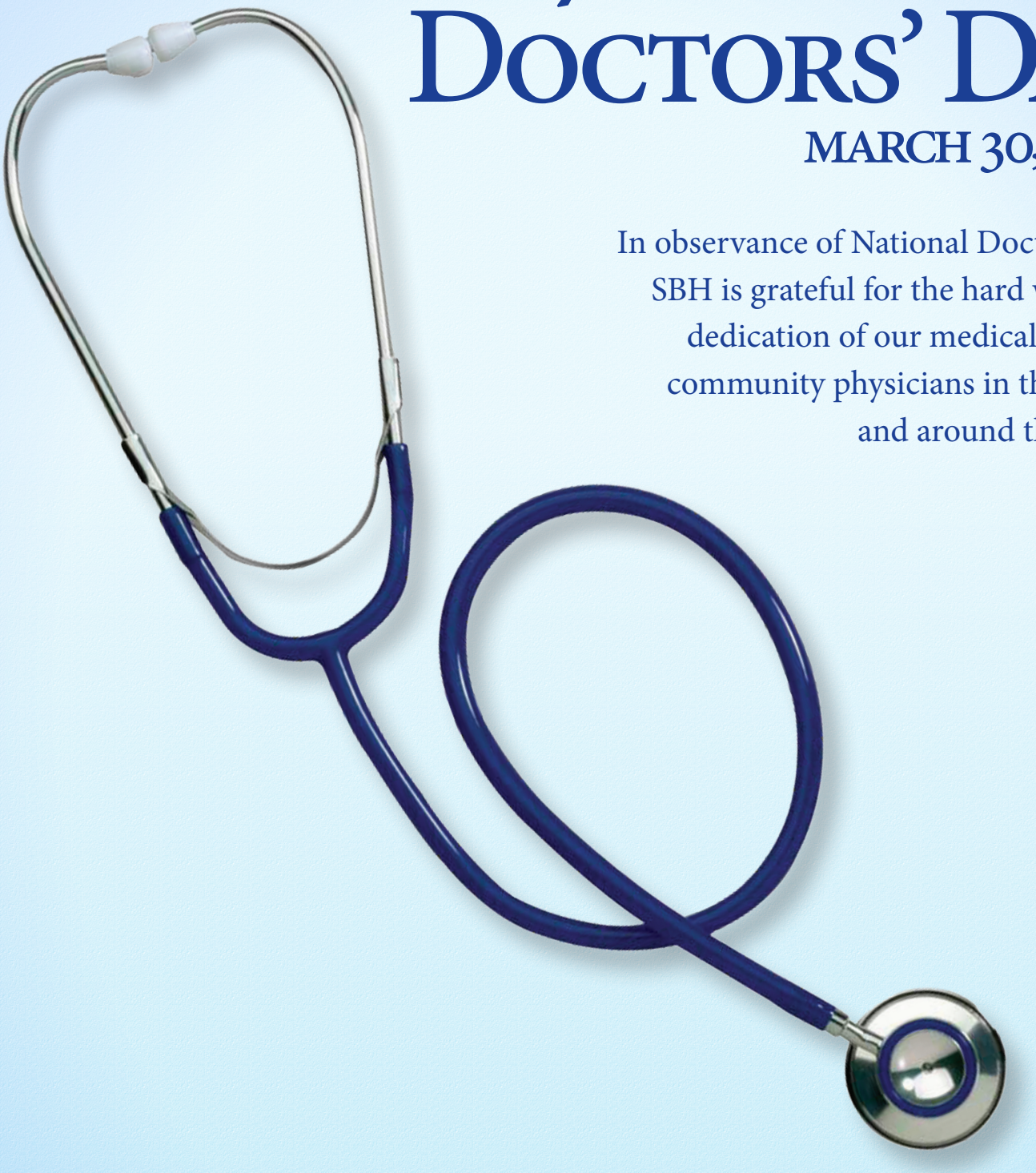
2017 NATIONAL DOCTORS' DAY

MARCH 30, 2017



In observance of National Doctors' Day, SBH is grateful for the hard work and dedication of our medical staff and community physicians in the Bronx, and around the world.

SBH Health System
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Sophie Davis School of Biomedical Education/CUNY School of Medicine
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