ST. LOUIS METROPOLITAN
MEDICINE
VOLUME 40, NUMBER 4 AUGUST / SEPTEMBER 2018

INNOVATION

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ST. LOUIS METROPOLITAN MEDICINE

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On the Cover: Allegra Petti, MD, assistant professor at Washington University School of Medicine, uses the newest Illumina sequencing platform, Novaseq 6000, at the McDonnell Genome Institute. (Photo courtesy McDonnell Genome Institute)

Passionate About Innovation

By Christopher A. Swingle, DO, Medical Society President

Medical Society President Christopher A. Swingle, DO

What excites me for St. Louis at this point in time is the spirit of medical innovation that has grown in our community over the past several years.

This is always an exciting time of year for me: the kids are going back to school, football season is gearing up, and backyard barbecues are in full swing. It's also when medical students at Saint Louis University and Washington University are finding clinical problems to solve, carrying out the work of starting a business, and thus laying the groundwork for a brand new round of medical innovation in St. Louis. Surprising? Not when you consider the the momentum our community is building to be at the forefront of medical innovation.

I am passionate about innovation, which is also why I am concerned that the subject is given its proper due. Many hear the word "innovation" and their eyes (justifiably) glaze over. For the past several years, "innovation" has been reduced to a sterile corporate buzzword. It sounds nice in shareholders' reports and mission statements, but it has as much tangible meaning as "quality," "value," and my personal favorite for having lost all meaning, "outside the box." So we become desensitized to the concept, and that is really unfortunate. Genuine innovation is hard to do. It frequently does not work, and the payoff is often not worth the effort. But when the recipe comes together, amazing things happen.

To me, innovation is about lateral thinking. For example, Henry Ford was quoted as saying that if he had given the customer what they asked for, he would have given them a faster horse. His point was that his customers did not understand what they really wanted: more efficient transportation versus modification of an existing one.

After Steve Jobs returned to Apple in 1997, he demonstrated his genius at creating products that consumers did not even know they wanted until they saw them. The Sony Walkman immediately became obsolete because of the iPod. The iPhone spawned innumerable copycat devices and replaced a thousand others by putting a powerful computer in the palm of one's hand. These examples are familiar because they were profoundly creative solutions to difficult problems. They deservedly rank among the most famous successful innovations.

But how many of you are familiar with the Apple Lisa or the Apple III? They were absolutely state-of-the-art computers by the standards of the early 1980s. The problem for the Lisa was that it was absurdly expensive, and the unreliable Apple III overheated constantly because Steve Jobs hated the noise from cooling fans.[1] Apple bet big on these innovations and they cratered, costing time, money and livelihoods. Even Henry Ford saw no need to offer models or options other than the venerable Model T painted black. His son Edsel had the unenviable task of convincing him to diversify.[2] Failure of innovation does not usually get the headlines and certainly none of the glamor, but it is far more common than success. In other words, innovation is uncomfortable, uncertain and likely to fail.

Therefore, when we discuss real innovation, we are talking about a risky venture that shakes up the status quo, but also has the potential to drive society forward. In our sphere of medicine this takes many forms: clinical research, pharmaceutical development, device inventions and payment models to name just a few. I am sure you can think of others.

What excites me for St. Louis at this point in time is the spirit of medical innovation that has grown in our community over the past several years. Thanks to the vision of local leaders like William Danforth, MD, of Washington University and John Dubinsky, president emeritus of U.S. Bank, the neighborhood along Forest Park Parkway from Washington University east to Saint Louis University has become the Cortex District. This part of town is full of new and renovated office spaces, repurposed buildings,

bioscience labs and technology startups. There is considerable future development planned for this neighborhood, with UMSL, SLU and Wash. U. all having a presence. If you have not yet spent any time in Cortex, you should plan a visit. Our city has developed an innovation district of international prominence.

As a St. Louis native, I feel especially blessed to be living at a point in time when innovation, and specifically medical innovation, is transforming our community, our profession and the health of our patients for the better.

Of course, while laboratory and office space is important, there is no substitute for human connection. For St. Louis medical students, Sling Health and MEDLaunch are two great options to get their feet wet in medical innovation. These student-led incubators have created several successful startup companies and opened careers for the participants. These programs are not limited to student participation; both actively seek physician mentors and advisors from academic and private clinicians. (Full disclosure: I have been a physician adviser to SLU's MEDLaunch program for the past three years and I have loved every minute of it.) The Venture Café program on Thursday nights at 4240 Duncan Ave. is a fun introduction to the vibe of the Cortex District; there are panel discussions on a variety of topics with many interesting people with whom to network and cross-pollinate ideas.

It is also important to remember that the environment for medical innovations does not vanish west of Kingshighway. Mercy Virtual at Clarkson Road and Interstate 64 is a hub to bring medical care to remote patients using cutting-edge telemedicine and biometrics.[3,4] St. Luke's Hospital has made the pricing of health care services more transparent by compiling a patient-friendly database of expected out-of-pocket costs for common procedures.[5,6] SLMMS has an Innovation Committee, led by Michael Beat, MD, to connect community physicians with local companies that need perspectives that only a physician can offer.

You can certainly debate both the merits and failings of Silicon Valley culture; it's quite a mixed bag of extreme positives and negatives. But one value that has permeated "The Valley" is worth adopting in our community—that failure is a necessary step for growth. That is to say, failure is not a goal in itself, but lessons learned from a failed venture better prepare one for the next attempt to innovate. Indeed, it is a badge of honor in much of the early-stage technology sector to have worked at a failed startup. By taking away the psychological stigma of failure, there is a freedom to create and take chances that could lead to the next big breakthrough.

As a St. Louis native, I feel especially blessed to be living at a point in time when innovation, and specifically medical innovation, is transforming our community, our profession and the health of our patients for the better. If you have the same passion for innovation, I invite you to join along on this remarkable transformation of our city.

Christopher A. Swingle, DO, is a nuclear medicine radiologist with West County Radiology at Mercy Hospital St. Louis.

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ST. LOUIS METROPOLITAN MEDICAL SOCIETY

Mission

To support and inspire member physicians to achieve quality medicine through advocacy, communication and education.

Vision

Physicians leading health care and building strong physician-patient relationships.

Core Values

Relationships, Professionalism, Leadership, Advocacy, Education, Communication

NOTICE

St. Louis Metropolitan Medical Society
General Society Meeting

Tuesday, September 11, 2018
7:00 p.m.

St. Louis Metropolitan Medical Society Office
680 Craig Road, First Floor Conference Room

Nomination of 2019 Officers, Councilors and MSMA Delegates
All members are invited to attend.

Agenda

Call to Order
President Christopher A. Swingle, DO

Nominating Committee Report
Ravi S. Johar, MD, Committee Chair

The committee will be recommending members for nomination to the following offices:

President-Elect ► Vice President
Secretary-Treasurer ► Councilors (4)

Save the Date

2018 HIPPOCRATES SOCIETY LECTURE

"Drug Pricing Transparency: What Doctors Need to Know to Provide Care in a Murky World"

Speaker:
Steve Miller, MD, Sr. Vice President & Chief Medical Officer, Express Scripts, Inc.

Tuesday, October 30, 2018

Spazio Westport, Grand Ballroom
12031 Lackland Road, Maryland Heights

6:00 p.m. – Cocktail reception
7:00 p.m. – Buffet dinner immediately followed by lecture

Free to SLMMS members;
$40 for non-members and guests

Watch for more information in the October issue of *St. Louis Metropolitan Medicine*.

RSVP to Liz Webb
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2018 SLMMS Physician Survey Shows Insurance Companies Continue to Delay and Restrict Necessary Care for Patients

New study validates conclusions from 2016 survey; physician frustration with pre-certification process increasing

Results from the recently-concluded survey of area physicians by the St. Louis Metropolitan Medical Society (SLMMS) indicate that patients continue to experience delays and restricted care due to insurance company practices in pre-certifying coverage. The new research further validates findings from the same study conducted in 2016, with physician respondent ratings of insurance company performance declining across all types of care surveyed.

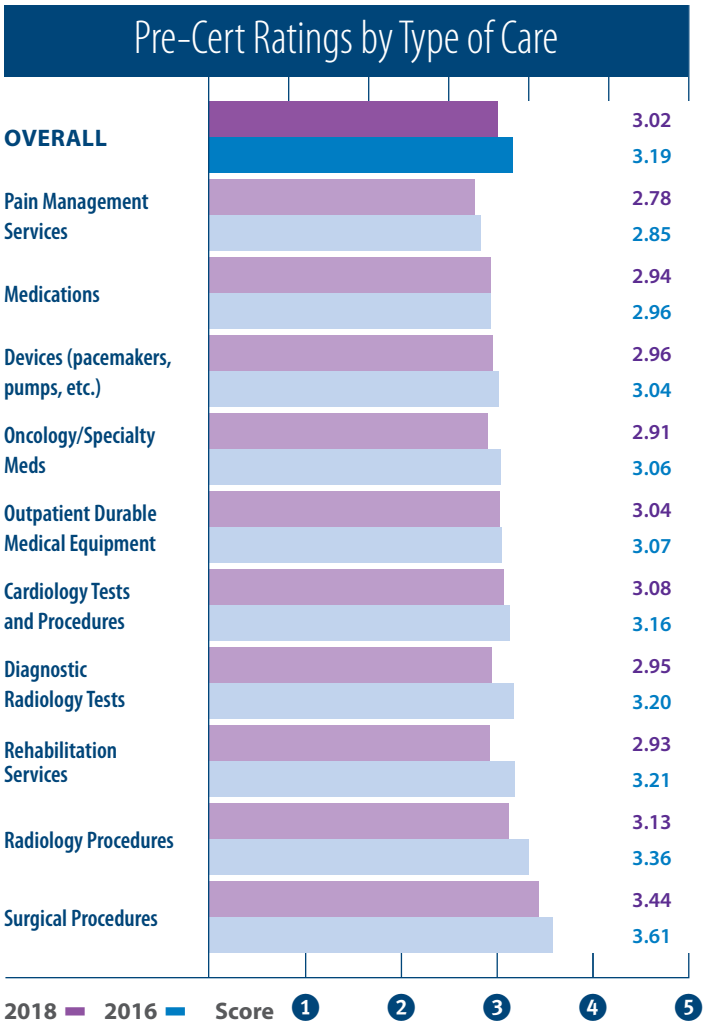
The survey, conducted online between April and June of this year, received a total of 290 responses, representing approximately five percent of St. Louis-area practicing physicians. Response was down slightly from 302 completed surveys in 2016.

Overall, the physicians surveyed gave insurance companies an average rating of 3.02 on a scale of 1 to 5 for the promptness and ease of the process of obtaining pre-certifications (also referred to as "prior authorizations"). This is a decline from a mean score of 3.19 achieved in the 2016 study.

"Again, the overall rating of insurance company performance translates to a letter grade of 'C.'" explained Christopher Swingle, DO, 2018 SLMMS president, "and it's a slightly lower 'C' than achieved two years ago. Physician assessment of insurers' performance is declining, while their frustrations with the process of obtaining pre-certifications are on the rise."

SLMMS funded the survey for the second time to address an issue that most physicians and their staffs feel greatly restricts the ability to practice medicine. "We wanted to further validate our 2016 findings, and because the St. Louis physician community has told us the problem is getting worse instead of better, we needed data to illustrate that point over time," explained Dr. Swingle.

The online survey tool developed by a SLMMS committee of physicians in 2016 was again employed, with very little modification. The Medical Society again utilized the services of the Prell Organization, an independent research firm, to conduct the study. Participants included both members and non-members of the Society, with 13 partners including large physician groups and hospital medical staffs from throughout the St. Louis area distributing the survey link to their members.



1. Rarely to never approves; could result in patient injury
2. May approve after lengthy delay with a high hassle factor (appeals)
3. May approve after a delay and physician involvement (peer-to-peer review)
4. Eventually approves after criteria are reviewed and met
5. Promptly approves prescribed procedure, test, medication or device

Respondents were again given statements to associate with the numerical rating scale to determine their ratings regarding ease of pre-certifications for a variety of different services by various insurers. Responses range from 1 equaling "rarely to never approves prescribed procedure, test or medication" to 5 equaling "promptly approves." In the middle, a score of 3 represents "may approve after delay or physician involvement." Physicians were asked what insurance companies and for what specific functions do they most often seek pre-certification, and then were prompted to rate those companies and procedures accordingly.

The rank-order of pre-certifications for all types of care surveyed did not change over the two years, with medications (69%) and diagnostic radiology tests (67%) still the most required for pre-certification. However, the mean promptness ratings for all types of care declined from 2016 scores, with the largest declines in pre-certifications for radiology procedures (falling from 3.36 to 3.13) and diagnostic radiology tests (from 3.20 to 2.95).

Summarizing the comments from physician respondents, Dr. Swingle said, "St. Louis-area physicians are telling us that pre-certifications can be major hurdles in the practice of quality medicine. Unfortunately, the situation is not getting any better, and instead is getting more cumbersome. Insurance company practices not only delay or deny necessary care, but contribute to prolonged use of medications and narcotics, and ultimately put patients in danger or increased risk."

continued on page 8

Your Comments

Here are samples of verbatim comments provided by physicians responding to the 2018 SLMMS survey on insurance practices:

Delays Care:

"Not getting pre-certifications for general injections or procedures is delaying treatment for patients. Patients blame physicians. Some take 15 business days to get back to you, which can be harmful to the patient."

"Delaying treatment of patients for two weeks following the appropriate pre-certification is ridiculous and malpractice. It delays the health improvement of patients, prolongs the use of dangerous narcotics, and is endangering patients or worsening the condition."

"They often wait several days to answer requests for extension of rehab stays then will often retroactively deny previous days!"

Peer-to-Peer:

"The peer-to-peer appeal process remains very time-consuming, cumbersome and often antagonistic. The peer assigned to me is frequently not practicing in my specialty."

"Appeals are often judged by a non-physician who is unfamiliar with the specifics of the patient's disease."

"Pre-certifications should also be done online with less time on the telephone. Peer-to-peers (reviews) are an insult."

"There is no transparency. There is often inconsistency. Appeals are often judged by a non-physician who is unfamiliar with the specifics of the patient's disease. Rationale for denial is strictly based on labeling or expensive medications, but does not apply to less-expensive generics.

"It ignores current standard and accepted guidelines and it delays care that is of an urgent, albeit not emergent, circumstances. The process depersonalizes patient care and disrupts the health care professional-patient relationship."

Staff/Physician Time:

"Peer-to-peer reviews for MRIs are ridiculously long. Get approval 99% of the time, but have to waste 30 minutes of my time to get some desk jockey to agree to the test I want to order. Need to charge for my wasted time."

"Very time-consuming and costly. If a well-trained, competent and ethical physician orders something, it should be done. Why waste all this time and money on pre-certs?"

"A waste of time and an interference with quality patient care. Many times all the necessary info is in my requested notes which they have simply not bothered to read."

"The process is laborious, expensive, harms patients and causes physician burnout and has NO transparency."

"Insurance companies ARE the medical decision makers, decide policy, make it difficult and time-consuming to get certain things done, especially if it's involved, specialized or new … and base changes on studies THEY finance and produce."

Control Costs:

"The daily aggravation of trying to do the best that I can for my patients is very wearing, and I often have to recognize that best practices have hit economic walls. High co-pays and deductibles DO now save the system money, but at the cost of good early preventive care that will cost us and our patients much more in the long run. Our current 'system' is unsustainable."

"I often serve as a preceptor to medical students or residents. If any of them would ever propose a plan or evaluation of treatment without talking to the patient AND examining the patient AND reviewing the medical record, I would flunk their @$% and yet we allow insurance plans to change our treatment having done none of those things."

There is also general agreement among physicians that restrictions imposed by insurance companies negatively impact their ability to practice medicine. Nearly all respondents, 95%, somewhat agree or strongly agree with the statement "I have had to alter a patient's treatment plan because of restrictions from an insurance provider," up slightly from two years ago. Eighty-nine percent of those surveyed somewhat agree or strongly agree with the statement "My ability to practice medicine appropriately is influenced by insurance company policies on pre-certification." However, concerns about narrowing networks and being dropped from insurance plans expressed by physicians declined from two years ago.

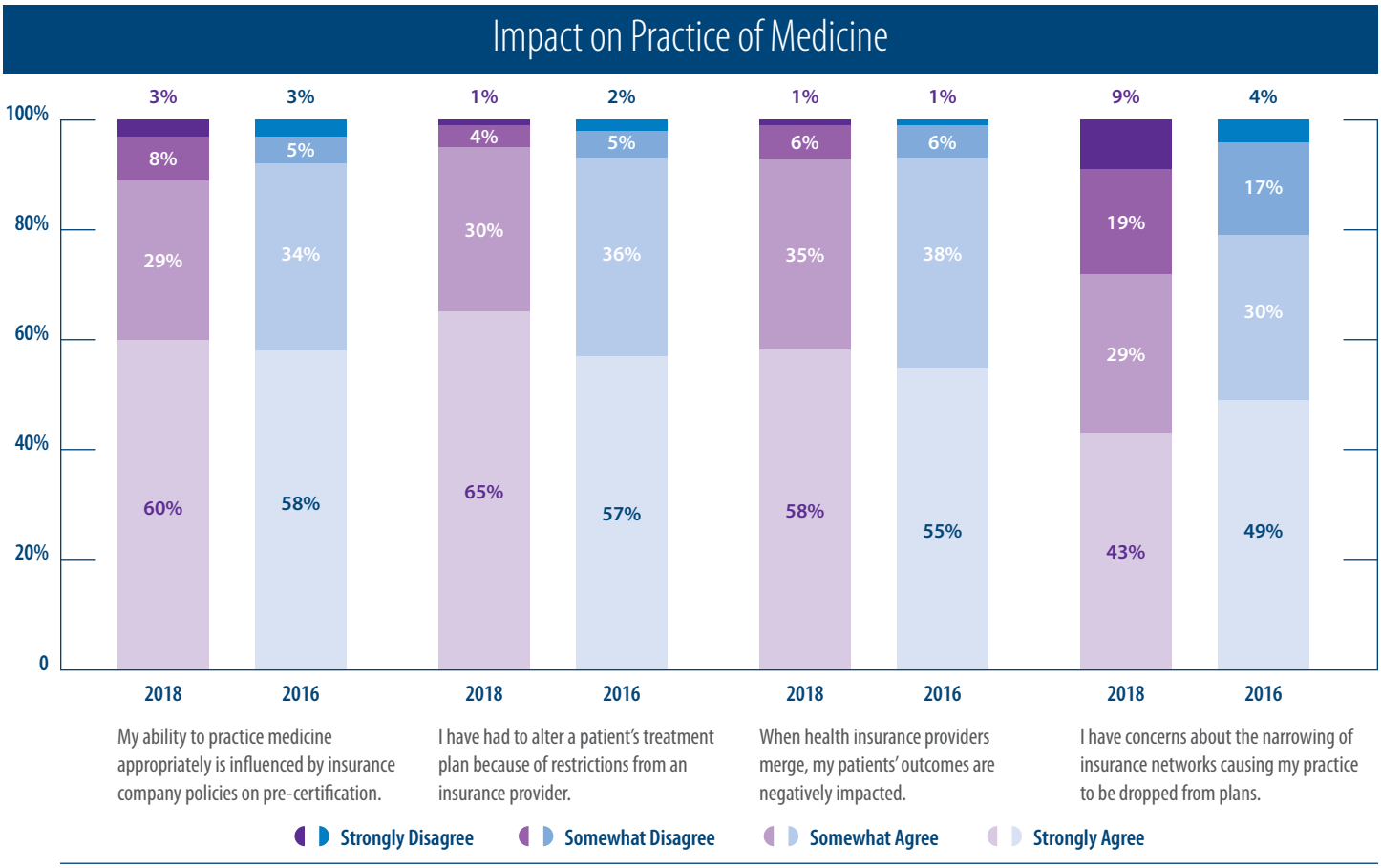
When questioned about the relative ease or difficulty of working with insurance companies, physicians reported that "getting new technology pre-certified" still poses the greatest amount of difficulty, with more than half describing this process to be "very difficult" (54%) and almost all respondents finding it at least "somewhat difficult" (93%). Less difficult, although still presenting barriers, is "the peer-review process" (90% of respondents said it is at least "somewhat difficult") and "getting standard procedures pre-certified" (68%). Physicians rated "dealing with imaging centers" as more easy (52%) than difficult (48%), a positive change from the 2016 results.

As in 2016, composite ratings of individual insurance company performance in the St. Louis area (on a 5-point scale) do not vary widely, ranging from Aetna (lowest at 2.88) to Exclusive Choice (SSM Health), scoring the highest at 3.35. Essence (3.17) and Anthem (2.95) have statistically significant lower mean scores in 2018, which means they are now slower to give approvals. Healthlink (3.12) and Cigna (3.03) have also declined over the two years, but the changes are not significant.

Demographically, there were some shifts in respondents as compared to 2016. The 2018 sample contains significantly fewer newer physicians with less than 20 years in practice (34% as compared to 46% two years ago) and more with 20 to 29 years of practice (34%, up from 24% in 2016). Thirty-one percent of the physicians surveyed self-identified as current Medical Society members, down from 40% two years ago.

"Physicians also report the multiple attempts and lengthy waits on hold for themselves or their staff to secure pre-approvals," said Dr. Swingle. "This continues to take away from valuable time spent caring for patients. Doctors also object to the level at which insurers get involved in patient care, without ever spending time with the patient. We need to use this data to bring forth positive change in the practice of medicine, to reduce physician frustration and burnout, and no longer restrict needed care for patients."

The full survey report is available at www.slmms.org ◄



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McDonnell Genome Institute: A World Leader in Genomics Research

Aims to understand the genetic underpinnings of cancer and other diseases and lay the groundwork for more personalized and effective diagnosis, treatment and prevention

By Nathan O. Stitziel, MD, PhD
On Behalf of the McDonnell Genome Institute Faculty and Staff

The Elizabeth H. and James S. McDonnell III Genome Institute (MGI) at Washington University in St. Louis is a world-class institute with a long-running track record of large-scale genomics and cutting-edge genome analysis. Our aim is to improve human health by understanding the genetic underpinnings of disease, laying the groundwork for more personalized and effective diagnosis, treatment and prevention of disease.

MGI has maintained a large-scale DNA sequencing operation for almost 30 years, dating back to the dawn of the genomics era with our groundbreaking work to sequence the genome of the tiny, transparent worm *C. elegans*, an endeavor that provided a foundation for sequencing human DNA and MGI's leading role in the Human Genome Project. We also have played a pioneering role in using the latest sequencing technologies to decode the genetic makeup of human cancers. Further, our collaborations with Washington University faculty to sequence the first cancer genome and the DNA of the trillions of microbes that live in and on the human body have helped spawn multiple large-scale National Institutes of Health (NIH) programs, including The Cancer Genome Atlas and the Human Microbiome Project.

Nathan O. Stitziel, MD, PhD

Nathan O. Stitziel, MD, PhD, is director of the Center for Cardiovascular Genetics and assistant director of the McDonnell Genome Institute. He is also assistant professor of Medicine at Washington University School of Medicine.

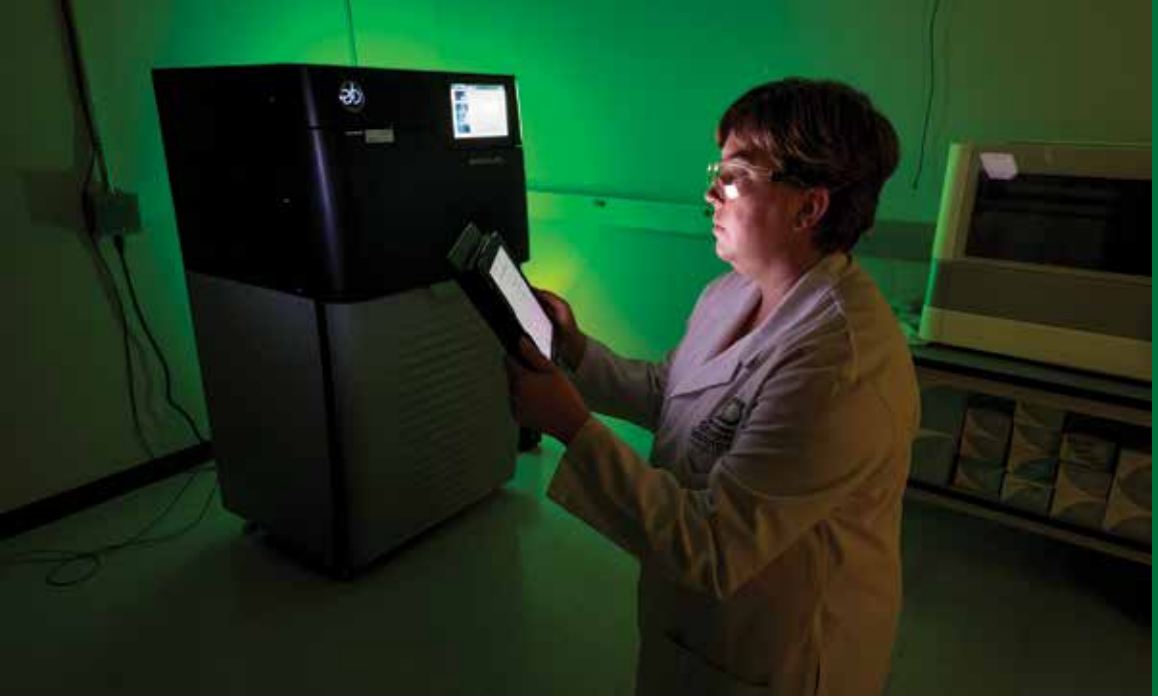
MGI's more than 25 Washington University faculty and 100 staff supply expertise in genetics, computational biology, bioinformatics, statistical methods, oncology, cardiology, pediatrics, neurology, infectious diseases, animal and plant genomics and functional genomics.

Numerous DNA Sequencing Projects

Through the years, MGI has played a key role in numerous DNA sequencing projects, including the Pediatric Cancer Genome Project; the Alzheimer Disease Sequencing Program; the 1000 Genomes Project, to sequence the genomes of more than 1,000 individuals, helping to create a detailed picture of human genetic variation and identifying many genetic factors underlying common diseases; and the Gabriella Miller Kids First program, an initiative to uncover new insights into the biology of childhood cancer and structural birth defects.

Notably, MGI was one of three centers funded by the National Human Genome Research Institute at the National Institutes of Health (NIH) as part of its large-scale sequencing program (2003-2015). Since 2015, MGI has been one of four Centers for Common Disease Genomics, also funded by the National Human Genome Research Institute. In this program, we lead sequencing and analysis of multiple large-scale human genetics studies in collaboration with centers and esteemed scientists from around the world. MGI has also been a key contributor to the National Heart, Lung and Blood Institute's TOPMed program, an effort to identify the genetic roots of chronic obstructive pulmonary disease and other common complex genetic disorders.

A major focus of discovery at MGI has been on cancer, with our scientists pioneering a comprehensive, genome-wide approach to unravel the genetic basis of cancer. In 2008, MGI scientists became the first in the world to decode the genome of a cancer patient—a woman with leukemia—enabling researchers to identify the suite of genetic errors that contributed to her disease. Since then, MGI has decoded the cancer genomes



MGI has decoded the cancer genomes of many thousands of children and adults with cancer. This massive endeavor has laid the foundation for more targeted, personalized cancer treatments.

The Institute's Kristi Futhey loads the Pacific Biosciences Sequel instrument. (Photo courtesy McDonnell Genome Institute)

of many thousands of children and adults with cancer. This massive endeavor has laid the foundation for more targeted, personalized cancer treatments based on the unique genetic signature of a patient's tumor.

Pediatric Research Efforts

As part of a research collaboration, St. Jude Children's Research Hospital and Washington University launched the $60 million St. Jude Children's Research Hospital-Washington University Pediatric Cancer Genome Project in 2010 to use next-generation genome sequencing to advance the understanding, diagnosis and treatment of some of the most aggressive and least understood childhood cancers. To date, the genomes of more than 800 young cancer patients and their tumors have been decoded.

More recently, MGI scientists have focused considerable efforts on identifying the genetic underpinnings of other pediatric illnesses. In collaboration with physicians at St. Louis Children's Hospital, we sequenced the genome of enterovirus D68, which circulated in St. Louis and beyond in 2014, causing severe respiratory illness in young children. Our scientists also have sequenced the DNA of babies with congenital anomalies in an attempt to identify genetic causes, and the gut bacteria of premature babies with a potentially fatal condition called necrotizing enterocolitis. Nearly 30 percent of babies with the illness die, and researchers suspect that an imbalance of gut bacteria is a root cause.

Studying Diverse Ancestries

MGI also is committed to enhancing and diversifying genomics research by designing studies that involve participants with diverse ancestries. Historically, most large genome sequencing projects have focused on individuals of European ancestry. Since 2013, MGI has been enrolling African-American patients at Washington University and partner BJC HealthCare hospitals who have coronary artery disease. As a comparison, we're also enrolling African-Americans without the disease, enabling us to study how inherited genetic variations contribute to disease risk.

MGI is leading a federally funded study to analyze DNA samples from people in this study in addition to samples collected over several decades as part of prior studies involving participants from various ethnic groups around the world. This unprecedented analysis of over 25,000 people with coronary artery disease and 25,000 people free of the disease is being carried out at MGI and two other sequencing centers. By comparing the genome sequences of participants with and without disease, we hope to identify regions of the genome that contribute to the development of coronary artery disease, the leading cause of death in the U.S. In doing so, we hope to develop a way to identify people at high risk of heart disease, a key step toward developing new therapies to treat them.

This innovative research is made possible due to recent advances in genome sequencing technology. The initial Human Genome Project, finished in 2003, took 13 years and cost $1 billion to complete. Today, the cost to sequence a genome is nearing $1,000, and the process takes only a matter of days.

Improving Patient Care

Finally, a major goal of MGI research is to use genetic findings to improve patient care. In 2015, MGI collaborated with Washington University's Department of Pathology & Immunology to establish a fully CLIA-certified and CAP-accredited sequencing laboratory to support clinical genomics research. This facility has been an engine for numerous clinical sequencing studies that have applied cutting-edge genomic technologies to real-world clinical problems. MGI's first CLIA-

continued on page 12

McDonnell Genome Institute *continued from page 11*

validated test is a customized tumor/normal assay developed in collaboration with noted Washington University leukemia specialist Dr. Timothy Ley. The test was used in a landmark study to demonstrate that the burden of disease in patients with acute myeloid leukemia after chemotherapy is a novel predictor of clinical outcome. This discovery is now the centerpiece of a clinical trial (clinicaltrials.gov registration NCT02756962) that uses whole exome sequencing results to stratify patients with acute myeloid leukemia into different treatment arms.

Through this close partnership with the Department of Pathology and Immunology, MGI has designed and rigorously validated new next-generation sequencing-based assays that apply the latest technologies and sequencing platforms to patient testing. We have also expanded our CLIA procedures to include the most advanced approaches for array-based genotyping and whole genome sequencing, with the goal of making the most comprehensive and cost-effective genomics platforms available to clinical investigators, and ultimately for routine patient care.

Groundbreaking work by MGI and other genome institutes is bringing us into the age of personalized medicine. Increasingly, genetic information can be incorporated into routine clinical management and the array of conditions for which genomics has the potential to impact patient care is growing. At MGI, we are excited to continue our efforts to push further forward into this new era of genomic medicine.

Increasingly, genetic information can be incorporated into routine clinical management and the array of conditions for which genomics has the potential to impact patient care is growing.

Malachi Griffith, MD, assistant professor of medicine and assistant director of MGI, discusses sequencing data with Felicia Gomez, PhD, instructor of medicine. (Photo courtesy McDonnell Genome Institute)

HARRY'S HOMILIES©

Harry L.S. Knopf, MD

ON INNOVATORS

Innovators are people who are not afraid to fail.

It is common, I think, to say that we gain wisdom by learning from our mistakes. If you were to ask an inventor how he came to produce a new gadget, he or she would surely tell you of previous failed iterations. So it is with innovators. Starting something unique is often met with resistance from the crowd: "Why should we change?" It is the persistence of the innovator that brings about change. Somehow the stubborn persistence pushing against stubborn resistance gives way to change. Anything worthwhile is worth fighting for. If the change is good, it will survive the pressure.

Dr. Knopf is editor of Harry's Homilies.© He is an ophthalmologist retired from private practice and a part-time clinical professor at Washington University School of Medicine.

Innovators

People and organizations driving improvement in medicine and health care in St. Louis

By Jim Braibish, St. Louis Metropolitan Medicine

Innovate is defined as "to make changes in something established, especially by introducing new methods, ideas, or products." The St. Louis area has many innovators who are working to improve medicine and health care. As the following profiles indicate, being an innovator takes a mix of creativity, determination, hard work and willingness to take risk. These individuals and organizations are making a difference locally and nationally.

Erica Barnell, Geneoscopy

COLORECTAL CANCER SCREENING

Erica Barnell has invented a non-invasive alternative to the colonoscopy for routine colorectal cancer screening of asymptomatic individuals ages 45-75. The process extracts human RNA transcripts from stool samples and detects changes in gene expression.

This innovation has led to the formation of the medical technology startup Geneoscopy which now has five employees and $1.4 million of funding. She started the company in February 2015 with her brother Andrew Barnell, who has an MBA from The Wharton School at the University of Pennsylvania and experience in health care investment banking.

Erica Barnell, right, and Andrew Barnell, center rear, with their Geneoscopy team.

Erica Barnell is a fourth-year student in the MD/PhD program at Washington University School of Medicine. She said the idea for Geneoscopy is rooted in her experience as a research technician at Washington University and the Donald Danforth Plant Science Center where she used stool-derived human RNA to evaluate children in Africa for gastrointestinal disease.

"From my research with children in Africa, I recognized that we could use this method to isolate RNA from stool samples to assess other gastrointestinal diseases," Barnell said. "We decided to focus on colorectal cancer to validate the platform technology."

The colorectal cancer screening product has completed two clinical trials and is in its third. The second trial has yielded 80-85% accuracy for identification of colorectal cancer and pre-cancerous adenomas. Patients with a positive test are recommended to obtain a colonoscopy for follow-up. One other company, Cologuard, has a DNA-based stool diagnostic on the market utilizing different technology.

Besides the patent for the RNA cancer detection process, Geneoscopy has added two other patented processes for other gastrointestinal diseases and a veterinary product.

"It is a great opportunity for research. There isn't a lot of prior work on stool-based liquid biopsies," Barnell said.

Charles Willey, MD

INNOVARE HEALTH ADVOCATES

Dr. Charles Willey

For Charles Willey, MD, having the flexibility to be a good doctor meant taking some control of incentives in the payment system so they reward better care.

He founded Innovare Health Advocates in 2010 to provide patients with a more personalized care experience. Innovare offers same-day appointments, and physicians will make house calls and treat hospitalized patients. Patients have his cell phone number.

Besides Dr. Willey, Innovare has two other physicians, eight advanced nurse practitioners and a social worker. The practice has offices in South County, Chesterfield, Festus, Lake St. Louis and Alton.

"Innovare is like having a doctor in the family," he explained. "We look at barriers our patients may have in their lives that prevent them from maintaining healthy lifestyles. We've even helped patients find new housing."

How does Dr. Willey provide this level of care in a tightening fee-for-service world? About half of Innovare's patient panel are Medicare Advantage members served under contract to Essence Healthcare, originally a wholly physician-owned Medicare Advantage plan founded by Dr. Willey when CEO of Esse Health.

"Medicare Advantage allows us to spend time to get to know our patients and lead them to become and remain healthy and energetic for life through personalized, innovative care. Healthy cost less than sick, so we focus on patient long-term health,"

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Innovators *continued from page 13*

Dr. Willey said. "The practice strives to give fee-for-service patients the same level of service," he noted.

Dr. Willey has developed innovative financial models since the early 1990s while continuing to practice internal medicine throughout. After merging several practices, he became the founding CEO of Esse Health in 1996. He then founded Essence Healthcare in 2003 and served as CEO through 2007.

"My desire in these endeavors has always been to take great care of patients and lead them to health," Dr. Willey said. "With the frustrations of dealing with insurance companies, my attitude has been, 'Don't just stand there, fix it.'"

Lucas Rydberg

PHAS3 – CARDIAC REHAB APP

Amazingly, almost two thirds of heart attack patients do not utilize any cardiac rehabilitation services, despite the fact that those engaging in rehab are 57% less likely to experience cardiac-related mortality, according to the Centers for Disease Control.

The Phas3 app screen.

Phas3 Digital Health has developed a smart phone app that promises to change this. Through the app, the nurse at the rehab center lays out a customized 12-week care program for the patient to carry out at home. The patient tracks progress and can be connected back to the center. Heart rate monitors and other tools can be provided to the patient if needed. Using the Phas3 app overcomes major barriers that prevent patients from attending rehab, such as finding the time and traveling the distance to go to the rehab center.

Phas3 was started by three Saint Louis University biomedical engineering graduates, Lucas Rydberg, Dan Ebeling and Sean Dougherty, through the MEDLaunch program at the university. Their advisers are Lisa Alderson, MD, from the School of Medicine and Andy Hall, PhD, from the biomedical engineering program.

Lucas Rydberg

Rydberg, the CEO, said he was motivated to start Phas3 to improve access to care. "I grew up on an Apache reservation in Arizona where my father is a physician and got to accompany him to work. I saw firsthand the barriers to receiving care. People lived far away and didn't have transportation. It was hard for them to follow up on their health care."

The Phas3 app is currently in a clinical feasibility study of 30 patients which they hope to complete by the end of the year.

"We are working to collect efficacy data showing better outcomes than traditional rehab," Rydberg said.

Signature Medical Group

MEDICARE BUNDLED PAYMENT PROGRAM

In 2013, Signature Medical Group took on the challenge of participating in Medicare's new value-based Bundled Payments for Care Improvement (BPCI) program.

Signature's initial focus in BPCI was joint replacement—specifically hip and knee—within their own large group of more than 60 orthopedic physicians in St. Louis and Kansas City. The program has since expanded to serve practices nationwide in not just orthopedics, but also into such areas as cardiology and medical diagnoses under Medicare's newest initiative, BPCI Advanced. In 2015, Signature Care Management was formed to oversee the BPCI program.

Under the BPCI, Medicare bundles payment for services, including the doctor, hospital and rehab, into one episode of care. The provider holding the BPCI contract—Signature—assumes the financial risk for the patient's cost of care and then shares the savings achieved with the physicians.

"As one of the region's largest orthopedic groups, this was an excellent match and aligned with Signature's goals of continuous improvement in patient care and cost efficiency," said Vince McVittie, executive director of Signature Care Management.

From its base in Missouri, Signature has expanded its BPCI to encompass more than 1,200 physicians in 55 practices in 27 states coast to coast. It is the largest orthopedic convener in the BPCI program. A service that has helped attract other physicians to Signature's BPCI is its patient care management technology platform, CareMosaic.

Signature's BPCI has achieved a more than 50% reduction in skilled nursing facility utilization, a 28% reduction in hospital readmissions, and a 91% reduction in inpatient rehabilitation facility utilization.

"Our experience has reinforced what the health care community has known for a long time—that it is much more beneficial for the patient, and more economical, to treat the patient holistically, as part of a care continuum. For too long, we have treated—and in many instances, continue to treat—patients one encounter at a time," McVittie said.

Ascension

Based in St. Louis, Ascension is the largest nonprofit health system in the United States and the world's largest Catholic health system. Ascension operates 153 hospitals and more than 50 senior living facilities in 22 states and the District of Columbia.

According to Chris Young, vice president of innovation, Ascension has many innovation projects under way, with the transformation of health care being a stated goal. His group maintains a portfolio of projects they are testing for more extensive rollout in the system.

Young described their approach: "We evaluate each concept by generating a hypothesis and then doing a fast sprint to get it tested. Then we make a decision on whether to continue to the next phase."

In the technology arena, current projects include the direct application of artificial intelligence and machine learning along with the use of blockchain, a more secure way of linking computers and protecting from attacks. They also are looking at expanded use of virtual medicine, and a remote care management program is being piloted for patients with high risk for readmission.

A personalized pharmacy project is being evaluated in which a battery of tests is used to help determine which pharmaceuticals have the best chance for success with a particular individual. As part of its commitment to caring for the poor and underserved, Ascension is focusing on how to address the social determinants of health, especially health disparities by race.

"Ascension has a long history of pushing boundaries in being innovative on many fronts," Young said. "Ascension is committed to moving the industry in a positive direction."

Mercy Virtual Care Center

Mercy opened its Virtual Care Center in Chesterfield in 2016 as the world's first-of-its-kind hospital without beds, where a team of physicians and allied professionals provides virtual support.

Today, Mercy Virtual has 850 employees who serve over 40 hospitals in seven states. Besides the Mercy system, Mercy Virtual also has contracts with Penn State, Summit Health and UNC Health Care for virtual care services.

Inpatient services include virtual ICU, sepsis monitoring, neurology consult for stroke patients, hospitalist services and 24/7 observation of at-risk patients.

On the outpatient side, Mercy Virtual helps patients manage chronic conditions such as COPD at home, provides access to pediatric services for children in underserved areas, offers consultations with specialists, and provides nurse-on-call phone support.

Incubators

A major driver of innovation in health care technology is the Cortex Innovation Community, a group of four innovation centers for startup businesses. Besides the Cortex Innovation Center, these include the BioGenerator, the Center for Emerging Technologies and the Venture Café. All are located in the vicinity of Forest Park and Boyle avenues. A number of SLMMS members serve as advisers to startup medical technology companies. In addition, Sling Health (Washington University) and MEDLaunch (Saint Louis University) provide opportunities for student teams to develop concepts for potential medical technology startup businesses.

AN EARLIER INNOVATOR

Long before the tech incubators Sling Health and MEDLaunch or the field of biomedical engineering existed, Richard Gimpelson, MD, was working in the 1970s and 1980s to improve surgical instruments.

Dr. Gimpelson was an early practitioner of the then-new field of minimally invasive gynecological surgery. However, he found the devices cumbersome to use. With an undergraduate degree in electrical engineering, he had some mechanical inclination.

"As a new field, we were using instruments intended for other purposes. I wanted to make the instruments easier to use," Dr. Gimpelson said.

He invented and obtained patents for five devices. The first, the Gimpelson Cervical Sealing Tenaculum, patented in 1986, keeps the cervix closed to enhance intrauterine surgery by preventing leakage of distention media. The device is still sold today.

The Gimpelson Cervical Sealing Tenaculum.

His next patent was for a needle for closing laparoscopic incisions to prevent incisional hernias. Dr. Gimpelson recalled, "Here I learned persistence as five companies rejected my design. Frustrated by the rejections, I read two books on creativity by Roger von Oech. I then went about to design a second needle."

Ironically, in the meantime he found out that a multimillion dollar instrument company was using the same design as his first needle. "Since I had the patent, we were able to negotiate a small contract," he recalled.

About his inventions, Dr. Gimpelson commented, "Perhaps the major quality in motivating me is that I am lucky to have never lost the childhood imagination that is so important for creativity."

Blockchain Technology Offers Potential in Health Care

Could improve data access, security and control

By Derrick Weisbrod

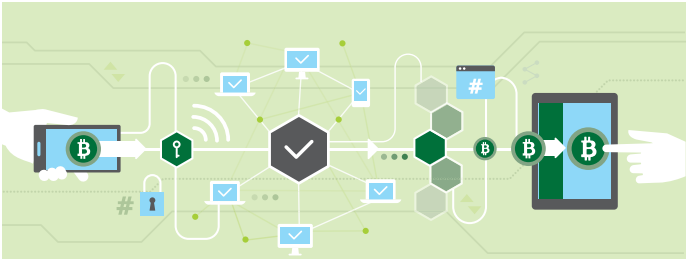
A new buzzword that hums around technology conversations is ***blockchain***. It has gained minor celebrity by being the technology behind cryptocurrencies like Bitcoin. It operates as a decentralized database where information is shared and continually reconciled. Every computer connected to the blockchain holds a record of the blockchain, so the information cannot be corrupted or stolen from any one central point. Updates are only allowed with the proper clearance, and all changes are clearly logged and timestamped.

While the blockchain has made a splash in the financial world through cryptocurrency, this type of database has a few promising applications in the health care field. It has the potential to solve some big health care data problems such as access, security and control.

Currently, health care data is held in large repositories controlled by either EHR software or a provider entity such as a hospital. While transferring the data between these places is possible, it is an arduous task with many opportunities for incorrect data to be folded into a patient's record. A blockchain system solves this problem by being a universal database that all the individual entities access when they need to. New data is checked and verified against existing records to catch inconsistencies, and it speeds up the process of on-boarding a new patient, as all of their relevant data would be accessible.

Of course, the challenges of implementing a universal system are numerous. Standard data entry methods would have to be adopted across all health entities that use the blockchain, and the computing power necessary to both store and verify that much data is prodigious. And while simple data is easily stored, complex records such as images are too large to store on the blockchain, and they would need to be kept on a separate server.

The security of our health data is constantly under assault. Our records, rich in exploitable information, fetch high prices on the black market. A blockchain solution provides higher levels of security than most networks. While health data is marked with an encrypted "public key" that unerringly records the data as belonging to one patient, that patient holds a "private key" that allows them to access their data.



A blockchain system solves this problem by being a universal database that all the individual entities access when they need to.

A hacker cannot access the data without the private key—so gone would be the days of one breach exposing thousands of patient's records. And the data cannot be corrupted without both the private and public key. There is no single vulnerable point for a hacker to attack and steal or misuse the data.

Another powerful aspect of blockchain technology is the control it offers to individuals. Although our health care data is intensely personal, it is controlled by other entities. Most people do not have copies of their health data, and to compile it would be a monumental task. With blockchain, the control of that data can be put back into the patient's hand. Each person would have access to their data on the blockchain through websites or apps with proper security authentication.

By utilizing a technology called smart contracts built into the capabilities of the blockchain, they can specify who else is allowed to access their data and at what level. A patient can allow their primary care physician to add to or modify their data, while they may allow their insurance provider, employer or family member to read parts of their data that are pertinent to them. The patient can also set up an "emergency profile" that would allow a network privileged doctor or surgeon (such as an ER doctor) to bypass the privileged settings and access the emergency data.

Although blockchain technology is in its relative infancy, it has great potential to grow into a robust solution to many of the challenges faced by both patients and providers in the field of health care data.

Derrick Weisbrod

Derrick Weisbrod is a founding advisor at Healthcare Technology Advisors, where he provides expert support and guidance for medical providers in the areas of information technology, security and HIPAA compliance. He can be reached at derrick@htadvisorsllc.com or 314-312-4701.

Health Care Innovation in St. Louis

By Melony Tanko and Michael Tan

As a nation, we are currently pushing the boundaries of health care. We've entered an age of unparalleled innovation – venture capital funding nationally is at a high point, and startups are fast becoming the new hip thing to do. This phenomenon has affected health care as well. As we move deeper and deeper into the information age, new technologies are being developed every day around us. The changing landscape of technology, from the rise of big data to developments in machine learning to new looming cyber threats, has forced the health care industry to adapt accordingly.

Take, for example, the impact that digitalization and cybersecurity have had in recent years on the health care industry. As hospitals move their records onto digital mediums such as the cloud, data is becoming both more convenient to access as well as more centralized and dynamic. However, at the same time, digitization makes hospitals more vulnerable to cyberattack. In St. Louis, at the end of 2017, SSM Health reported medical records of 29,000 patients were at risk after they were inappropriately accessed by an employee in its customer service call center. Health care providers are now required by federal law to meet certain cybersecurity standards. Cybersecurity spending is expected to exceed $65 billion over the next five years.

Organizations like MEDLaunch, Sling Health and SoPE are the drivers of positive change. They put tools and resources in the hands of those would use them most effectively.

Here's the good news: problems breed problem solvers, who breed solutions. One example is Kypher, an innovative firm based in St. Louis that has created cybersecurity solutions for health care providers specifically, ranging from encryption to secure file sharing and more. The charge in health care innovation has also been powered by organizations such as MEDLaunch, Sling Health and the Society of Physician Entrepreneurs (SoPE).

Local Incubators for Entrepreneurs

Sling Health and MEDLaunch are non-profit, biomedical and entrepreneurship incubators partnering with Washington University, Saint Louis University and other organizations in the St. Louis area. The ultimate goal is the production of innovative products that re-enter the clinical setting, thus solving the original problem and improving the standard of medical care. They put talented problem solvers in teams, concentrating medical, engineering and business talent in the same location to tackle important problems in health care. Each team is tasked with designing a novel, effective and marketable solution using funding from Sling Health and MEDLaunch, along with mentorship from faculty and industry advisors. At the end of the program, teams are connected to empowering sources of capital such as local angel investors and venture capitalists through a Demo Day.

SoPE was founded in 2011 by three physicians who shared a common vision: to empower physicians and other professionals to innovate health care through entrepreneurship. SoPE offers a suite of resources and support, both human and nonhuman, to empower health care problem solvers to scale the change they are trying to make. Led by physicians and industry experts, SoPE supports early stage health care startups with a strong, talented and experienced network and community.

Organizations like MEDLaunch, Sling Health and SoPE are the drivers of positive change. They put tools and resources in the hands of those would use them most effectively. But the push for innovation is not limited to incubators or to health care. Across the country, the potential of innovation is being recognized. Innovation and entrepreneurship are being integrated into school curriculums, sometimes starting as early as the kindergarten level. There are a plethora of school-sponsored groups and national groups that foster entrepreneurialism and innovation in youngsters. They help youth team up with industry professionals to help them see how their ideas would play out in the world today. At the same time, it seems that every major U.S. university has funneled millions of dollars into their respective innovation and entrepreneurship programs. The future is looking bright. The innovations are happening, the support for change is there, and the national culture is shifting more and more toward one dedicated to solving the problems of the future.

Melony Tanko

Michael Tan

Melony Tanko is president of Kypher, a health care cybersecurity software and services company. She co-founded Kypher to provide risk management and compliance benefits to organizations communicating and sharing information electronically, and those who wish to begin or maintain a HIPAA compliant path. Melony can be reached at mtanko@kypher.com or 314-315-4415. Michael Tan is a sophomore at Duke University who has a passion for innovation and entrepreneurship. He works as a business development Intern at Kypher. The company is a member of Greater St. Louis MGMA.

Ellis Fischel, MD: Cancer Surgeon, Humanitarian and Innovator

Founded free state cancer hospital in Columbia, now part of MU Health Care

By Arthur Gale, MD

A traveler passing through Columbia, Mo., along Interstate 70 could not miss seeing a seven-story building which originally had horizontal stripes that many thought resembled a chocolate layer cake. This building was the Ellis Fischel Missouri State Cancer Hospital.

Who was Ellis Fischel and why was the hospital named after him? Ellis Fischel, MD, was born in 1883 in St. Louis. His father was Dr. Washington Fischel, a prominent internist. In 1904, the year of the St. Louis World's Fair, he married Marguerite Kauffman. They had two children, one of whom was paralyzed from birth. Marguerite composed music and wrote a book, *The Spastic Child*, which went through three editions.

The Fischels were part of group of socially conscious, philanthropic prominent citizens of St. Louis. They felt a responsibility to care for the poor, the sick and oppressed. It is likely that this cultural background inspired Ellis Fischel to establish a free cancer hospital for the indigent citizens of Missouri.

Ellis Fischel (pronounced Fish-ELL) enrolled at Harvard University in 1900. He played on the university's baseball team. He was a classmate of Franklin Delano Roosevelt, the 32nd president of the United States. He graduated from Washington University School of Medicine, completed a two-year internship at St. Louis City Hospital and then studied abroad.

(Left) Ellis Fischel Missouri State Cancer Hospital as it appeared shortly after opening in 1940. In the 1970s, the exterior was recolored and a large addition made.

(Right) Ellis Fischel, MD.

Dr. Fischel came from a family that was well-to-do and civic-minded. His sister Edna Gellhorn was involved in many causes. She was a founder of the League of Women Voters and was a leader in the women's suffragist movement. Her daughter Martha Gellhorn was the only female journalist who landed on the Normandy coast on D-Day of World War II. She accomplished this feat by hiding in a bathroom. She was also the third wife of the author Ernest Hemingway.

Arthur Gale, MD

Arthur Gale, MD, is a past president of SLMMS and frequent contributor to St. Louis Metropolitan Medicine *and* Missouri Medicine. *His writings over the past five-plus years have been compiled into a recent book,* A Doctor's Perspective on Medical Practice in the Twenty-First Century, *available on Amazon.com. Dr. Gale can be reached at agalemd@yahoo.com.*

Dr. Fischel became a surgeon and eventually rose to become associate professor of clinical surgery at Washington University. Early in his career, Dr. Fischel taught anesthesia, fractures and plastic surgery. After he began treating cancer at a charity hospital in St. Louis he wrote, "Chance led to the surgical service at a charity cancer hospital-service which has given me the greatest individual satisfaction and stimulation to greater endeavor."

He treated cancer in every part of the body including the brain. He was among the first physicians to use radium as treatment against cancer. During his 25 years in private practice, Dr. Fischel cared for 1,208 cancer patients, 519 of which reached the milestone of surviving five or more years. He cared for countless more charity patients—perhaps as many as 10,000. He taught at both Saint Louis University and Washington University.

Founding the Hospital

As a member of the Missouri Medical Association's Cancer Committee, Dr. Fischel persuaded the American Cancer Society to conduct a statewide cancer survey. The results showed that many poor Missourians were in need of cancer care.

Armed with this survey and with his experience in caring for cancer patients, Dr. Fischel asked elected officials to support his plan to build a state cancer hospital. The plan was approved and construction began in 1938. Ellis Fischel was named the first chair of Missouri's Cancer Commission. The hospital would be the first cancer center west of the Mississippi.

Dr. Fischel did not live to see the completion of the hospital. Tragically he died in an automobile accident in Useful, Mo. He was on his way to a Cancer Commission meeting. He was 53 years old.

The new hospital was to be named after Missouri Gov. Lloyd C. Stark. But Stark insisted on naming the state hospital for Ellis Fischel. Stark told a reporter, "I will appreciate very much your mentioning the fact that after Dr. Fischel's death I asked that the name be changed from mine to his because, in my opinion there never would have been a state cancer hospital except for Dr. Fischel's untiring efforts."

The 1930s marked a different era. In this day and age of bloated political egos, a magnanimous gesture like Gov. Stark's would be very unlikely.

The Ellis Fischel State Cancer Hospital was gradually integrated into the University of Missouri Medical Center. In 2013, it officially moved to a new facility on the main campus and became the Ellis Fischel Cancer Center.

Ellis Fischel wrote how he personally felt about his life: "The greatest interest in life, as I have found it, is my daily contact with my fellow man, both in health and disease. The greatest rewards come through what we personally mean to a few obscure individuals. The greatest thrill is from public recognition of work well done."

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To learn more about Ellis Fischel, MD, view a short video on the MU website at bit.ly/fischel-history.

Local Collaboration Aims to Reduce ED Visits While Strengthening Physician-Patient Relationships

By Louise Probst, St. Louis Area Business Health Coalition

Missourians visit the emergency department (ED) more frequently than patients nationally and often for conditions better treated in a primary care setting.

The Kaiser Family Foundation's State Health Facts reports that ED utilizations grew in Missouri from 21st to 11th highest in the United States over a 10-year period. Missourians made 512 visits per 1,000 people in 2015—16% higher than the national rate.[1] (See Fig. 1) Moreover, using a conservative list of diagnoses to define an avoidable visit, the Midwest Health Initiative (MHI) found 16.5% of visits to St. Louis EDs among commercially insured individuals were avoidable (treatable in a lower-acuity setting).

Since it is understood that strong systems of primary care yield better population health, research released last year from the University of Maryland is deeply concerning. It found that EDs contributed to about 48% of all medical care in the United States.[2,3]

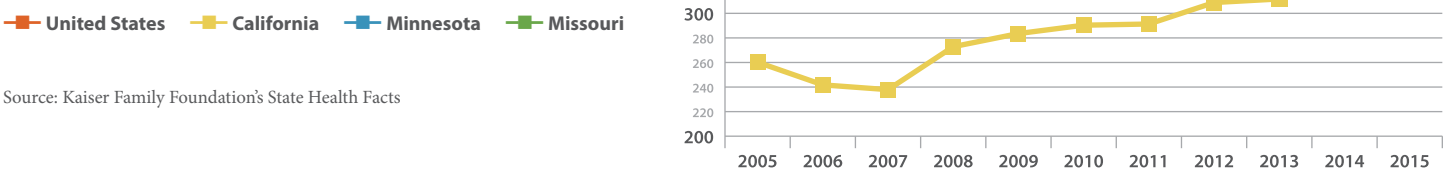
Inappropriate ED use has significant consequences:

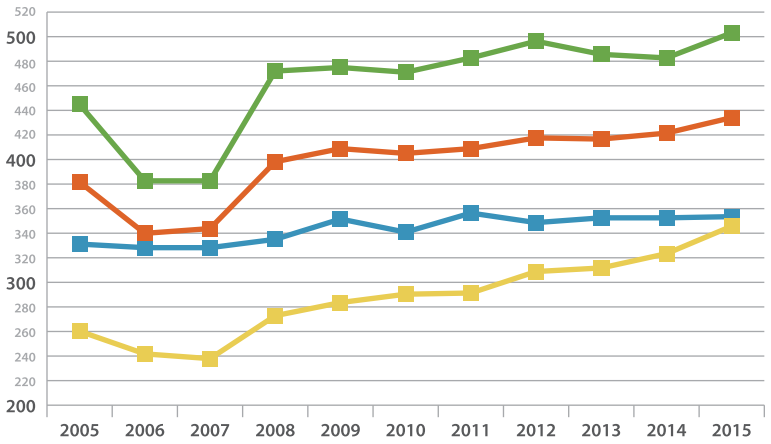
- **It increases health care costs:** ED care can cost three to five times more than care provided in an urgent care setting for the same diagnosis—and even higher than care provided in a primary or convenient care setting.
- **It holds a higher potential for overtreatment:** For instance, patients seeking care for an upper respiratory infection in an ED are more likely to receive a chest x-ray, exposing them to radiation, with the results contributing little to care plan decisions.
- **It fragments care and diminishes the physician-patient relationship:** When patients have non-emergent medical needs addressed in an emergency setting, they miss opportunities for coordinated care and building stronger connections with their primary care physicians. Multiple factors drive patients to choose an ED over other care settings.

See Fig. 2 for a chart of ED usage drivers.

Figure 1

Hospital Emergency Room Visits per 1,000 Population 2005 - 2015





Source: Kaiser Family Foundation's State Health Facts

Louise Probst

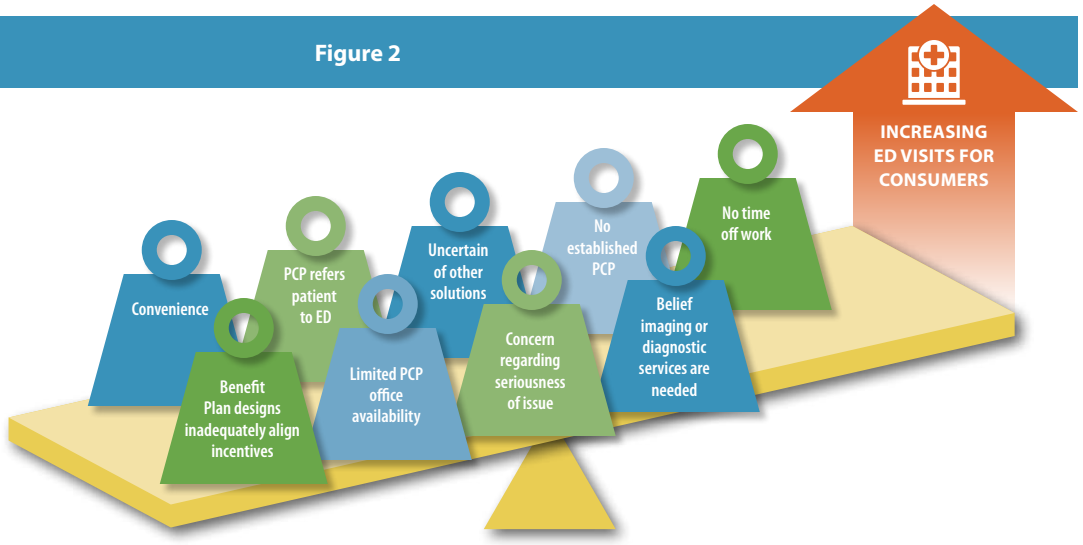
Louise Probst is executive director of the St. Louis Area Business Health Coalition. She can be reached at 314-721-7800 or lprobst@stlbhc.org. The Midwest Health Initiative is a non-profit, multi-stakeholder regional health care improvement collaborative serving Missouri and its bordering communities.

Midwest Health Initiative Convenes Action Group

Most health care challenges are too complex to be solved by any one stakeholder. Recognizing this, over 50 community partners came together through the MHI to address ED overuse in the St. Louis region. They represented medical groups, health systems, employers, labor unions, benefit consultants, urgent care providers, consumers and health care foundations. Together they studied trends in ED use among the

Figure 2

What's Driving Emergency Department Utilization?



Source: St. Louis Area Business Health Coalition

region's commercially insured population along with potential solutions and alignment of actions across stakeholders.

Over the course of the year, this Collaboration to Improve Appropriate ED Utilization:

1. **Compared diagnosis codes underlying various measures used to identify "avoidable" ED visits** and encouraged a move toward common measures.
2. **Assessed consumer incentives impacting ED use** and encouraged a meaningful differential in patient responsibility for accessing care in the ED for services more amenable to a primary care setting. A review of 50 self-insured employer plan designs found 20% had ED visit patient responsibility below $150 in 2015. (Today, all but two of those plans have increased co-pay/co-insurance to levels at or greater than $150.)
3. **Reviewed the region's four major health plans' practices and found meaningful quality bonuses or penalties** tied to avoidable ED use in PCP contracts. It also found an increased use of performance-based contracts in the St. Louis commercial space.
4. **Created strategies to support physicians and employers** in tackling inappropriate ED use.

Physicians are asked to contribute to the community goal by having a conversation about ED use with their patients and office staff.

- **Ask your patients routinely if they have used the ED since their last visit and if so, why.**
- **Help patients who use the ED inappropriately to find better solutions.** Create standardized "patient action plans" for one or more common avoidable ED diagnoses. By creating a care plan with your patients, they can be confident in managing their chronic conditions and reduce the need for unscheduled services. MHI found upper respiratory infections, pediatric ear infections, low back pain, urinary tract infections and severe headaches were common diagnoses in avoidable ED visits.
- **Identify patients and families that may benefit most from these standardized "patient action plans."**
- **Enlist your team to help share the plans with patients** by helping patients understand your guidance and understand how staying connected benefits their health.
- **Follow the social media campaign (#PCPbeforeED)** to get up-to-date information and learn more about Collaboration strategies and successes.

The Collaboration created and offers tools to support physician practices in this effort:

1. **Provider Playbook,** a guide to integrating the Collaboration-developed strategies into your office workflows to strengthen your relationship with patients while reducing inappropriate ED use.
2. **Training for your staff:** At the request of collaborative partners, the St. Louis Area Business Health Coalition will offer training for office staff. One medical group reported office staff training resulted in a reduction of avoidable ED visits among patients attributed to its PCPs by 28%. For more information, please call 314-721-7800 or email Patti Wahl, pwahl@stlbhc.org.

Get a copy of the Playbook at: http://www.midwesthealthinitiative.org/emergency_department_usage.php or by calling 314-721-7800.

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1. Kaiser Family Foundation State Health Facts. https://www.kff.org/statedata/
2. Kringos, et al. Europe's Strong Primary Care Systems Are Linked to Better Population Health But Also to Higher Health Spending, *Health Affairs*. April 2013: (32); 4.
3. Marcozzi, et al. Trends in the Contribution of Emergency Departments to the Provision of Hospital-Associated Health Care in the USA, *International Journal of Health Services*. October 2017: (48); 2, 267-288.

Alliance Awards STEM Students

Three young women in the junior class at University City High School received special awards from the Alliance in May recognizing their achievements in STEM projects and interest in the health care field. *Girls of Promise* awards were presented by the Alliance's Sandra Murdock to India Reedus, Annika Williams and Ayanna Allen. Their STEM group meets weekly after school during the school year and Sandra joins them monthly. India plans to attend Vanderbilt University and become an orthopedic surgeon. Annika, with a 4.0 GPA, plans to go to Arizona State University and become a neonatal nurse. Ayanna runs track and plans to be a physical therapist.

(From left) Students Ayanna Allen, India Reedus and Annika Williams receive STEM awards from the Alliance's Sandra Murdock.

Join the Alliance

All physician spouses—and physicians—are invited to become Alliance members and join in our community service and health education work. A first-time introductory membership is $25; a full membership that includes the SLMMS, MSMA and AMA Alliances is $115. For further information on membership, contact Sandra Murdock at 314-872-8429, sesandram@aol.com.

ALLIANCE UPCOMING EVENTS

AUGUST

29-30 Cabi Fashion Fundraiser
Watch for announcement of details

SEPTEMBER

Voices of Excellence program at Loyola Academy

OCTOBER

"Stop America's Violence Everywhere" and "Drugs Are Not for Me" health education programs in schools

10-11 MSMA Alliance Fall Conference
Westminster College, Fulton

NOVEMBER

Fashion Extravaganza and Fundraiser
The Vault Luxury Resale

DECEMBER

Holiday Gift Sharing Luncheon
Supporting local charities

Information

Contact Alliance co-presidents Sue Ann Greco or Kelly O'Leary

suanngreco@sbcglobal.net
kellyoleary20@gmail.com

Sylvester A. Flotte, MD

Sylvester A. Flotte, MD, an internist, died May 3, 2018, at the age of 90.

Born in St. Louis, he earned his undergraduate and medical degrees from Saint Louis University. He completed his internship at Mercy Hospital-St. Louis with a residency at the VA Hospital.

Dr. Flotte served in the U.S. Army during the Korean War from 1953-1955. He was in private practice as an internist. He was on staff at SSM Health DePaul Hospital and Christian Hospital, where he served in a number of leadership roles.

Dr. Flotte joined the St. Louis Metropolitan Medical Society in 1956, and moved to retired status in 2010.

SLMMS extends its condolences to his wife, Patricia Flotte; his children, Gregory Flotte and Karen Flotte; and his four grandchildren and one great-grandchild. He was preceded in death by his daughter Mary Flotte.

Rolf J. Krojanker, MD

Rolf J. Krojanker, MD, a psychiatrist, died May 21, 2018, at the age of 96.

Born in Chemnitz, Germany, he emigrated to Ecuador in 1939 at age 17 and obtained his undergraduate degree from Collegio Abraham Lincoln in Quito. He earned his MD and PhD in psychology from Central University of Ecuador. Upon coming to St. Louis, he completed his residency training in psychiatry at the St. Louis State Hospital.

Dr. Krojanker was in private practice while serving on staff at Saint Louis University Hospital, Mercy Hospital-St. Louis, St. Anthony's Medical Center, the former Lutheran Hospital and the former Deaconess Hospital.

Dr. Krojanker joined the St. Louis Metropolitan Medical Society in 1960, and became a Life Member in 1990.

He was predeceased by his wife, Rosalie Walinsky Krojanker. SLMMS extends its condolences to his children, David Krojanker, MD (SLMMS), Debbie Yaffe and Diane Krojanker; and his five grandchildren.

Grant A. Bever, MD

Grant A. Bever, MD, a board-certified ob-gyn, died June 30, 2018, at the age of 73.

Born in Coffeyville, Kan., Dr. Bever received his undergraduate degree from Brigham Young University and medical degree from the University of Kansas. He completed an internship at Tripler Army Medical Hospital in Honolulu, Hawaii, and his residency at the University of Missouri-Kansas City.

Dr. Bever served as a flight surgeon in the U.S. Army during the Vietnam War. For many years, he was in private practice in Kansas City, and he also served as chief of staff at Cass Medical Center in Harrisonville, Mo. After moving to St. Louis, he was director of women's health for St. Louis County, where his duties included supervision of medical students and residents from Saint Louis University and Washington University.

Dr. Bever joined the St. Louis Metropolitan Medical Society in 1995. He was honored by the St. Louis Rams as a "Community Quarterback" in 2004 for his community service.

SLMMS extends its condolences to his wife, Millie Bever, a past president of the SLMMS Alliance; and his daughter, Melody.

Theodore J. Dubuque, Jr., MD

Theodore J. Dubuque, Jr., MD, a board-certified surgeon, died June 30, 2018, at the age of 90.

Born in St. Louis, Dr. Dubuque received his undergraduate and medical degrees from Saint Louis University, where he also completed his internship and surgical residency.

Dr. Dubuque was chief of surgery at the former U.S. Army Ft. Benjamin Harrison Hospital in Indiana. Upon returning to St. Louis, he practiced surgery at SSM Health St. Mary's Hospital, SSM Health Cardinal Glennon Children's Hospital and SSM Health Saint Louis University Hospital. From 1962–1981, he was the director of surgery at St. Mary's Hospital. He was a professor of clinical surgery at Saint Louis University School of Medicine.

In 1986 and 1987, Dr. Dubuque spent six months as a volunteer surgeon and established an operating room at Hôpital Sacré Coeur in Haiti. In 1993, he founded the charitable Crudem Foundation to provide oversight to the facility, which grew from its original six beds into a 200-bed tertiary care hospital. Hôpital Sacré Coeur was named one of the 100 Projects of the Holy Father for the Year of Charity in 1999 by Pope John Paul II. Dr. Dubuque received numerous accolades for his charitable work, including the Servitor Pacis Award by the Mission of the Holy See to the United Nations.

Dr. Dubuque joined the St. Louis Metropolitan Medical Society in 1966 and became a Life Member in 2004. He was a past president of the St. Louis Surgical Society.

SLMMS extends its condolences to his wife, Carol Dubuque; his children, Sally Gordon, Charles Dubuque, Philip Dubuque, Paul Dubuque and Louis Dubuque; and his 14 grandchildren.

PARTING SHOTS

Helping Patients Manage Pain While Addressing Opioid Risks

By Richard J. Gimpelson, MD

On June 28, the U.S. Justice Department announced charges against more than 600 people in the largest opioid crackdown the nation has ever seen. Among those charged with health care fraud were physicians, pharmacists, nurses and other medical officials. Another 162 people including 32 physicians were charged with illegal distribution of opioids.

An issue not addressed by Attorney General Jeff Sessions in making the announcement is the effect on opioid prescriptions by physicians receiving marketing payments from pharmaceutical manufacturers. In fact, several pharmaceutical manufacturers are being sued for aggressively marketing opioids even after it has been shown that the drugs are being misused and abused.

As physicians, we know there is a place for opioids to relieve pain following many surgical procedures and injuries. However, there has to be a limit, and physicians have to take a proactive role in helping patients get off opioids, but still enhance relief of pain.

There are different avenues that physicians take in the management of chronic pain. Some physicians will not prescribe any opioids to their patients and refer these patients to pain management clinics. These clinics can often help with non-opioid treatments such as injections, implants, nerve stimulators and other methods. However, when these treatments are unsuccessful, the patient may be told "there is nothing more that can be done here." The patient may go back to seeking relief from opioids.

Another approach for the treatment of chronic pain without the use of opioids may be through physical medicine and rehabilitation.

Some physicians will prescribe a short course of opioids, but their empathy for the patient often evolves into long-term courses of opioids with prescription after prescription. I would like to believe that these physicians get caught up with the true desire to help these patients. Unfortunately addiction may occur and the patient then needs even more help.

What can we as physicians do? The first step is to recognize that the patient has a problem, and rather than just cutting off the drugs, one must have a serious discussion with the patient. I know this is not a big financial return, but it is the right thing to do, and can be a big step in turning the patient's life around and possibly even saving a life. There are facilities where a patient may be referred for help. Even these facilities are sometimes not easy to admit a patient for acute care, and chronic care is even more difficult and can get quite expensive.

Some insurance plans will have good coverage, but how does the patient with poor insurance get treated?

At this point, I am stumped. I welcome physician members to educate me and other members about what are new and effective treatment for chronic pain. One just needs to surf the internet to find hundreds if not thousands of medications, exercises, diets, and herbs, etc. that claim to eliminate chronic pain, but usually just eliminate money from desperate patients' bank accounts.

If we can enhance the non-opioid treatment for chronic pain, we will achieve a large reduction in opioid addiction and deaths. HELP!

Dr. Richard J. Gimpelson

Richard J. Gimpelson, MD, recently retired from his gynecological surgery practice and is a past SLMMS president. He shares his opinions here to stimulate thought and discussion, but these do not necessarily represent the opinion of the Medical Society. Your comments on this column are most welcome and may be sent to editor@slmms.org.

FOLLOW THE MEDICAL SOCIETY ON FACEBOOK

saint.louis.metropolitan.medical.society

LETTERS WELCOME

Send letters to the editor and comments to editor@slmms.org.

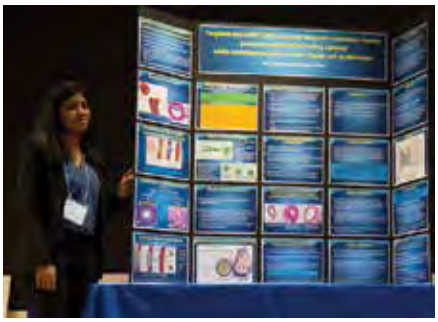
Science Fair Winners for 2018

Congratulations to the following high school and middle school students who earned top honors in the Health and Medicine category of the 2018 Greater St. Louis Science Fair. Each received an award from the Medical Society's charitable arm, the St. Louis Society for Medical and Scientific Education. Thanks also to the volunteer judges who served: SLMMS members William M. Fogarty, MD; Ralph J. Graff, MD; Ali Etemady-Deylamy DO, Alan P.K. Wild, MD; SLMMS executive assistant Liz Webb; and Saint Louis University medical students Devin Cao, George Kung and Evan Qu.

HONORS DIVISION (GRADE 11)

Divya Srihari
John Burroughs School

Targeted Anti-Restenosis Drug Therapy Preserves Endothelial Proliferation Healing Capacity



GRADE 12

Zora Wilmering
LOGOS School

Home Remedies vs. Placebos

GRADE 11

Maggie Hannick
St. Joseph's Academy

The Effect of Sun Protection Factor (SPF) on the Blockage of UVA+UVB Radiation

GRADE 10

Campbell Stewart
Parkway West High School

The Effect of the Type of Pain Reliever on the Time Taken for Medication to Dissolve

GRADE 8

Francis Alford
Christ the King School

Does Drinking Soda Give You High Blood Pressure?

GRADE 8

Aaradhya Diwan
Wydown Middle School

Chemotaxis Assay in C.elegans to Understand the Evolutionary Basis for Human Food Choices: Does Evolution Make Us Fat?

GRADE 7

Serena House
McKinley Classical Leadership Academy

The Dark Side of Crystals

GRADE 6

Tasheem Dizdarevic
Gateway Science Academy of St. Louis

Who Can Distinguish Intensity of Smell?

SLMMS members and SLU medical students volunteered as judges.

WELCOME NEW MEMBERS

Thank you for your investment in advocacy, education, networking and community service for medicine.

Jessica D. Bauerle, MD
615 S. New Ballas Rd., 63141-8221
MD, Univ. of Colorado, 2010
Born 1982, Licensed 2015
Active
Cert: Pediatric Anesthesiology

Kevin T. Bauerle, MD
660 S. Kingshighway #8127, 63110-1010
MD, Univ. of Colorado, 2012
Born 1983, Licensed 2018
Resident/Fellow
Endocrinology

Ali Etemady-Deylamy, DO
2345 Dougherty Ferry Rd., 63122-3313
DO, Kirksville College of Osteopathic Medicine, 2015
Born 1988, Licensed 2017
Active
Internal Medicine

Kenneth A. Haller, Jr., MD
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MD, Creighton Univ., 1980
Born 1954, Licensed 1988
Active
Cert: Pediatrics

Mark A. Hurt, MD
2326 Millpark Dr., 63043-3530
MD, Univ. of Missouri-Columbia, 1982
Born 1956, Licensed 1982
Active
Cert: Anatomic & Clinical Pathology/ Dermatopathology

Joan Shaller, MD
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MD, Northeastern Ohio Univ., 1983
Born 1958, Licensed 1986
Active
Cert: Critical Care Medicine

Jaclyn A. Tomsic, MD
4540 Lindell Blvd., 63108-2040
MD, Wayne State Univ., MI, 2010
Born 1979, Licensed 2014
Active
Oral & Maxillofacial Surgery

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