Missouri Medicine

The Journal of the Missouri State Medical Association www.msma.org May/June 2014

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Missouri Medicine

The Journal of the Missouri State Medical Association - Since 1904

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About *Missouri Medicine*

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Secondary Gain, Gone with the Wind & the SGR

by Charles Van Way, III, MD

Secondary Gain:
Any advantage, as increased attention, disability benefits, or release from unpleasant responsibilities, obtained as a result of having an illness.
www.dictionary.reference.com

Fixing the sustainable growth formula for Medicare reimbursement (SGR) has been a top objective of organized medicine for the last 10 years or so. Foisted on us as part of an ill-conceived attempt to control Medicare costs, it has resulted in an annual effort to persuade Congress to stave off large reductions mandated by the formula. Every year, a true reform package gathers a hundred or so sponsors in the House. Every year it fails to pass. Congress enacts the "doc fix" at the latest possible moment, and we go on for another year. This has happened 17 times in the past 11 years. Why?

Well, the usual explanation is simple Congressional incompetence. Admittedly, that's always a strong bet. Ardis Hoven, MD, the American Medical Association (AMA) President, blames the result on "political interests." She vows to keep trying to get the SGR repealed. Of course she does. Whoever is AMA President when and if the SGR is finally repealed will have a reputation for life. She will be The One. A lifetime on the lecture circuit. But with due credit, Dr. Hoven's explanation is only partly right.

The relationship between Congress and the AMA is very much like that doomed romance between Scarlett O'Hara and Rhett Butler in Gone with the Wind. Remember it? The Old South crumbles around them as they carry out their endless round of love-me / love-me-not. Finally, they're left with almost nothing, not even each other. I'm not sure that the health system is the Old South, but the relationship between Scarlett and Rhett is spot-on.

Let us consider secondary gain. We're all familiar with the concept. A patient may have an illness, which is a Bad Thing. But…there are some benefits to that illness, such as not having to go to work, being able to stay in bed all day, and so on. Anybody remember having ice cream after a tonsillectomy when we were kids? For those of you who were too young to have had tonsillectomies, go listen to Bill Cosby.[1]

Medicare has an illness. It's called Bad Law. The thing is, when I write a bad editorial, you all just say, well, Van Way is at it again. Then you go about your business. But when Congress writes a bad law, the rest of us spend the next decade or so trying to get it corrected.

This whole SGR thing was enacted in 1997, in complete ignorance of economic reality. Unsurprisingly, it hasn't worked out. Congress knows that. Everyone knows it. Congress has been passing "doc fixes" since 2003. But…if you're a Congressman, it's not so bad. Every year, a whole bunch of doctors come around to see you. And they give you money to get re-elected, which is very important to you. And most important of all, they don't bother you about questions you don't want to answer. Like, why has the government closed all the psychiatric hospitals? Why don't we have a better health system? What about tort reform? There isn't any good answer to all of these things, mainly because Congress really is incompetent. But the SGR… well! Your



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Congressman will smile, and lean forward, and say to you, "Yes! You're right! We know the SGR needs to be repealed. And I've sponsored legislation to do that very thing!" Then an aide comes in with a camera, everyone poses for a picture, and before you know it, you're out in the hall, wondering just what happened. There are Congressmen and women who have been doing this to us for six terms (two terms for Senators).

This pretty much defines secondary gain. As long as they maintain an illness (i.e., the SGR). Congress lets an entire profession devote all of its lobbying efforts to getting it fixed. Look at it from their standpoint. If Congress were to cure the illness (i.e., repeal the SGR), who knows what those pesky doctors would come up with? And would they still give us re-election money? You may recall, the AMA supported the Affordable Care Act in return for a promise to repeal the SGR. The AMA President that year wanted to be The One. Whatever you think about the ACA, that deal didn't work out so well, did it?

The bitter truth is that Congresspersons don't really care how much doctors get paid by Medicare. Why should they? Truth be told, most of them think we're overpaid anyway. Moreover, as long as doctors are worrying about a 24% cut (this year), we're not pushing Congress to do other things. In return for the minor inconvenience of passing the "doc fix" every year, they've silenced our entire profession. The real danger is that some year soon, they'll fail to get the "doc fix" through. And we'll take a large pay cut. Then…who knows? Maybe we'll just hunker down and take it. In which case, we'll see more cuts in the future. Or maybe not. Maybe a lot of us will just close our doors, limit our practices, or retire. In either case, patients get hurt somewhere down the road. Not a nice choice, eh?

Well, there's always next year. As Margaret Mitchell wrote in *Gone with the Wind*, "After all, tomorrow is another day." And so it is. Perhaps the AMA is simply channeling Scarlett O'Hara? Possibly. But personally, I think organized medicine is channeling Rhett Butler, "I've always had a weakness for lost causes once they're really lost."

References

1. Bill Cosby, Tonsils. https://www.youtube.com/watch?v=8Pr8omZImvY

MM

1 Picture = 1,000 Words

Breaking Down the Payments

Medicare disclosed payments of $77 billion in 2012 to more than 880,000 doctors and other medical providers for services and equipment. The breakdown for the top 15 medical specialties ranked by average paid to individual billers:

Provider type	Number of providers	Total paid in millions	Average amount paid per provider
Hematology/oncology	7,374	$2,703.9	$366,677
Radiation oncology	4,135	1,499.6	362,666
Ophthalmology	17,067	5,585.0	327,239
Medical oncology	2,613	806.6	308,702
Portable X-ray	7	2.0	288,020
Rheumatology	4,053	1,044.5	257,701
Nephrology	7,503	1,685.6	224,657
Cardiology	22,241	4,965.3	223,248
Dermatology	10,507	2,235.3	212,745
Interventional pain management	1,856	366.1	197,229
Peripheral vascular disease	74	14.3	193,441
Hematology	687	127.6	185,757
Cardiac electrophysiology	1,117	204.0	182,641
Vascular surgery	2,696	485.3	180,019
Urology	8,791	1,385.4	157,589

Source: Centers for Medicare and Medicaid Services

The Wall Street Journal

Kansas Legislature Passes Health Care Cost Transparency Bill: Real Time Explanation of Benefits

by Kansas Senator Jim Denning

This legislation is a giant step in the right direction of simplifying the complex business side of health care transactions. Hopefully, it will serve as an impetus for Missouri and all states to adopt.

The Kansas legislature tackled the desperate need for health care transparency head on with the passage of House Bill 2668. We have all received the surprise medical bill thirty days after we received medical care. High deductible plans and high co-insurance plans now dominate both the private sector plans and the Affordable Care Act (ACA) Exchange plans. The need for cost transparency is a vital issue for physicians, hospitals, other health care providers and most important patients.

Patients are being coerced into managing and paying a larger part of their health care expenses. Providers are required to collect more out of pocket expenses directly from the patient. Yet, neither the patient nor provider can easily estimate the out of pocket costs until after the insurance company processes the claim. This can take months.

A typical health care expense is made up of three components: 1) co-payment, 2) deductible, 3) co-insurance. The co-payment is a fixed amount and is due at the time of service. The deductible is the portion of medical expenses the patient is 100% responsible for up to a certain amount. Co-insurance is the cost share between the insurance company and the patient once the deductible is met. Figure 1 shows a typical breakdown of a non-emergency medical procedure. You can see that the patient has become more financially responsible for non-catastrophic procedures than the insurance company.

The Kansas legislature wanted to have a good policy solution that used technology, did not require 'reinventing the wheel', and was integrated within practice management software systems. The legislature looked to the Accredited Standards Committee (ASC) for a solution. For over thirty years, the ASC has developed standards for the exchange of electronic business information including many standards developed specifically for the health care industry. Since the late 1990s the Health Insurance Portability and Accountability Act (HIPAA) has adapted a number of ASC standards which are now the bedrock of electronic transmissions in the health care industry. The most common transaction sets are the electronic claims submission (837), electronic remittance advice (835), and the eligibility inquiry (270). The 837, 835, and 270 transaction sets are all included in HIPAA version 5010 and are used daily by all medical providers and their staffs to process health care transactions.

The insurance industry, medical providers, and clearinghouses (which process and standardize transactions between health care entities) worked with the ASC to develop a business transaction set to determine an estimate of patient out of pocket costs prior to the patient receiving the services. The two transaction sets developed by ASC to electronically query to obtain patients predetermination out of pocket expenses are known as 837-P and 837-I. The "P" stands



Jim Denning is serving his first term in the Kansas Senate and was the sponsor of the bill. He represents district 8 in Overland Park, Kansas. Jim is the retired CEO of Discover Vision Centers.
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Figure 1

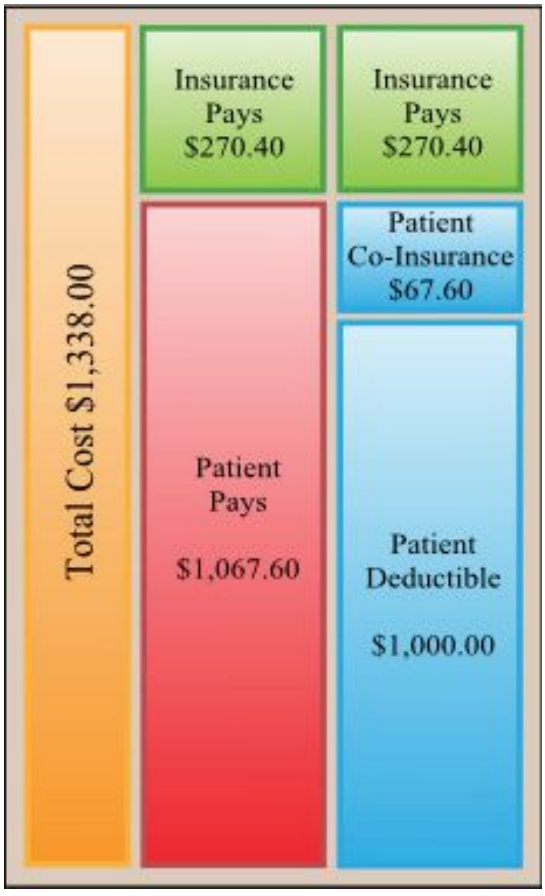
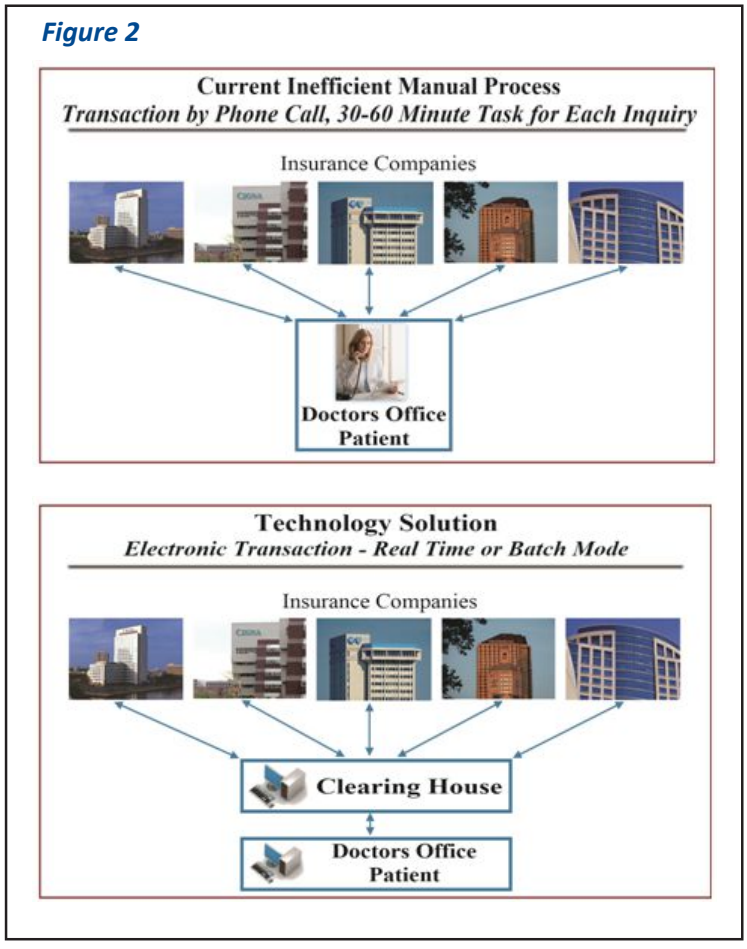


Figure 2



for 'professional' and the "I" stands for 'institutional.' The transaction sets were published in 2008 but did not get included in the release of HIPAA 5010 in 2009. As a result, the insurance industry currently does not recognize the predetermination of cost transaction sets.

With the legislation contained in HB 2668 health insurance companies doing business in Kansas will add the 837-P and 837-I to the latest version of HIPAA and support and respond to all health care industry requests for the transaction sets.

In a nutshell Kansas health care providers will be electronically communicating with the insurance company's adjudication databases to get a non-binding estimate of patients non-emergency out of pocket expenses in real time or overnight batch mode (submitting a large number of requests after office hours). The legislation has become known as Real Time Explanation of Benefits, (Real Time EOB). The legislation will move the health care industry from an inefficient, expensive, time-consuming manual telephone call process to a highly efficient computer-to-computer integrated technology solution. Figure 2 shows the transition from manual to automated process.

Knowing the out of pocket costs of non-emergency health care services is part of the informed decision process between a physician and patient. Real Time EOB will help prevent financial "sticker shock' and 'buyer's remorse' by patients. Patients need to know the financial obligation they will incur as well as being able to have time and ability to satisfy it. Knowing what out of pocket expenses will be due is important in the rapidly changing health care environment. Patients may be purchasing health care for the first time and will be unfamiliar with their co-payment, deductible, and co-insurance responsibilities. Physicians should have an easier time with collections and fewer complaints by patients of not being informed of unexpectedly large out of pocket expenses.

This legislation is a giant step in the right direction of simplifying the complex business side of health care transactions. Hopefully it will serve as an impetus for Missouri and all states to adopt. **MM**

The Skinny on Obesity

by Peter J. McDonnell, MD

The poor in America are less likely to be thin and significantly more likely to be obese than are their fellow citizens who live above the poverty level.

As a school project, my son once looked into the work of Dorothea Lange, a famous photographer who documented rural life in the Western United States during the Great Depression. She was employed by the Farm Security Administration of Franklin Roosevelt's administration, with the intent that her pictures of poor and hungry Americans would galvanize support for the president's initiative, known as the "New Deal." Essentially, she was hired by the government to provide propaganda in support of government policy.

Many of the photographs appeared in *Life* Magazine, as well as other national media. Propaganda or not, much of her work is fascinating. If you "Google" the photographer's name, you will see these iconic images of poor (and hungry) Americans as they lived some 80 years ago. And, you will be impressed by how remarkably thin are the subjects.



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Today, it's a different story. The poor in America, on average, are less likely to be thin and significantly more likely to be obese than are their fellow citizens who live above the poverty level. Hence the epidemic of diabetes and diabetes-related eye disease.

Why is this the case?

Here's an interesting factoid: The US Supplemental Nutrition Assistance Program (aka food stamps) is the largest means-tested social support program in our country. At a cost of $6.3 billion per month, 47.6 million people (15% of the population) are given financial support to buy food.

Beyond this, with school lunch programs and other governmental food supplies, a total of some 100 million Americans (about one-third of our population) were given food by Uncle Sam last year. The poor, as a result, are not thin the way they used to be, but rather are significantly more likely to meet the elevated body mass index levels required to qualify for the diagnosis of obesity.

The upshot is that if Lange were alive today, the subjects of her pictorials would be not thin, but plump. The farm programs initiated by Roosevelt in the 1930s, some might say, have ultimately proven too effective, at least according to the bathroom scales and the obesity-related illnesses that plague our citizens.

What do we do now?

Some, like Mayor Bloomberg of New York, believe the answer is restrictions on the size of servings of food and beverages that vendors can sell. Others criticize this as an attempt of a "nanny state" to micromanage our lives. Some believe that financially penalizing those who are not able to maintain their weight in a healthy range, by charging them more for health insurance, will modify behavior. Others argue that such an approach, making the overweight or smokers pay more for health coverage, is unethical or should be made illegal. Some believe that better education about healthy eating habits in our public schools will solve the problem.

My idea is that we only allow the government to supply or fund the purchase of healthy food. This is the kind of food that is nutritious and filling but that virtually defies someone to overindulge enough to become obese.

For example, instead of pasta, potato chips, and soda, we would provide broccoli, tomatoes, apples, and skim milk. Everyone who is not a smoker gets a daily multivitamin with the AREDS formula in hopes of reducing the risk of age-related macular degeneration.

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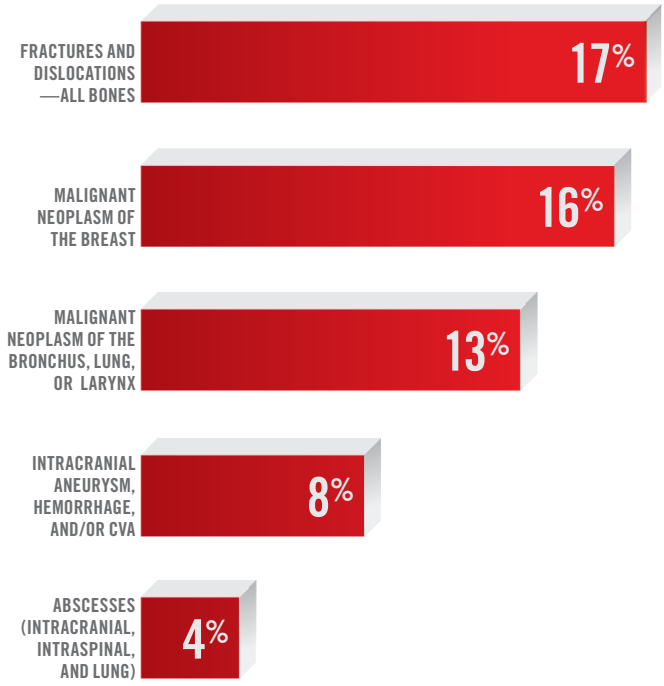
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RADIOLOGY CLAIMS MOST FREQUENTLY LINKED TO FAILURE OR DELAY IN DIAGNOSIS
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Providing Patient-Centered Care, Education & Research to Benefit Missouri

by Leslie W. Hall, MD

Beginning in 2016, a portion of the medical school class will complete the final two years of their clinical education in Springfield, Missouri, in collaboration with CoxHealth and the Mercy Health System.



Leslie W. Hall, MD, MSMA member since 2012, serves as interim dean of the University of Missouri School of Medicine.
Contact: HallLW@health.missouri.edu

The University of Missouri (MU) School of Medicine was established in Columbia as the first publicly-supported medical school west of the Mississippi River in 1872. The school was transformed into a four-year program in 1957. Construction of University Hospitals and Clinics in 1960 provided a major addition to the academic campus.

The mission of the MU School of Medicine is to improve the health of all people, especially Missourians, through exemplary education, research, and patient-centered care. Of the more than 7,700 medical school alumni, approximately 45 percent entered practice in Missouri, making MU School of Medicine the largest contributor to the physician workforce in Missouri. The MU School of Medicine's graduate programs also train scientists for Missouri, with 168 graduate students currently enrolled in programs ranging from physiology to health informatics.

Education

The education mission of MU School of Medicine is to educate physicians to provide effective patient-centered care. That means producing graduates who achieve excellence in these key characteristics:

- Able to deliver effective patient-centered care.
- Honest with high ethical standards
- Knowledgeable in biomedical sciences, evidence-based practice, and societal and cultural issues.
- Critical thinker; problem solver
- Able to communicate with patients and others.
- Able to collaborate with patients and other members of health care team.
- Committed to improving quality and safety.
- Committed to life-long learning and professional formation.

The school uses case-based learning with groups of eight students, initially called problem-based learning and now referred to as patient-based learning (PBL), as a cornerstone for delivery of the medical curriculum. Since introducing this curriculum in 1993, MU School of Medicine students have scored far above their peers in medical licensing exams and in subsequent residency program director reviews. The themes of patient safety, quality improvement and team-based care delivery are interwoven throughout the four-year curriculum through a variety of interprofessional learning opportunities ranging from error disclosure training to training

in interprofessional communication in the Russell D. and Mary B. Shelden Simulation Center. The MU School of Health Professions, the MU Sinclair School of Nursing, and the University of Missouri-Kansas City School of Pharmacy are valuable partners in developing and improving the interprofessional educational offerings to our students. This groundbreaking work was recognized by the receipt of the Duncan Neuhauser Award for Curricular Innovation from the Academy for Healthcare Improvement in 2011. In December 2013, the American Association of Medical Colleges (AAMC) presented its Learning Health System Challenge Award to Dr. Linda Headrick, senior associate dean for education and the Helen Mae Spiese Distinguished Faculty Scholar, and to the MU School of Medicine medical education team, honoring their innovation in medical education.

The Harry S. Truman Memorial Veterans' Hospital, the Rusk Rehabilitation Center, dozens of health systems throughout Missouri, and hundreds of community-based physicians serve as important partners in both medical student education and graduate medical education.

Rural Track Training Programs

Our rural track training programs serve as a national exemplar, with 15.5 percent of our graduates practicing in rural areas (national average 10 percent). The MU School of Medicine partners with health systems, clinics, and providers in over 60 towns and cities throughout Missouri to provide training to students as part of the Rural Track Clerkship Program and Rural Track Elective Program. The Bryant Scholars Program and the Summer Community Program help medical students better understand the rewards of practice in a rural environment.



MU School of medicine students participate in interprofessional team training in the Russell D. and Mary B. Shelden Clinical Simulation Center. From Left, Sakshi Mathur (medical student), Jakheera Allums (health professions student), Ashley Sweeney (medical student), and Mackenzie King (nursing student) examine a mannequin.

Patient-Centered Education

The theme of patient-centered care is integrated throughout the pre-clerkship and clerkship curriculum. Cases studied by first- and second-year students are often introduced by having the students obtain the history from a simulated patient in our simulation center. All students are required to complete a patient-centered objective structured clinical examination (OSCE) at the end of their third year, demonstrating that they possess the skill sets needed to provide patient-centered care in a variety of complex clinical situations. Dozens of our students participate in the annual Legacy Teachers' Program. In this program, third-year medical students are asked to reflect on patients who have had a lasting impact on the students' ability to provide patient-centered care. Students submit essays, artwork or poetry describing the patients' contributions to their lifelong development, as a way to thank and honor their Legacy Teachers for the powerful lessons they have taught them. Participating patients and their families are invited to join the students at an annual luncheon.

Springfield Clinical Campus Expansion

In 2013, the Missouri legislature appropriated funds to expand the MU School of Medicine class size by 33 percent. This year, the entering class size will expand from 96 to 104, expanding further to 128/year following expansion of the School of Medicine educational spaces. Beginning in 2016, a portion of the medical school class will complete the final two years of their clinical education in Springfield, Missouri, in collaboration with CoxHealth and the Mercy Health System. This partnership will provide the students of our school with outstanding clinical learning opportunities while expanding the physician workforce to meet projected needs.

Graduate Medical Education

The MU academic medical center is home to 38 graduate medical education programs, with a total of 424

residents and fellows currently in training. All residency and fellowship programs currently enjoy full accreditation by the Accreditation Council on Graduate Medical Education.

Research

The MU School of Medicine is fortunate to be located on the MU campus, in close proximity to the Harry S. Truman Veterans Administration Hospital, Sinclair School of Nursing, School of Health Professions, and the Colleges of Agriculture, Food and Natural Resources (CAFNR), Veterinary Medicine, Engineering, and Business. In addition, MU is home to the largest university research nuclear reactor in the U.S. The MU School of Medicine leverages the close physical proximity to all of these partners to create collaborative research initiatives such as our Biodesign and Innovation Program, radiopharmaceutical development program, and comparative medicine programs in orthopedics and oncology.

In fiscal year 2013, research expenditures of the MU School of Medicine totaled $33.9 million, and total sponsored programs expenditures equaled $50.3 million. Specific research focus areas in the MU School of Medicine include:

- Microbiology and virology
- Cardiovascular diseases
- Outcomes research and informatics
- Nutrition and health
- Neurosciences
- Regenerative medicine
- Cancer therapeutics and diagnostics
- Developmental origins of disease

Clinical Care

University of Missouri Health Care (MU Health Care), based in Columbia, Missouri, is a vital clinical partner in helping the MU School of Medicine achieve all of its missions. Over the past five years, MU Health Care has expanded health care facilities with the opening of a new Ellis Fischel Cancer Center and a new Inpatient Care Tower. Specialty hospitals for orthopedics, psychiatric care, and women's and children's care have been added to our system. Increasing patient volumes have led to significant expansion of our clinical faculty and new environments and opportunities for medical education. The MU School of Medicine and MU Health Care are jointly working to improve clinical outcomes, improve patient satisfaction, and provide cost-effective care.

The Rusk Rehabilitation Center, the Harry S. Truman Memorial Veterans' Hospital, and numerous additional hospitals and clinics throughout Missouri serve as important clinical partners in care delivery. The Missouri Telehealth Network now includes 202 telemedicine sites located in 62 Missouri counties.

MU School of Medicine at a Glance

People

- Medical students: 385
- PhD and master's degree students: 168
- Residents and fellows: 424
- Faculty: 666
- Staff: 1,244

Clinical Facilities

University of Missouri Health Care

- Ellis Fischel Cancer Center
- Missouri Psychiatric Center
- Missouri Orthopaedic Institute
- Missouri Rehabilitation Center
- University Hospital
- Women's and Children's Hospital
- 51 outpatient clinics
- Total staffed beds: 545
  - Major surgical operations: 23,135
  - Patient admissions: 23,956
  - Emergency and trauma center visits: 54,375
  - Clinic visits (all sites): 568,675

Responding to Changes in Academic Medicine

Throughout the U.S., academic medical centers are under pressure as they adjust to declining clinical reimbursement rates and seek new sources of funding for educational programs and research. Going forward, successful academic medical centers will need to better integrate all of their key missions, align their educational systems with their clinical partners, leverage diversity to increase effectiveness, and employ the principles of continuous improvement to enhance efficiency. In the years ahead, the MU School of Medicine believes we can continue to build on our history of success by adapting our methods, while staying true to our core mission and values. **MM**



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Doctors Extending Their Education

Why an MBA? Is It a Degree of Success?

by Adrian J. Delaney, III, MD, Bridget McCandless, MD & Jeffrey B. Kramer, MD

Unless we can speak the language of business, understand the complexities of health care delivery, and see the health care world from a practical vantage point, we will be powerless.

Adrian J. Delaney, III, MD, MBA, is in private practice at the Clay Platte Family Medicine Clinic. Bridget McCandless, MD, MBA, is President/CEO of the Health Care Foundation of Greater Kansas City. Jeffrey B. Kramer, MD, MBA, is a cardiovascular surgeon at the University of Kansas Medical Center. Contact: ajdiii@hotmail.com, bmmcca@comcast.net, jbkramer@kumc.edu.

My MBA Degree Helps Me Be a Better Advocate for Patients & Our Profession of Medicine

-Adrian J. (AJ) Delaney, III, MD
MSMA member since 2006



I wanted to be a primary care physician from day one. Once I had made up my mind that becoming a physician was part of my calling, the goal was always to be the best physician for those who needed guidance in health prevention or management of chronic disease states. It was early in my medical school career when I realized this was not the only piece of the puzzle that I had to build on to allow my calling to unfold. As physicians, we inherently want the autonomy to do what is right for our patients. Unfortunately our reality was shaken up drastically over the last several decades. Practicing medicine comes with numerous road blocks and hurdles that counter-intuitively attempt to keep us from delivering high quality care.

Let's face the reality: we practice in an environment where we are told what is acceptable for our patients on any given day. Whether it is medicines, procedures, or other ancillary services, someone else decides what is best for our patients. The decision-makers have never put a stethoscope on a patient's heart or listened to a patient's history, yet they give the final word on our patient's lives and health outcomes. These people are following "protocols" or their company's bottom line and it greatly affects our patients' well-being. Therefore, the only logical response is to advocate for medicine and get outside our own comfort zone and fight.

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- Understand how organizations and health systems function, and explore new governance models and best teamwork paradigms from a wide variety of industries.
- Formulate and implement a vision, mission and business strategy in a way that fosters common purpose and teamwork.
- Identify and analyze issues, formulate and communicate plans, and apply appropriate resources to accomplish tasks.
- Set up a practice with the flexibility to meet change and take advantage of opportunities.
- Lead organizations to attract and retain excellent staff in a highly competitive job market, understanding current legal and employment issues/concerns.
- Use technology, resources and information in a way that maximizes efficiency and improves effectiveness.
- Apply self-management skills to practice medicine and manage organizations with insight, and to balance personal needs with the greater good of stakeholders.

U.S. News & World Report's 2014 Best Graduate Schools ranked Rockhurst University's Management MBA No. 21 in the nation.

I was set to start my residency in family medicine and could see the light at the end of a long tunnel filled with endless education and training. I had spent many sleepless nights trying to master the art and science of the human body in medical school and was ready to refine my knowledge in residency. It was around this time that I had a memorable conversation with my father, a pediatric anesthesiologist, which unfolded along a very clear theme: "Don't go into medicine because you can make a good living. Make sure you want to help people first, and then deal with the hassles of our health care environment second."

Fortunately, his generation of physicians was given the respect they deserved and the livelihood was "allowed" based on the inherent responsibility that physicians accepted. As we all know, this slowly but surely began to dwindle away with political, commercial, and economic pressures. It was during this revelation that I decided to complete a three-year Master of Business Administration (MBA) program in health care leadership for physicians at Rockhurst University.

Completing an MBA was my opportunity to understand the anatomy of our health care system not only in our country, but worldwide. I knew early that the days of Marcus Welby MD were over and physicians were no longer granted anything. I also knew that I needed to better myself not only as a physician, but as a leader and a visionary in health care in order to provide the kind of care my patients need and deserve.

With an MBA education, I am very active in health care advocacy, both locally and national. I was an AMA alternate delegate for four years and learned about the intricacies of organized medicine. Most important to date, I helped form an Independent Physicians Association (Kansas City Metropolitan Physicians Association) in an attempt to provide independent physicians an opportunity to remain self-sufficient. We are currently involved in the Medicare Accountable Care Organization project that has enabled us to learn how to manage real, quality data (not a star system based on claims) and truly understand population management. We believe this will help physicians provide high quality care and, in turn, improve patient outcomes. The end goal is to eventually bend the cost curve in the right direction without sacrificing what is right for our patients. Navigating new payment models is not only daunting; it is unnerving to all of us. We are holding strong to our vision as independent physicians to get back to doing what is right for our patients and being recognized for the hard work that such an endeavor takes.

As important, further education in business taught me how to run a better clinic from a day to day operations standpoint. Our practice, Clay Platte Family Medicine Clinic, was the first in Kansas City to achieve Level 3 Patient Centered Medical Home status, and has since recertified. Creating a sound care delivery model with a solid business foundation allows us to practice independent of hospital system influences. Unfortunately, our colleagues across the country are relinquishing their independence involuntarily (usually financial hardships) and at a fairly rapid pace. Within the last two years, independent physicians are now a minority of practicing physicians. Therefore, we strive for exceptional internal leadership, a sound operations model, and physician willingness to continue to practice independently. In turn, we are able to provide the kind of care we know our patients need and deserve.

It should go without saying that placing the letters "M.B.A." behind my name does not guarantee anything.

Yet, if the knowledge is used to its fullest, it can provide a tremendous tool to help navigate the unstable health care environment with which we practice. I have been armed with the knowledge and taught the leadership skills necessary to fight for the wellbeing of our patients and the survival of our physician calling. If we don't put the "extra" energy to fight the good fight, we will lose everything that our profession was founded on. Our journey to become physicians began with a drive to master the human body, but now we must also strive to master our health care culture. That is if we wish to provide high quality care for our patients the way it was meant to be delivered.

The Experience of a Lifetime

-Bridget McCandless MD, MBA
MSMA member since 2011



I was never interested in business-that's why I went to medical school. I remember my professor of neurosurgery telling me that I needed to read the New England Journal of Medicine, not for the scientific articles, but because I was obligated to understand the other forces that affect the delivery of health care. I thought to myself "Thank you very much but I have enough to learn with all of medicine on my plate!"

After residency training, I joined an internal medicine private practice group. I thought of my professor's advice often as I realized the number of skills I needed outside of diagnosing and prescribing. I needed to understand the difference between cash flow and balance sheets, how to navigate contract language, how to hire the best people, and how to lead a multidisciplinary team.

After seven years of practice, I went back to school. Being hip deep in the trenches of medicine was a great place to recognize the (many) mistakes I had already made. I now have the opportunity for immediate practical implementation of the lessons learned in MBA classes. This was also the time I discovered my passion for the world of health policy. I will refrain from embarrassing myself by skipping over my near total ignorance of the structure, regulation and financing of health care. Needless to say, I had a very steep learning curve which has now continued for 10 years. Most helpful for me was discussion with my thoughtful colleagues about health issues. Having to think through my own positions and recognize alternative perspectives helped me do a great deal of growing. That education helped to enhance my work around health equity and poverty medicine and led me to my new role at the Health Care Foundation of Greater Kansas City. My MBA is an experience I would not trade.

Why an MBA? Is It a Degree of Success?

-Jeffrey B. Kramer, MD, MBA



As practicing physicians, our lives are busy and complicated. Most of us have very full plates - medicine, family commitments, hobbies, and necessary down time. We have all spent decades pursuing educational goals that we feel important. Why should any of us contemplate spending our valuable time in pursuit of an additional degree – the Master of Business Administration or MBA?

In my experience the investment has been well worth it; but of course we each have to answer that for ourselves. We each have to consider what we really hope to accomplish in our careers and our lives.

I completed the three-year health care MBA program at Rockhurst University in 2007. It was challenging to accomplish given the constraints on my time to be sure. The weekends, night classes, and out of class assignments were all time-consuming but manageable. I found myself missing the interaction with colleagues when it was all over. What I most enjoyed were two things: looking at the world (including the health care world) from a completely different vantage point and being able to bounce all kinds of ideas off of fellow students and faculty. I also learned to look at all the information we receive on a daily basis (especially from the media) with utmost skepticism.

So, returning to the original question, how can this investment in time be justified? From my standpoint, physicians need to gain control over the health care system. Unless we can speak the language of business, understand the complexities of health care delivery, and see the health care world from a practical (i.e. business) vantage point, we will be powerless. This is true for employed and independent physicians alike.

Physicians need to be involved. We can sit back and allow events to overtake us, but many of us want to make an impact on the world and make it a better place. If we as individuals don't step up and lead, who will? The MBA gives us tools to get there. Influence depends on numbers. As individuals alone, we will have very little sway over events, but this can all change when we organize as like-minded physicians. Leadership principles we acquire in these programs can make a big difference. **MM**

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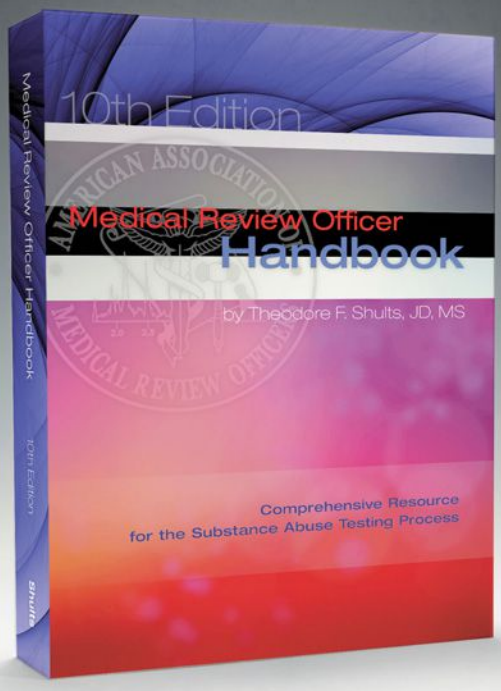
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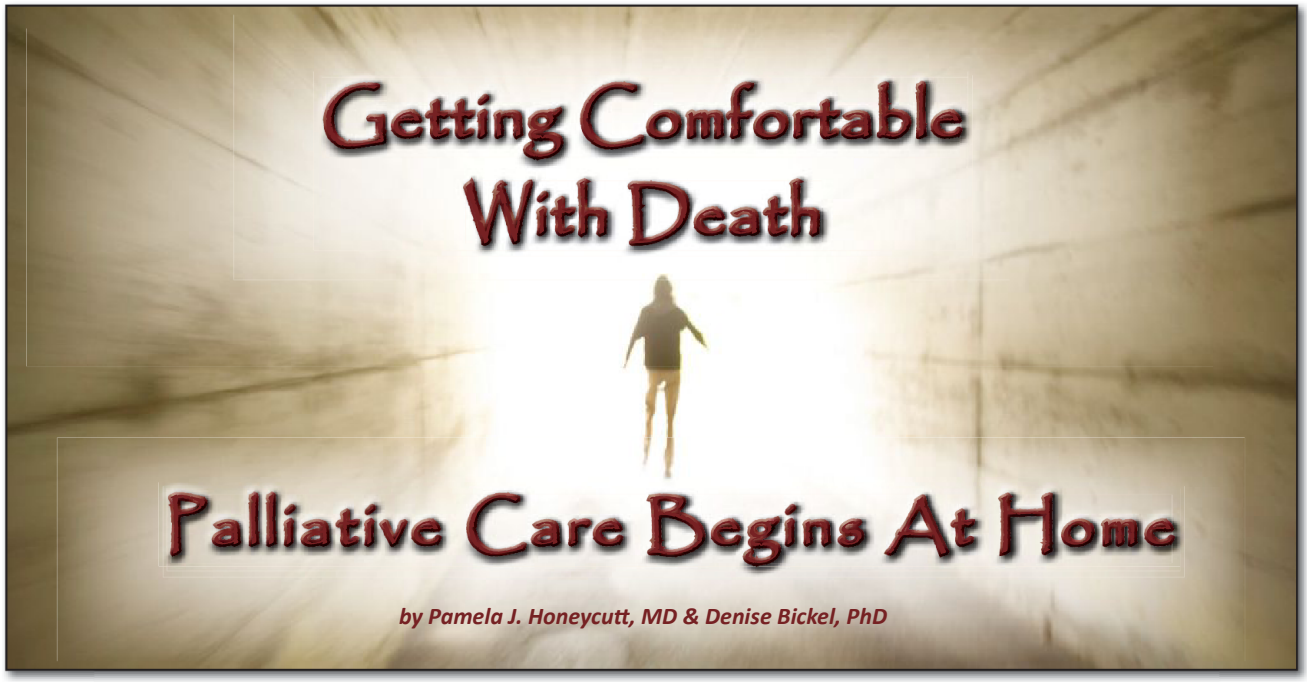


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Patients with early palliative care have better quality of life, less depression, less aggressive end of life care, and may live longer.



Pamela J. Honeycutt, MD, PhD, FACP, MSMA member since 1990 and Missouri Medicine Editorial Board member for Oncology and Hematology, and Denise Bickel, PhD, MSW, LCSW, are with Missouri Cancer Associates in Columbia.
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Abstract

Palliative care is multidimensional care of patients with life-limiting diseases concurrent with active disease management, together with support for their caregivers. Components of primary palliative care include management of physical and psychological symptoms and discussions about goals of care and end of life wishes. Primary care physicians and all specialty physicians should provide primary palliative care for their chronically ill patients. This paper reviews the benefits of palliative care and provides resources for its implementation.

Introduction

As Americans age in epidemic proportions, the need for care that addresses the complex physical and biopsychosocial (i.e., psychological, social, emotional, spiritual) needs of patients and their caregivers becomes crucial for every medical specialty. Palliative care is an approach to the care of patients with chronic, life-limiting illnesses that improves the quality of life of patients and their families/caregivers by addressing physical symptoms and biopsychosocial concerns while the patient is concurrently receiving disease-specific treatment (See Table 1). Simply put, palliative care is the routine care of patients and the amelioration of their spiritual, emotional, psychological, and physical symptoms, along with care and concern for the well-being of their caregivers. The emphasis on both patient and caregiver is vital as both may experience significant physical and emotional burdens at varying stages of the disease trajectory.

Palliative care was once considered synonymous with cancer care and hospice services. Palliative care should begin at the diagnosis of a life-limiting illness and continue throughout the disease trajectory. Hospice care is a continuation of palliative care during the last six months of life when disease-specific therapy is no longer effective or no longer consistent with a patient's goals of care. In addition to oncology, multiple other medical specialties now recommend integration of palliative care into disease management. The American

Heart Association details an exemplary approach to palliative care as it relates to heart disease in *Decision Making in Advanced Heart Failure*.[1]

In a perfect world, physicians would have unlimited time and adequate reimbursement to discuss patients' goals of care, advance care planning, and end of life wishes, while simultaneously addressing their underlying disease management. There would be an abundance of palliative care specialists (an interdisciplinary team of palliative care physicians, nurses, social workers, and spiritual counselors) to address symptom management and psychosocial issues, and to coordinate and manage care across all settings. The end result would be a patient-centered plan of care that serves as an algorithm to guide treatment decisions throughout the disease trajectory.

In reality, there are only about 6,300 physicians board certified in Hospice and Palliative Medicine;[2] not all hospitals have palliative care services; and outpatient non-hospice palliative care availability is limited outside of a university or large city setting. It is therefore imperative that primary care physicians and specialty physicians caring for patients with chronic, life-limiting diseases provide primary palliative care to their patients. As proposed by Quill and Abernethy,[3] all physicians should provide basic management of pain, other physical symptoms, depression, and anxiety, and conduct basic discussions about prognosis, goals of care, and code status. Such efforts will result in better patient care, improved patient and caregiver satisfaction, and more effective utilization of medical services.

Table 1
World Health Organization Definition of Palliative Care*

- Provides relief from pain and other distressing symptoms
- Affirms life and regards dying as a normal process
- Intends neither to hasten or postpone death
- Integrates the psychological and spiritual aspects of patient care
- Offers a support system to help patients live as actively as possible until death
- Offers a support system to help family cope during the patients illness and in their own bereavement
- Uses a team approach to address the needs of patients and their families, including bereavement counseling, if indicated
- Will enhance quality of life, and may also positively influence the course of illness
- Is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy

**World Health Organization Page. Available at: http://www.who.int/cancer/palliative/definition/en. Accessed December 26, 2013.*

Benefits of Palliative Care

In a landmark study of patients with metastatic non-small cell lung cancer randomized to either early palliative care along with standard oncologic care, or standard oncologic care alone, Temel et. al[4] found patients with early palliative care had better quality of life, less depression, less aggressive end of life care, and longer survival. The palliative care consultations addressed symptoms, coping by the patient and family, and education to improve their understanding of the illness, its probable course, and treatment options.[5, 6] Patients' understanding of their prognosis and the benefits and goals of their oncologic treatment was often inaccurate, but improved over time, possibly impacting their decisions about care near the end of life.[7]

Outside of medical oncology, studies concerning the benefit of early integration of palliative care are limited. As summarized by Gadoud et. al,[8] patients with congestive heart failure have been found to have fewer hospital admissions and improved advanced care planning when managed in multidisciplinary clinics or with integrated palliative care. Homebound patients with congestive heart failure, chronic obstructive pulmonary disease, and advanced cancer with a prognosis less than twelve months who received in-home palliative care in addition to usual home care had greater satisfaction with their care, fewer emergency room visits and hospital admissions, and more home deaths than patients managed with customary home care.[9] Patients with a variety of life-limiting illnesses, who received both primary care and palliative care in a nurse practitioner primary palliative care clinic at a public hospital, had decreased emergency room utilization and some, but variable, improvement in symptom control compared to the year before the patients began to receive care in the clinic.[10]

Patients with chronic obstructive pulmonary disease and congestive heart failure who received intensive home-based management by nurse managers, via home visits and telephone calls, focusing on components of palliative care in addition to their standard medical care, had improved ability to manage their own symptoms and access resources, less distress from symptoms, better end of life legal preparation, and improved functioning and "self-related health" as compared to patients receiving basic care. Neither group experienced a decrease in emergency room utilization.[11] Patients with severely debilitating multiple sclerosis, and considered by their clinical staff to have palliative care needs, who received an immediate six week palliative care intervention had a greater improvement in caregiver burden and lower health care costs than similar patients who received the same intervention twelve weeks later; both groups had similarly improved symptom control; but the benefits waned by 24 weeks.[12,13]

Primary care physicians are uniquely positioned to integrate palliative care for their patients who are experiencing life-limiting illnesses.

Primary care physicians are uniquely positioned to integrate palliative care for their patients experiencing life-limiting illnesses. They are familiar with the patient's co-morbidities and medical history and have established a trusted relationship with the patient and family. Concomitantly, they are more likely to appreciate that palliative care may be applicable years before death in the case of chronic illnesses such as chronic obstructive pulmonary disease, congestive heart failure, or renal failure. It is important that specialist physicians also address their patients' palliative care needs while actively treating their symptoms and underlying disease.[14-19]

Integration of Palliative Services

Palliative care needs vary throughout the course of a chronic, life-limiting illness. Initially, a patient receives disease-directed therapy with minimal palliative care. As the disease progresses, palliative care needs increase and become a greater focus of the patient's care. For some diseases with a well-defined prognosis such as metastatic non-small cell lung carcinoma or advanced pancreatic cancer, physicians can readily determine when a greater focus on palliative care is needed. In a patient with Alzheimer's disease or other dementia, it is important for the physician to address the patient's goals of care and Advanced Directive early in the disease process while the patient is able to participate in decision-making. In an aging person without a clear-cut, life-limiting diagnosis, it may be much more difficult for a physician to decide when to initiate palliative care unless there is an acute life-limiting event or a request for palliative care from the patient and/or family. Despite this ambiguity, one should not delay palliative care until the patient is ready for hospice admission or is being admitted to the hospital to die. Although there are no standard criteria defining when to initiate palliative care into a patient's management, there are multiple developments in a patient's clinical course that warrant consideration of palliative care (See Table 2). At a minimum, palliative care needs should be evaluated when a patient's predicted survival is less than twelve months. The Eprognosis calculator for estimating prognosis in the elderly (http://eprognosis.ucsf.edu/) can be very helpful in identifying potential palliative care candidates.

Primary palliative care is the basic multidimensional care of patients with chronic diseases. Weissman and Meier's consensus report from the Center to Advance Palliative Care[20] summarized the components of a primary palliative care assessment of hospital inpatients, which are equally applicable to the outpatient setting: evaluation of physical and psychological symptoms; assessment of social or spiritual concerns affecting daily life; establishment of patient-centered goals of care, including matching treatment options to the patient's goals; completion of an Advanced Care Plan; and achievement of optimal transitions from one care setting to another. Although palliative care is known for pain management, discussions should not be limited to physical symptoms. The emotional, psychological, spiritual, and practical issues associated with a life-limiting illness (e.g., financial concerns, fear of being a burden, depression, caregiver stress, grief) can be equally difficult to manage and improve.[21-25] Addressing all of these dimensions is the fundamental goal of primary palliative care.

Symptom Management

Many physical symptoms are common to most late stage chronic diseases such as pain, dyspnea, and fatigue, whereas others are more disease-specific. The emotional, psychological, and spiritual stresses are common to all life-limiting diseases. There are a variety of excellent resources online and in educational publications to guide clinicians in the integration of palliative care and the relief of physical, psychological, and spiritual symptoms. Some of these resources are provided in Table 3; however, this list is far from comprehensive. If specialty palliative care consult services are not readily available, a local medical oncologist, hospital social worker, or hospice medical director may potentially serve as a resource. A list of physicians board certified in Hospice and Palliative Medicine by one of the American Board of Medical Specialties co-sponsoring boards can be accessed at www.certificationmatters.org for telephone or email consultation, or for patient referral for more complex problems.

Communication

The primary communication components of effective palliative care are discussions between the physician, patient, and family to determine patient-centered goals of care and to align treatment choices and advance care planning with those goals. These discussions serve as a natural segue to determining the patient's definition of quality of life. Given that most people find it difficult to describe their preferences spontaneously, it may behoove practitioners to advise patients, in advance, that these topics will be discussed at their next visit, so the patient can be prepared to formulate and share his values and goals. Two excellent approaches to these conversations are presented in Table 4. Ultimately, discussions about disease, prognosis, and potential benefits and burdens of therapies allow patients to make informed decisions about their treatment options and ensure that treatment choices and end of life care are consistent with the patient's wishes and goals. They also improve patients' quality of life, and may extend their lifespan and enhance caregiver satisfaction.[3, 7,19,26,27] Such communication is encouraged, routinely and repeatedly, throughout the disease trajectory.

Table 2
Triggers for Initiation of Primary Palliative Care

- Decline in nutritional status
- Dysphagia, aspiration
- Decubitus ulcers
- Frequent falls
- Uncontrolled physical symptoms
- Multiple co-morbidities, especially if three or more systems are involved
- New diagnosis of a life-limiting illness, e.g., metastatic cancer, congestive heart failure, chronic obstructive pulmonary disease
- New prognosis-altering event, e.g., a non-fatal out-of-hospital cardiac arrest, myocardial infarction, cerebrovascular accident
- Decline in cognitive status
- Delirium
- Increased frequency of and/or incomplete recovery from intercurrent illnesses and/or chronic disease exacerbations
- Increased infections
- Consideration of medical interventions such as a feeding tube, dialysis, implanted defibrillator
- Increased need for oxygen or disease-specific medications/interventions
- Repeated use of emergency healthcare resources and/or hospitalizations, unexpected or "surprise" hospitalizations
- Patient desire to forgo aggressive treatment, cardiopulmonary resuscitation, or recommended treatment
- Decreasing ability to perform activities of daily living and increasing dependency for care
- Increasing emotional, social, or spiritual distress in the patient and/or caregiver
- Patient becoming more withdrawn, less interested in social interactions and pleasurable activities and/or hobbies
- Predicted survival less than 12 months
- Patient and/or family need and/or desire for better understanding of illness, treatment options, and prognosis
- Lack of advanced care planning or documents

Advance Care Planning

The purpose of advance care planning is to provide a framework from which to navigate health care decisions. Advance care planning is an ongoing process, not a one-time occurrence, and patients are encouraged to review their preferences annually and particularly when experiencing a significant change in status. There are myriad aspects to advance care planning, the most common being completion of an Advance Directive and the Outside the Hospital Do-Not-Resuscitate (OHDNR) Order. Both entities require the physician, patient, and caregiver to address end of life wishes and to communicate those wishes in writing.

In Missouri, the Life Choices booklet created by the Office of the Attorney General provides a succinct document that enables patients to record their wishes regarding end of life care, financial concerns, funeral arrangements, etc. The booklet includes a Durable Power of Attorney for Health Care Choices and Health Care Choices Directive which must be signed before a notary public after it is completed by the patient. The Life Choices booklet is free and can be downloaded or ordered as a single copy or in quantities by visiting www.ago.mo.gov.

The Outside the Hospital Do-Not-Resuscitate Order, also known as "the purple form," is relatively new and specific to the state of Missouri. The OHDNR order authorizes medical services personnel to withhold or withdraw cardiopulmonary resuscitation from a patient in the event he suffers a cardiac or respiratory arrest in his residence or some other non-hospital setting. Initiation of the OHDNR order is not dependent upon hospice admission and can be revoked at the patient's discretion. The order must be signed by a physician, and the original purple form remains with the patient. A copy of the form is submitted into the patient's chart. The form can be accessed at http://cjcfpd.org/cjc/Publicdocuments/purpleauthorizationform.pdf.

Conclusion

The integration of palliative care into customary patient care is paramount for primary care physicians and specialty physicians dedicated to providing exemplary patient-centered care for patients experiencing life-limiting illnesses. By nature, chronic disease treatment is palliative given

Equally important is compassionate and honest communication to elicit the patient's goals of care, educate the patient and caregivers about the disease and treatment options, and to align medical management with the patient's personal goals, values, and end of life wishes.

that these illnesses cannot be cured, but rather managed and ameliorated. It is essential to address the patient and the family/caregivers as a unit since both are significantly impacted by the patient's chronic illness throughout its trajectory, especially as palliative care plays a more prominent role in the patient's management. Although not as readily available as one might desire, palliative medicine specialists can help with management of refractory physical, psychological, and spiritual symptoms and distress, and assist with resolution of conflicts about goals of care, treatment options, and benefits of treatment.[3]

Meticulous attention must be paid to symptom control and alleviation of psychological, social, emotional, and spiritual distress in both the patient and family/caregivers. Equally important is compassionate and honest communication to elicit the patient's goals of care, educate the patient and caregivers about the disease and treatment options, and to align medical management with the patient's personal goals, values, and end of life wishes.

Recognizing the importance of primary palliative care also requires recognizing the practical barriers to integrating palliative care in a primary care or non-palliative care specialty clinic. Even though palliative care can improve outcomes and lower costs, current reimbursement regulations and the time constraints in clinic settings make it very difficult to incorporate. During a typical clinic visit, physicians are expected to assess and manage patient/family psychological and emotional issues, caregiver stress, and the practical concerns associated with chronic illnesses, and to conduct time-intensive conversations about goals of care and end of life wishes. Simultaneously they must also manage the underlying disease and associated physical symptoms. In order for the service to be viable, insurance companies and government payers must allocate reimbursement for the time and effort necessary for ongoing assessment and management of palliative care needs.[1, 28] In addition, there is a significant need for medical school coursework, postgraduate medical training, and continuing medical education courses that educate and enhance residents', fellows', and practicing physicians' expertise in primary palliative care.[29]

Research has shown most people prefer quality of life over quantity of days. Yet, quality of life is unique to each individual and is not easily defined or conveyed. All physicians should evaluate and address their patients' and caregivers' multidimensional palliative care needs throughout the patient's clinical course in order to optimize comfort and function, to relieve suffering, and to ensure that the plan of care is consistent with the patient's values and goals. These discussions are both a duty and a privilege for physicians. To do less minimizes the patient/doctor relationship and the trust patients bestow upon their physicians.

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Disclosure

None reported.

Table 3
Palliative Care Resources

Handbooks:

- Moses, BD. Tarascon Palliative Medicine Pocketbook, Burlington, MA:Jones & Bartlett Learning;2014.
- Wrede-Seaman, L. Symptom Management Algorithms: A Handbook for Palliative Care. Yakima,WA:Intellicard Inc;1999.
- Yennurajallingam S, Bruera E, eds. Oxford American Handbook of Hospice and Palliative Medicine. New York:Oxford University Press;2011.

Textbooks:

- Altilio T, Otis-Green S, eds. Oxford Textbook of Palliative Social Work. New York:Oxford University Press;2011.
- Bruera E, Higginson I, von Gunten CF, eds. Textbook of Palliative Medicine. Boca Raton, FL: CRC Press;2009.
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- Hanks G, Cherny NI, Christakis NA, Fallon M, Kaasa, S, Portenoy RK, eds. Oxford Textbook of Palliative Medicine. 4th ed. New York:Oxford University Press;2011.

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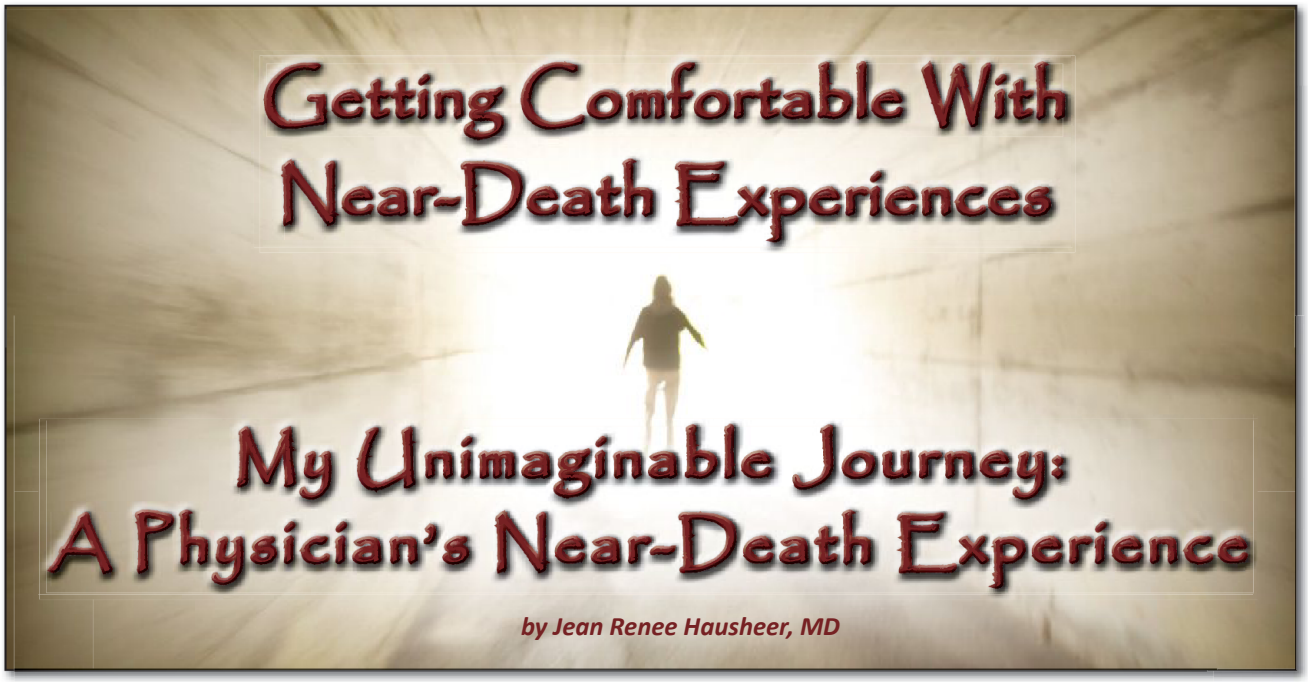
- Education in Palliative and End-of-Life Care--www.epec.net
- End-of-Life/Palliative Care Education Resource Center--www.eperc.mew.edu
- American Academy of Hospice and Palliative Medicine--www.aahpm.org
- Center to Advance Palliative Care--www.capc.org
- National Hospice and Palliative Care Organization--www.nhpco.org
- End-of-Life Nursing Education Consortium (ELNEC)--www.aach.nche.edu/elnec
- American Geriatrics Society--www.americangeriatrics.org
- Gold Standards Framework--www.goldstandardsframework.org.uk

*Table 4: Communication Techniques**

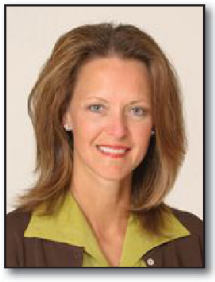
ASK-TELL-ASK PRINCIPLE	SPIKES PRINCIPLE
ASK patient/family to describe physical, practical, emotional concerns.	**SET-UP**: Physical setting: turn off pager; have tissues available; introduce healthcare team and patient/family.
ASK patient to define goals and values.	**PERCEPTION:** What is patient/family perception? (Ask-Tell-Ask principle is effective at this stage.)
ASK patient/family to define *quality of life*.	**INVITATION:** How much information does patient/family want? How do they like information presented?
TELL patient/family about treatment options, benefits v. burdens, etc.; discuss whether plan of care coincides with patient's goals and values.	**KNOWLEDGE:** Use language appropriate for audience; check in frequently to make sure message is being understood correctly.
ASK patient/family to summarize discussion; insure patient/family have an accurate understanding of the information presented; reiterate the goals of care moving forward.	**EMPATHIZE**: Use empathy when responding to questions, concerns.
	SUMMARIZE AND STRATEGIZE: Develop plan for moving forward.

**Education Modules for the Critical Care Communication Center—A Communication Skills Training Program for Intensive Care Fellows. http://depts.washington.edu/oncotalk/learn/modules.html*

MM



I was forever changed by this experience. I was thrilled to have felt the wonder and beauty of the amazing love-light source that awaits us beyond the darkness here on earth. The transition and the Source are quite peaceful, natural, inviting, and comforting.



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During the summer of 1977, at age 20, I experienced an extraordinary and transcendent event. I have come to understand that it is best described as a "near-death experience (NDE)." The insights of my brush with death altered my understanding of the meaning and purpose of life, forever extinguished my fear of death, and confirmed the ineffable wonder and joy of an afterlife.

The series of articles on near-death experiences in *Missouri Medicine* address an important topic that has been sadly neglected in the medical literature and, for the most part, ignored by medical schools and the physicians they train. Accordingly I have chosen to go public and share my NDE with the *Missouri Medicine* readership.

The Events That Lead To My Near Death Experience

My family and most of our friends love open water. Many glorious summers involved sun-drenched days and cool starry nights at Lake Pomme de Terre. Activities included swimming, fishing, water-skiing, and racing over the glassine green water in our powerboats.

Summer was always a wonderful break from the rigor and stress of academics. In 1975, upon graduation from Truman High School, at the age of 17, I had entered the six year program at the University of Missouri-Kansas City (UMKC) School of Medicine. Academics were rigorous and physically demanding. We went to school eleven months per year for six consecutive years. The first two years' basic sciences dominated the curriculum. Clinical rotations started the third year. Although I was robust and vigorous, my parents carefully monitored my physical and emotional health mindful of my young age and the stress that my studies and clinical work created.

Their concerns seemed justified in the summer of 1977 when, at the lake with my family, I developed what seemed to be a rather ordinary upper respiratory infection. My physician father (obstetrics-gynecology) had me rest and use a decongestant for my runny nose.

On a Saturday, two weeks after the onset of my 'cold,' I returned to UMKC to take an all-day standardized multiple-choice exam. Our entire class took these tests quarterly. In the first hour, unexpectedly and unexplainably, I developed very troubling intermittent double vision. With considerable difficulty, I completed the exam by shutting one eye then the other. By the time I completed the test, the diplopia was constant and bilateral ptosis was evolving. I called my father to report my difficulty. He was sufficiently alarmed to send me directly to an emergency room. Dad met me at the Independence Sanitarium Hospital (now renamed Independence Regional Hospital). Meanwhile he arranged for a stat neurological consultation. My mother developed multiple sclerosis at the age of 36. My father and I both wondered if this could be the first manifestation of MS in me at age 20.



The author Jean Renee Hausheer, MD and her father Herman J. Hausheer, MD upon her graduation from University of Missouri-Kansas City School of Medicine in 1981. Dr. Hausheer's near-death experience occurred in 1977 while she was a medical student.

I drove to the hospital with one eye closed, where I was examined by a hastily assembled team of physicians. They decided to admit me. I was developing additional neurological deficits including severe bilateral upper lid ptosis. This situation continued to progress over the next several days with a descending paralysis. My physicians narrowed the diagnosis to two possibilities: a Jacksonian variant of Guillain–Barre Syndrome or myasthenia gravis.

As the paralysis advanced, I developed severe respiratory distress as part of the descending paralysis. Breathing became an exhaustive activity. Because of this dire situation I was sent to the pulmonary department for testing. They performed a physostigmine challenge. Unfortunately, the amount I received was an overdose of medication. Precipitously I was in iatrogenic acute respiratory failure.

My Near Death Experience

I just quickly slipped away as if in a dream. The last thing I heard was the therapist calling 'code blue.' Immediately prior to departing my body I recall telling her I just couldn't breathe anymore; it was just too hard and difficult.

I saw, as if from above and apart, like watching a television drama, emergency resuscitation efforts frantically start over my body laying on the floor. I viewed the frenetic activities around my dying body with detached interest. My essence, my soul, my consciousness, my being, my spirit - whatever the non-corporeal quintessence of being should be called - was at peace and serene. Now I had no need for a physical body. Matter and gravity were no longer barriers to movement. Ahead emerged a wondrous, brilliant ball of the unimaginably whitest light from which emanated perfect love and peacefulness. Despite its infinite luminosity, the light was pleasing and caused my eyes no discomfort or photophobia.

As I departed, there was never recognition that what lay below was my dying body. It was not a part of me and the surrounding medical drama was not my concern. It seemed natural to disregard, and rapidly, leave the limp form behind.

This radiant ball of loving light initially appeared at a distance and rapidly surrounded my soul during my journey. The light sourced from a beautiful central ball-like brilliance that far exceeded that of diamonds. I became aware that this source of transcendent light was a peaceful, living, loving thing. From it originated the most tremendous transference of pure love and

I became aware that this source of transcendent light was a peaceful, loving thing.

acceptance, far beyond human imagination. Very naturally and effortlessly, I was drawn to this living ball of loving light. As I moved towards the light the quicker it surrounded and insinuated itself within my soul. The love source and my soul merged within the light. We become one and the same.

Twice during this rapidly occurring experience, I realized my earthly body was dying and the loving light field was my soul's destination. Being only 20 years old, each time I thought about dying young, I could only think of one word: "No." As quickly as I would think this to myself, the movement to the light would halt like being suspended mid-thought. During each of these two 'episodes of choice' there was a sharp contrast between this ball of living, loving light and the darkness from where I came on earth. The decision of whether to return to my life on earth or move towards and into the light was very difficult for me. It fascinated me that I felt I was being provided choice.

This living ball of light that emanated amazing amounts of the purest love totally surrounded me. Who I am and who this source of light was became one and the same. It was a welcoming home, as if the loving light source was now whole again, and so was I. Analogous to merging two mists into one. The darkness from where I originated and its unpleasant feelings were totally gone. The second time I said, "No," I felt that I was being given a choice to proceed on or to return back to the darkness here on earth. The process halted again on the second decision point I was provided. A voice spoke to me. The voice wasn't male or female, was audible and came from within this amazing living ball of lighted love. The voice surrounded me. The voice said directly to me, "Don't worry. It's not your time yet. Return!"

Faster than my journey to the ball of living, loving light, I suddenly awoke on a respirator in the intensive care unit at the Independence Hospital. I could see and hear all these people busy scurrying around trying to save me. I could hear them talking about how they noticed I was waking up. They were concerned that I would need emergent cardio-pulmonary resuscitation again. Of course I now had first-hand information; I knew I was going to survive. The voice had powerful lasting meaning and finalized my continued earthly existence.

Once I got my hands on pen and paper, I wrote out an explanation to my father of my near-death experience. I told him that I knew I was going to be fine and my life was no longer in danger from this illness. I now knew my purpose here on earth was yet to unfold. Now was not my time to die. My father observed how happy I looked. There was no wiping the smile off my face. I was at total peace.

I spent the next month in intensive care working hard to recover from this post-viral Jacksonian variant of Guillain-Barre syndrome. It took me a year to recover, including relearning how to walk and build strength and endurance back to normal. Over time my diplopia cleared. In spite of doubts about my ability to return to medical school, I was able to graduate with my class in spite of missing many classes.

How This Near-Death Experience Has Changed My Life

I was forever changed by this experience. I was thrilled to have felt the wonder and beauty of the amazing love-light source that awaits us beyond life here on earth. I believe and choose to call this love-light source God. I will never again fear death for myself or others.

I've thought a lot, but talked little, about my NDE experience over the years. I share with you this conclusion. In the act of dying we are offered the opportunity of accepting and joining the ineffable light of pure and unconditional love. I've heard people concerned about the death of loved ones who didn't have a relationship with God. They fear their loved one traveled to eternal darkness. Because of what I experienced, my view differs on this topic. At the time of transition from 'here to there,' I was allowed to choose to be one with this peaceful loving ball of amazing light. At the time, I was a Christian, and had a building and growing relationship with God, but was still a greenhorn novice by all means.



Dr. Hausheer is grateful for the opportunity to return to life on earth after her near-death experience. She is shown with husband Jim Meyer and their family.

October 10, 1993, I was privileged to suddenly and unexpectedly be at the bedside of my dying father, as he experienced an evolving myocardial infarction and severe cardiogenic shock. His face indicated immense pain and fear (probably worried about leaving our mom more than anything else). He was fighting for his life. I told him I loved him and would always take care of mom for him. I said I would miss him very much. While his ailing heart was still beating, his face changed to an expression of total peace and comfort. That's when I knew his essence had transitioned away from his body. I looked upward, waved good-by, blew a kiss and told him again I loved him. The medical staff took his 'living' body with a beating heart to the cardiac cath lab where they later pronounced him dead. I knew differently. I sensed and knew exactly when his spirit left his body.

I have been with a number of other family members and patients at the time of their deaths. I have seen their faces suddenly become peaceful with all pain and anguish gone. I know what they are experiencing. I know fully where they are traveling. I've been inclined to look up and wave goodbye to them. I am certain they'll choose to be one with the peaceful loving ball of light.

The Unfolding of My Purpose in Life

I am profoundly grateful I was given an opportunity to return to this earthly existence. My life is full and rich with many blessings. I went on to internship and ophthalmology residency at the Mayo Graduate School of Medicine in Rochester Minnesota. I returned to Kansas City where I practiced from 1986 through 2011. I'm a healthy, happy 57-year-old practicing ophthalmologist. I have two amazing children and four stepchildren, each happily married to wonderful people. My husband Jim Meyer and I are the blessed as grandparents of five grandsons and one granddaughter. My near death experience allowed me to feel, see, and experience the profound joy when our soul post-death becomes one with the source of all love, peace, and light.

It is indeed an amazing journey to restoration with God the Father, who is the source of all light, love, and peace. Walls and ceilings have no boundaries to us beyond earth. Our bodies are not necessary beyond earth and are irrelevant after death. Our spiritual essence while here on earth is what really matters. Nevertheless, we should take good care of our assigned bodies in our earthly journey. As physicians we serve in a noble profession working to maintain or restore physical and mental health to our patients.

I look forward to again meeting God the Father and my earthly father someday. What a wonderful reunion this will be. **MM**

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Marathon Study Runs On

I read with much interest the March/April 2014 issue of Missouri Medicine. I particularly enjoyed Dr. Hagan's editorial piece. Dr. Schwartz and fellow researchers, thank you for taking the lead in the study of veteran male marathoners. I want to let you know that I fit the profile of the participants in your veteran marathoner study group. I ran my first marathon at age 39 and my last at age 65, a total of 12 to 15 marathons, plus half marathons and shorter distances. For 10 to 12 years I ran one marathon per year.

Two years ago after reading Dr. Arthur Agatston's book "The South Beach Heart Health Revolution" I asked my primary care physician for a CT scan of my heart to determine my calcium score. My result was an astonishing score of 3,100. I was referred to a preventive cardiologist after having an echo cardiogram which was normal. I have always been asymptomatic, except for minor episodes of a benign arrhythmia. I currently take simvastatin. My total cholesterol prior to taking a statin was in the 200 to 210 range with HDL at 90 or better and normal LDL and triglycerides. I am now 73 and otherwise in good health. My major risk factor for the calcium and plaque in my coronary arteries is my marathon length running. If I knew then what I know now I would certainly have dialed back the mileage and intensity.

I live in Burnsville, Minnesota. If the Schwartz research group conducts further studies on this topic, I would gladly volunteer to be a participant. I continue to run 2 or 3 times per week for distances of 3 to 5 miles. I keep my heart rate within my aerobic range (110 – 128 these days). I will continue to do so, as long as my joints hold out. I also am telling my many long distance running friends and my running coach at Lifetime Fitness of this research on excess endurance exercise. I'm cautioning them about the possibility of damaging their hearts with marathon type running and training.

Ray Ayotte
Burnsville, Minnesota

Medicare Advantage: Blame the Physicians, and then Fire Them

The recent Perspective on Medicare Advantage (MA) by Arthur Gale, MD, (The Medicare Advantage Debacle, March/April 2014) reflects outdated information on the current nature of MA insurance. As a participating physician since 1991 in Medicare Advantage and its predecessors, MC+ and Medicare HMO, I have seen changes which have improved my capacity to deliver quality care to this portion of my patient population.

In the early days, the Center for Medicare Service (CMS) formula favored the enrollment of the well patient and the avoidance of the sick. Over the years, the formula for payment of these plans has evolved to favor the enrollment of the chronically-ill elderly patient. CMS incentivizes insurance companies by attaching additional monthly revenue to various high cost illnesses such as cancer, AIDS, COPD, congestive heart failure, etc. These incentives have resulted in the selection of a sicker and therefore more expensive population of patients. The average medical costs per MA patient are greater than the average cost of traditional Medicare patients.

A well-designed MA plan attracts patients of limited financial means who have experienced high-cost medical care. Such a plan, in order to be financially successful, must encourage its participating physicians, particularly the PCP, to do aggressive, comprehensive care of these patients. If the patient's health is maintained at the highest possible level, the result is lower costs primarily by reduced hospitalization and institutionalization.

MA plans currently enroll about 28% of Missouri Medicare beneficiaries. In my practice these patients are generally satisfied with their insurance and the care they receive.

Paul B. Vatterott, Jr., MD
Chesterfield, Missouri - MSMA member since 1978

In Reply

I am happy to hear that Dr. Vatterott is able to render quality care to his Medicare Advantage patients. I'm sure that if you asked the 1,200 faculty physicians at the Yale Medical Group, the well-respected physicians at the Moffitt Cancer Center in Tampa, Florida, most of the orthopedic surgeons in Dayton Ohio, the only hand specialists and a large GI group in the Cincinnati if they were able to render quality care to their patients in Medicare Advantage they too would answer yes - that is until they were suddenly terminated.

The main problem with Medicare Advantage is that it costs Medicare 12% more than standard Fee-For-Service (FFS). As I pointed out in my article, this amounted to $14 billion more in

Continued on page 186

2009. The current growth rate of Medicare expenditures is unsustainable. The Medicare Payment Advisory Commission (MedPAC) which advises Congress on how to reduce Medicare costs has recommended that Medicare Advantage payments be brought down to equal the payments made to Fee For Service Medicare. That is the crux of the problem.

Dr. Vatterott states that Medicare Advantage is now treating sicker and more expensive patients than in the past. This may be true. But there is no proof that these patients are sicker and more expensive than patients enrolled in standard Fee-For-Service Medicare. Medicare Advantage is unable to lower costs to the level of Fee For Service so in sheer desperation they blame and then fire physicians.

Arthur Gale, MD
St. Louis, MO - MSMA member since 1976

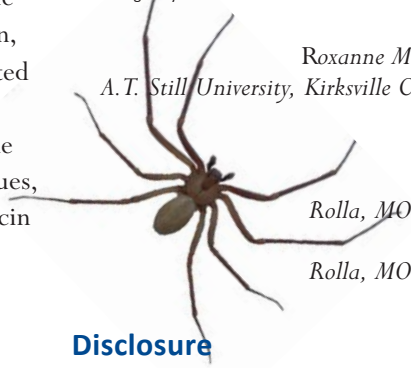
Acute Generalized Exanthematous Pustulosis Reported Due To Loxosceles Envenomation May Be Secondary To Azithromycin Therapy

Mueller, et al. present a case of viscerocutaneous (VCT) loxoscelism with acute generalized exanthematous pustulosis (AGEP) attributed to VCT loxoscelism.[1] Several features of this complex case favor azithromycin as an alternate cause of the AGEP. First, the onset of the AGEP was one week after beginning the azithromycin therapy. This is within the typical window of AGEP onset, one to three weeks, per Sidoroff, et al.[2] Second, AGEP is remarkable for the "great predominance of antibiotics as causative agents,"[3] which are cited as causative in 80-90% of cases.[3,4] Third, the risk of AGEP with macrolide antibiotics is significant, particularly with pristinamycin, but also with other macrolides. Sidoroff, et al. conducted a multinational AGEP risk study using a European population of over 100 million, in cooperation with the EuroSCAR research group, using case-control techniques, and estimated AGEP risk from various non-pristinamycin macrolides.4 This research found that risk from non-pristinamycin macrolides was lower than for the drugs highly associated with AGEP (e.g. pristinamycin, aminopenicillins, quinolones, and sulfa drugs), yet was strong enough to be included in the second tier of AGEP-associated drugs.[4] Azithromycin specifically has been associated with a case of AGEP.[5] In another case in which a patient had a spider bite and had antibiotic therapy within the likely interval (approximately one week) after beginning antibiotic therapy, AGEP was attributed to the antibiotic rather than the spider bite.[8]

We agree with Mueller, et al. that most aspects of the entire case presentation, with cutaneous findings consistent with loxoscelism, hemolytic anemia, hemodynamic instability, and compromised hepatorenal function, are best assessed as VCT loxoscelism. Two reviews of AGEP did not include hemolytic anemia as a manifestation, although systemic involvement, most notably hepatorenal dysfunction, has been reported in up to one-third of patients in some studies.[6,7] The hepatorenal dysfunction with AGEP often improves within a few days of drug withdrawal,[7] unlike the case of Mueller, et al., which demonstrated prolonged organ dysfunction.[1] Improvement after drug withdrawal is so typical with AGEP that some authors have characterized most AGEP as 'self-resolving.'[7] We hope that this follow-up letter to Dr. Mueller's complex case encourages clinicians who encounter VCT loxoscelism with AGEP to consider AGEP as an antibiotic reaction.

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Roxanne M. Rajaii, MS, Medical Student
A.T. Still University, Kirksville College of Osteopathic Medicine
Katie S. Payne, BS
Rolla, MO
Joseph M. Malters, MD
Rolla, MO - MSMA member since 1003
William V. Stoecker, MD, MS
Rolla, MO - MSMA member since 1984

Disclosure

Dr. Stoecker holds US Patent 7,927,828 for the ELISA detection of Loxosceles reclusa envenomation. Dr. Stoecker is also CEO and President of SpiderTek, LLC, a medical diagnostic company that develops brown recluse spider traps and diagnostic assays. No other authors report any conflicts of interest.

Dr. Mueller and Fellow Authors Reply:

We thank Ms. Rajaii and her colleagues for suggesting an additional possible etiology for this patient's initial presentation. Antibiotics are known to be causative agents for AGEP. However, as Ms. Rajaii and her co-authors acknowledge, this patient did not have the "typical…self-resolving" course upon dis-continuation of the medication. In fact, the rash began as the azithromycin course was finished. Given the extensive half-life of azithromycin, we do not dismiss the possibility of the medication's contribution, but we again note that the patient significantly worsened for weeks after this macrolide was discontinued. We are left to postulate whether to attribute this patient's illness to two separate rare etiologies (macrolide-induced AGEP followed by VCT loxoscelism), or a single diagnosis of VCT loxoscelism that is quite plausible for the entire clinical presentation. In this debate of Occam's razor vs. Hickam's dictum, we favor a single diagnosis over two consecutive rare etiologies.[1] That being said, we have informed the patient that she should notify future health care providers of a potential sensitivity to azithromycin. We appreciate Ms. Rajaii's group for their time and consideration.

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Mark Mueller, MD
Columbia, MO

Expert Counseling Needed At End-of-Life

I read the excellent article, "The Culture Change of Life & Death: Will Health Reforms, Demographics & the Economy Bring It About?" in the March/April 2014 issue of *Missouri Medicine*. The authors Harvey Tettlebaum, JD and J. Andrew Billings, MD, expertly describe the actual and potential cultural changes in the way we live and die.

With 50 years of professional experience,[1] I learned that patients need counseling when they discover that they have a life-ending disease, for example, cancer. With proper education and counseling these patients and their families are more comfortable and accepting of the inevitable. A detailed compilation of my experience was published in Missouri Medicine.[2]

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Max Heeb, MD
Cape Coral, Florida and Kentucky Lake, KY
MSMA Member since 1958

In Memoriam

- James R. Allan, MD, 85, Kansas City, MO, General Practice, December 13, 2013
- Martin Bergmann, MD, 91, St. Louis, MO, Thoracic Surgery, April 21, 2014
- Robert E. Fox, MD, 94, Kirkwood, MO, Internal Medicine, February 17, 2014
- John D. Kenney, MD, 78, Schwenksville, PA, Orthopedics, March 15, 2014
- Robert C. Meyer, MD, 63, St. Louis, MO, General Surgery, February 2, 2014
- George H. Rodgers, MD, 87, Prairie Village, KS, Urology, December 14, 2013
- Gary L. Robinson, MD, 76, Beaufort, SC, Obstetrics & Gynecology, May 13, 2014
- Llewellyn Sale, Jr., MD, 99, St. Louis, MO, Internal Medicine, May 5, 2014
- Milo J. Spurgeon, MD, 88, Columbia, MO, Anesthesiology, April 29, 2014

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Phone: 877-880-6650 | Fax: 888-290-8300
Email: angie.abraham@mercy.net

AA/EOE

Mercy

Heartland Health and Mosaic Life Care in St. Joseph honored the following physicians, who are also MSMA members, at its Eighth Annual Physician Recognition Award ceremony: **Rony M. Abou-Jawde, MD,** member since 2009; **Vikas Agarwal, MD,** member since 2012; **Lucinda L. Hayden,** MD, member since 2004; **Edward P. Kammerer, MD,** member since 2010; **Corinne Ridens-Dale, DO,** member since 2006; **Jane L. Schwabe, MD,** member since 2001.

Roderick Bartlett, MD, MSMA member since 2003, of Hannibal, recently attended the American College of Physicians' Conference in Orlando, Florida, entitled "ACP Excellence in Medical Education."

George M. Bohigian, MD, MSMA member since 1977, gave the Snyder Lecture at the annual meeting of the Cogan Ophthalmic History Society in Monterey, California entitled "Our Ophthalmic History and the Art of Medicine: Superstitions, Symbols, and Magic." Dr. Bohigian is a Professor of Clinical Ophthalmology and Visual Sciences at Washington University School of Medicine, St. Louis, Missouri.

Congratulations goes out to **Janet Elliot, MD, MPH, FACOEM,** MSMA member since 2004 from Jefferson City, for being elected to the Central States Occupational and Environmental Medicine Association as their board president.

Humam Farah, MD, has been asked to serve as a lecturer for the National Association for Continuing Education at their Live Symposia Series entitled, "Emerging Challenges in Primary Care." Dr. Farah is from Hannibal and will speak on Alpha-1 Antitrypsin Deficiency: 50 Years of Progress. He was published in the December issue of Annals of Allergy, Asthma & Immunology on the subject as well. Dr. Farah is a new MSMA member this year.

Michael Feuerbacher, MD, MSMA member since 2002 of St. Francis, is helping the Reach Out and Read Program in Nodaway County by making sure children get to take books home with them after their well-child checks at the Maryville hospital and clinic.

David A. Fleming, MD, MA, FACP, *Missouri Medicine* Contributing Editor and MSMA member since 1998, is the 2014-2015 President of the American College of Physicians, the nation's largest medical specialty organization. Dr. Fleming is currently a Professor of Medicine at the University of Missouri School of Medicine, where he also serves as Chairman of the Department of Medicine and Director of the MU Center for Health Ethics.

John C. Hagan, III, MD, Editor of *Missouri Medicine* and MSMA member since 1977, Kansas City, is a member of the One Health Initiative Honorary Advisory Board. His interest in "one medicine" grew out of the highly successful collaboration of Missouri University Schools of Veterinary Medicine and Medicine for the highly acclaimed *Missouri Medicine* May/June 2013 issue. The One Health concept is a worldwide strategy for expanding interdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment.

On May 4 **Warren Hagan, MD,** and Karen Hunt signed books they co-authored about Mark Twain's life in Florida, Mo., as part of A Friends of Florida fundraiser dinner. Dr. Hagan has been an MSMA member since 2003 and practices in St. Joseph.

Robb Hicks, MD, MSMA member since 2012, and Urgent Care physician in Creve Coeur, recently spent one week in El Salvador on a medical mission trip with the Global Health Outreach, the missions arm of the Christian Medical and Dental Association. He was accompanied by a team of five physicians, two surgeons, one dentist and 20 nurses, pharmacists, medical students, pastors, and support personnel. The group focused on meeting the health and spiritual needs of 1,700 patients in the mountain border town of Perquin. Dr. Hicks then drove across the border into Honduras, where he spent the next week working to build an orphanage in Intibuca, the poorest state in this Central America country.

Thomas Hopkins, MD, MSMA member since 1995 of Lamar, was recognized at the Barton County Chamber of Commerce annual awards banquet on April 18 as Healthcare Provider of the Year.

MSMA is proud of two of its members at Mercy Hospital in Springfield. **Kyle John, MD,** was named section chair for Pediatric Subspecialties and has been an MSMA member since 2007. **Mark Walterskirchen, MD,** is the new section chair for Urology and has been a member since 2010. Congratulations on your new positions at Mercy.

Lent Johnson, MD, MSMA Past President and member since 1982 of Hannibal, received certification by the US Department of Transportation and Federal Motor Carrier Safety Administration after attending training

provided by Nevada Academy of Family Physicians.

MSMA member since 1983, **Priscilla Long, MD,** of Hannibal, participated in a convocation ceremony during the ACP Conference in Orlando, Florida, recognizing new Fellows in the American College of Physicians, and was elected as ACP Fellow upon the recommendation of peers and review of ACP's Credentials Subcommittee.

Erik Meidl, MD, internist with the Hannibal Clinic, took part in a trip with Helping Hands Medical Missions through the Catholic World Missions to Carrillo Puerto, Mexico, where he saw more than 1,000 primary care patients in eight days. In addition, Dr. Meidl recently served as a guest speaker at St. Anthony Hospital in Alton, Illinois, on "Ethical Issues in Hospice Care," and attended the 91st Annual Fall Clinical Conference hosted by the Kansas City Southwest Ethical Society. He, too, attended the ACP Conference in Orlando, Florida. Dr. Meidl has been an MSMA member since 1996.

This year marks the 30th year in which **Schuyler C. Metlis, MD,** MSMA member since 2009, has attended the 49th Annual Baker Gordon Educational Symposium in Miami, FL. Dr. Metlis is from Hannibal and also serves this year as President of the Missouri Association of Plastic and Reconstructive Surgery.

Randal Otto, MD, MSMA member since 2013 of St. Louis, was presented with a Distinguished Service Award during the 57th Annual UMC Medical Alumni Awards presentation on April 3 during MSMA Annual Convention.

Michael Potter, MD, MSMA since the beginning of this year of Rolla, is an orthopedic surgeon for the Phelps County Regional Medical Center who had the honor of presenting a check on behalf of PCRMC for $1,500 to the Waynesville R-VI School District Foundation to provide shoes for children who need them.

MSMA member since 1984, **Keith Ratcliff, MD,** of Washington, MO, took his dedication and service in organized medicine to Washington, DC, recently for the Family Medicine Congressional Conference.

Philip Tweedy, MD, MSMA member since 2004 of Hannibal, has met the requirements for board recertification from the American Board of Internal Medicine.

Michael C. Wulfers, MD, has been a supporter of organized medicine since 1985 and just opened the doors to Cape Girardeau's first direct primary care practice, giving patients the opportunity to have a different type of relationship with their doctor than existing options would allow. He is also past president of Missouri Association of Family Physicians.

Rodney Yager, DO, of Hannibal, recently earned his recertification from the National Board of Osteopathic Family Physicians and scored in the top nine percent on the test. Dr. Yager has been an MSMA member since 2007.

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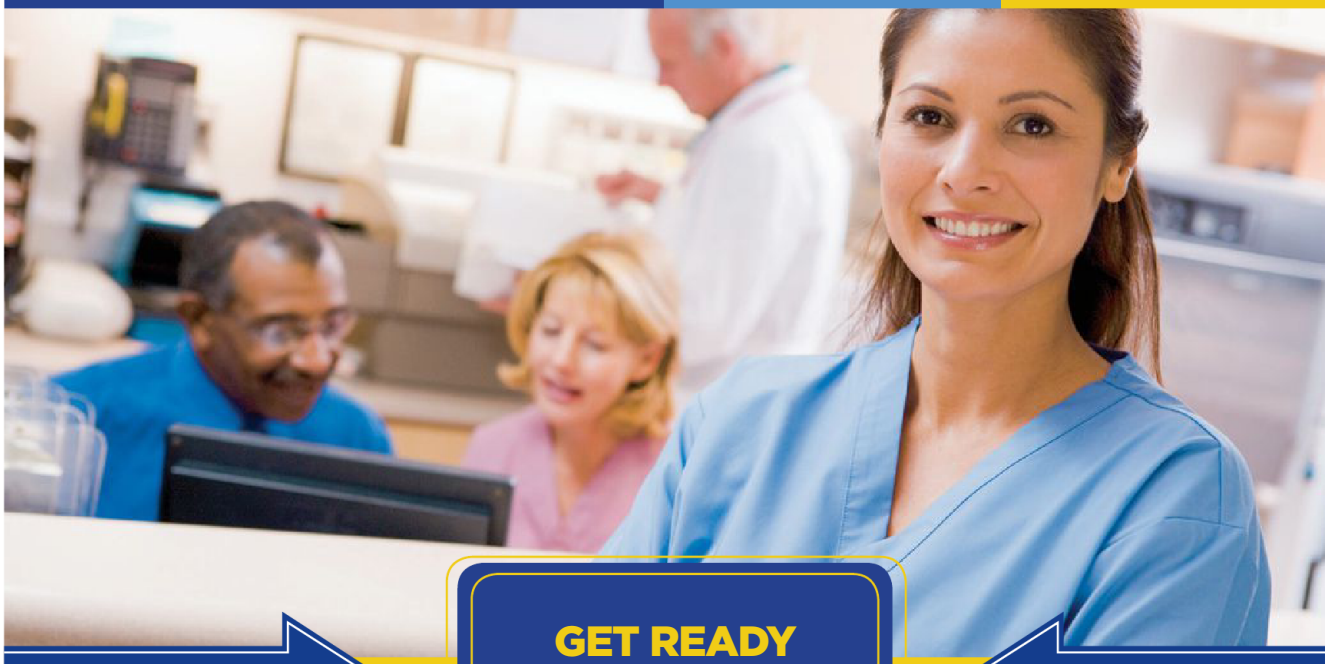
Left to Right

Dr. Randall Mueller
PPIA Board Member & MSMA member
15 Years

Dr. Kevin Threlkeld
PPIA Board Member & MSMA member
10 Years

Dr. Karl Stark
PPIA Board Member & MSMA member
28 Years

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Children's Mercy KANSAS CITY / Division of Developmental and Behavioral Sciences

Developmental & Behavioral Health Care Integration Between Pediatricians & Pediatric Behavioral Health Specialists

by Michele G. Kilo, MD

Missouri children with special health care needs often have significant problems with anxiety, depression, acting-out, fighting, arguing, and/or making and keeping friends.



Michele G. Kilo, MD, is the Developmental Pediatrician Director, Division of Developmental and Behavioral Sciences at Children's Mercy Hospital in Kansas City, Missouri and Associate Professor of Pediatrics at the University of Missouri - Kansas City School of Medicine.
Contact: mkilo@cmh.edu

In this issue of *Missouri Medicine*, members of the Division of Developmental and Behavioral Sciences at Children's Mercy Hospital, Kansas City, Missouri, provide an overview of the integration between pediatric medical providers and pediatric behavioral health specialists.

The featured articles are intended to demonstrate a model of care where behavioral health providers are integrally involved in pediatric and adolescent care for a wide range of patient populations. The majority of children and youth with chronic conditions or special health care needs who are followed at Children's Mercy receive coordinated care in subspecialty clinics that combine behavioral health providers along with medical subspecialists.

The Maternal and Child Health Bureau and American Academy of Pediatrics define children and youth with special health care needs as those "who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and who require health and related services of a type or amount beyond that required by children generally."[1]

Nationally, children with special health care needs comprise 15% of all U.S. children under age 18 years.[2] Of the 17.7% of Missouri children with special health care needs, 5.5% of children and adolescents under 18 have needs that include ongoing, emotional, behavioral, or developmental issues.[3] Missouri children with special health care needs often have significant problems with anxiety, depression, acting-out, fighting, arguing, and/or making and keeping friends.[3] These articles highlight several programs developed jointly by pediatric medical and behavioral health experts, to address both aspects of care for the patient and their families.

In 1996 Children's Mercy identified the need for improved access to pediatric behavioral health specialists for our growing populations of medically-based chronic conditions including cancer, diabetes, and chronic kidney disease. The Division of Developmental and Behavioral Sciences actively partnered with subspecialty Pediatric Division leaders to develop joint clinical and research programs. These programs were designed to address the complex mix of both medical diagnosis and

treatment, along with behavioral health-driven aspects of treatment, such as patient and family adjustment to living with chronic conditions, compliance and adherence and overall patient and family emotional health with the objective to improve overall health outcomes.

At the outset of the collaborations, the Division was home to six doctoral level psychologists, two child and adolescent psychiatrists and three developmental pediatricians. The number of pediatric behavioral health specialists has grown remarkably since that time, meeting the growing needs of children and youth with chronic and special health care needs. Currently the Division is home to 35 psychologists, five child and adolescent psychiatrist and nine developmental pediatricians as well as eight Clinical Social Work Family Therapists and three Psychiatric Social Workers. All of our trainees from our Division's two fully accredited training programs, APA approved Psychology Internship and ACGME approved Developmental-Behavioral Pediatrics Fellowship, experience curriculum that exposes them to, and demonstrates the value of, this model.

Now standard of care at Children's Mercy, this series of articles included in this issue of *Missouri Medicine* highlights several of the collaborative programs between pediatric behavioral and medical providers caring for children and youth with chronic special health care needs. Working together in integrated programs rather than practicing in subspecialty silos, providers offer more comprehensive care to patients and families while also improving the quality of medical care, adherence to treatment, and patient and family quality of life. In addition, this model significantly improves inter-disciplinary communication and mutual respect, adding to providers' sense of personal accomplishment and professional satisfaction.

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Children's Mercy KANSAS CITY / Division of Developmental and Behavioral Sciences

On Collaboration

by Charles C. Roberts, MD & David Westbrook

Although the expert mind of the well-trained and experienced physician has been, is, and always will be paramount, the care of one patient often needs expertise from multiple specialties or disciplines.





Charles C. Roberts, MD, (left) is Professor of Pediatrics at the University of Missouri - Kansas City School of Medicine and Executive Vice President/Executive Medical Director of Children's Mercy Hospital, Kansas City, Missouri David Westbrook, is Senior Vice President of Strategy and Innovation, also at Children's Mercy Hospital.
Contact: croberts@cmh.edu

When collaboration comes to medicine, good medicine comes to patients. The articles in this *Missouri Medicine* from the Developmental and Behavioral Sciences Division at the Children's Mercy Hospital in Kansas City and the University of Missouri - Kansas City School of Medicine speak to the collaboration that is so important for quality medical care, particularly for the complex, chronically-ill children. At Children's Mercy Hospital, we are dissolving silos in order to achieve true collaboration.

Collaborate as an Expression of Leadership and a Culture of Safety

Collaboration really must start with values that are devoted to its vitality: trust, respect, transparency, and accountability, to name just four as endorsed by our leaders at Children's Mercy.

Our integrated health care teams are populated by people who trust one another to act first and foremost in the best interest of the patient. If one team member holds a belief that differs from others on the team, then that team member is empowered to express that point of view. That point of view is received by the rest of the team not as dissent, but as a potential insight, or perhaps even an expression of conscience to think through the treatment plan one more time.

Collaborate as a Team Because None of Us is as Smart as All of Us

Modern medicine is changing in major ways. Although the expert mind of the well-trained and experienced physician has been, is, and always will be paramount, the care of one patient often needs expertise from multiple specialties or disciplines. This need is seen every day in our Fetal Health Center. Here we find healthy mothers diagnosed with an at-risk pregnancy served by integrated teams of surgical and medical subspecialists, social workers, and others. Before the birth takes place, these teams come together to develop a diagnosis and a treatment plan to share in detail with the family. And when the birth comes, that entire team is there, ready not only to take care of the critically ill infant, but to remain connected to that child until conditions are stabilized and progress is achieved.

Collaborate Nationally to Bring Collective Wisdom to a Case and to Improve Quality and Safety

We collaborate with colleagues across the country, particularly to evaluate treatment approaches for pediatric disease too uncommon to be fully tested at one center. Through our work, for instance, with the Children's Oncology Group, we are able to gain access to multi-center data and protocols, enabling us to compare our rare oncology cases with others throughout the nation, and improve survival for pediatric cancer patients here and across the country.

Other such examples include our involvement with the Improve Care Now Network (pediatric IBD), the Pediatric Trials Network (drug therapy), and the Neonatal Research Network. Children's Mercy is also a leader in Solutions for Patient Safety. This is a network of more than 70 children's hospitals dedicated to driving down the number of serious safety events, greatly reducing hospital-acquired conditions, and creating high reliability organizations.

Collaborate to Improve Outcomes

The successes of pediatric medicine cause celebration, but bring challenge. The patients we treat these days are far more complex than ever before. Those who come to us with chronic issues often bring comorbidities or complexities that require multiple subspecialists to treat the conditions that are being expressed. A prime example of this collaboration is the Ward Family Heart Center. Our whole team including cardiologists, CV surgeons, neonatologists, intensivists, psychologists, nurses, radiologists and anesthesiologists are now organized and function as one coordinated unit. In order to assess and improve care, the team has developed a software tool used to track thousands of data points for all the patients.

Another example is our approach to chronic pain. For years we have had multidisciplinary clinics for pain, headache and abdominal pain. New to Children's Mercy is the Rehabilitation for Amplified Pain Syndrome Program (RAPS). The RAPS program is an intense, no-medication collaborative program focused on returning to full function those adolescents who have failed traditional pain treatment. The results are impressive.

Collaborate to Nurture Innovation

As an academic institution, however, we find ourselves rarely satisfied with the present. We seek always to find the better in the future. The multidisciplinary Center for Pediatric Genomic Medicine headed by Dr. Stephen Kingsmore collaborates internationally, nationally and locally. The center has developed a test (TaGSCAN) to look for 750 rare genetic disorders greatly reducing the cost and time to make a diagnosis. STAT-Seq, recognized by *Time* magazine as one of the top 10 medical breakthroughs in 2012, decodes and interprets a newborn's genome in less than 50 hours. This gives clinicians the potential for early intervention in critically ill neonates.

Collaborate to Integrate the Family into the Care Team

So, too, do we collaborate with the families of the patients we serve. Again, it's not good enough simply to communicate with families. Collaboration connects us to the insights that only the family can offer about a child's condition. While we do know more about pediatric medicine than our families, we humbly acknowledge that our families know more about their children than we do. So we collaborate with those families, empowering them to be fully enfranchised members of the care team.

Hospital-wide we are collaborating with parents and patients to improve patient care and safety through our Family Advisory Board, Teen Advisory Board and by involving parents in multiple working groups focused on improving patient safety.

Collaborate to Deliver the Best Possible Value into the Future

And we collaborate, of course, with physicians who refer their patients to us for special care. Many of those same community pediatricians collaborate closely with our relatively new organization, the Children's Mercy Pediatric Care Network, to develop community-based, evidence-driven standards of care. As those standards are applied, our Quality Program professionals collaborate to measure and report on the outcomes. As those outcomes produce evidence of progress, the standards will be promulgated to achieve community-based clinical integration. For us at Children's Mercy, then, collaboration is more than a popular word of the day. It's a practical protocol that delivers better care for patients and families and better value to those who pay for it. **MM**

Children's Mercy KANSAS CITY / Division of Developmental and Behavioral Sciences

Driven By Evidence: Diagnosis and Treatment for Children with Autism Spectrum Disorders

by Sarah S. Nyp, MD, Cy B. Nadler, PhD, Cynthia R. Call, PsyD & Victoria C. Little, PhD

The latest research findings recommend that intervention should begin as early as possible for children diagnosed with Autism Spectrum Disorders.



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Abstract

As the prevalence of autism spectrum disorders increases, practitioners across the state of Missouri face an increasing need to understand and provide evidence-based clinical care for these children and families. We describe the breadth of diagnosis and treatment services offered at Children's Mercy Hospital (Kansas City, Missouri), one of the designated Missouri Autism Centers, to demonstrate a model of implementation for evidence-based practice. Finally, we discuss relevant clinical considerations and provide resources for physicians to assist in the care and education of their patients.

Autism

Over the past decade, the reported prevalence of autism spectrum disorders (ASDs) has increased significantly. The prevalence of autism has been estimated by the Autism and Developmental Disabilities Network since its establishment by the Centers for Disease Control and Prevention in 2000. While data from 2000 and 2002 suggested an autism prevalence of 1 in 150 eight-year-old children, rates have climbed with each new estimate. Data released in 2014 now estimate the prevalence to be 1 in 68 eight-year-old children.[1]

Children's Mercy Hospital

Children's Mercy Hospital, in Kansas City, Missouri, is one of the nation's top pediatric medical centers, with more than 700 pediatric specialists across more than 40 subspecialties. One of four Missouri Autism Centers designated by the state of Missouri is housed in Children's Mercy's Division of Developmental and Behavioral Sciences (DBS), a multidisciplinary group of medical and mental health providers who provide comprehensive services to children with developmental, behavioral, cognitive, and psychological concerns.

Autism Diagnostic Clinics

In effort to provide a high quality evaluation and support for families in the identification of evidence-based services and interventions for young children with developmental concerns in an expedited and cost-

effective manner, the professionals at Children's Mercy have collaborated to form a stream-lined screening process, an interdisciplinary Developmental Diagnostic Team and a Developmental Dyad. Support services including a family resource specialist and a community education coordinator are also in place to provide support for families after receiving an ASD diagnosis and education for community providers.



Data from 2008 provided estimated autism prevalence of 1 in 68 eight-year-old children.

The diagnostic process begins with completion of screening questionnaires and the gathering of educational and medical records in order to confirm the appropriateness of an evaluation. The team leader (child psychologist) or clinic coordinator reviews all intake paperwork and information received for children between the ages of 14 months and 5 years who are reported to have developmental concerns. Children determined to be at risk for ASD are routed for scheduling with either a Developmental Dyad, consisting of a child psychologist and developmental pediatrician, or a Developmental Diagnostic Team (DDT), consisting of a child psychologist, developmental pediatrician, speech/language pathologist, and occupational therapist. Scheduling is expedited for children less than three years of age and children who are not receiving supportive services (i.e. early childhood special education, birth-to-three services, etc.) Each evaluation visit is scheduled for a two to three hour block with all of the involved professionals present. A thorough evaluation is completed including assessments of cognitive/developmental function (Wechsler Preschool and Primary Scales of Intelligence-IV or Capute Scales), adaptive behavior (Vineland-II Adaptive Behavior Scales), general behavior, ASD symptoms (Childhood Autism Rating Scale-2, Autism Diagnostic Observation Schedule-2 criteria), a comprehensive interview, and medical evaluation including a physical/neurological examination, review of systems and laboratory studies for genetic evaluation as appropriate. If evaluated by the full DDT, a communication assessment, sensory integration screening, and gross and fine motor screening are also included during the evaluation.

Upon conclusion of every evaluation, parents receive assessment results, diagnosis, informational handouts, and referrals to appropriate community resources as well as recommendations for further medical evaluation and a comprehensive report. Families are referred to the appropriate branch of the Missouri Regional Office for Developmental Disabilities. This agency determines eligibility for a variety of services including case coordination. Utilization of this integrated approach has allowed for significant reduction of our average wait-time, currently less than three months, and has ensured that families have knowledge of and support in identification and communication with organizations which provide evidence-based interventions for ASD. Our timely and integrated approach to diagnosis and provision of appropriate intervention

recommendations are critical as it has been well established that children with ASD who receive appropriate intervention at the earliest ages have improved long-term outcome when compared to those without appropriate early intervention.[2,3]

Autism Treatment Clinics

The latest research findings recommend that intervention should begin as early as possible for children diagnosed with ASDs.[4] To maximize the impact of treatment on a child's functional outcomes and overall quality of life, families are referred to the Children's Mercy Family Resource Specialist when a new ASD diagnosis is made. A needs assessment is completed with the family in order to determine the best path of action to meet the child's individual needs. Based on the priority recommendations given by the evaluation team or individual provider, the Family Resource Specialist plays an integral role in helping the family to connect with community resources and regional agencies.

An outreach program was developed in order to provide educational opportunities and support to families and community professionals. To further assist families, the Children's Mercy Community Education Coordinator and providers of the autism services developed educational curricula designed to teach parents about their child's ASD diagnosis and equip them with the knowledge and skills required to support their child. Direct parent trainings offer families the opportunity to share and discuss topics related to autism, such as toilet training, family communication systems, and behavior management.

Children identified with an ASD through the evaluation process are commonly referred to a Children's Mercy behavioral specialist with expertise in behavioral analysis and management of challenging behaviors. The behavioral specialist, a licensed psychologist, focuses on short-term assessment and/or treatment for targeted behaviors. In conjunction to behavioral intervention, the families may also be scheduled for follow up evaluation and medication management appointments with a developmental pediatrician or child psychiatrist. This dual approach provides an effective partnership and consultation service beneficial to the families and overall care of the patient.

Other medical conditions are highly prevalent and consequently difficult to recognize in children with ASDs. In response to their special health needs, a referral to a specialty clinic is often necessary in order to evaluate additional medical co-morbidities.[4] Children's Mercy providers coordinate referrals to a number of specialty clinics, including feeding, neurology, genetics, gastroenterology, allergy/immunology, hearing and speech, physical and occupational therapy.

Our program strives to connect families to the best resources and therapies in the community appropriate to the child's diagnosis and individual needs. Additional community consultation and referrals may include the following: early intervention and special education programs, in-home and day treatment applied behavior analysis, primary care providers and psychiatrists for medication management, school systems for classroom intervention, and mental health providers for behavioral intervention.

Clinical Considerations

Team Evaluations

The Children's Mercy Developmental Diagnostic Team (described above) uses an interdisciplinary process, such that personnel conduct the evaluation simultaneously and are able to share information and perspectives before reaching a consensus decision[5]. Team evaluations are recognized as best practice by the American Academy of Pediatrics, even when an interdisciplinary process is not available.[4] Multidisciplinary team evaluations take place across multiple visits with independently operating providers, and serve a desirable alternative to relying on only a single discipline and professional perspective for establishing an ASD diagnosis, particularly for young children. Limited office space, availability of professional and support staff, and reimbursement for lengthy evaluations may limit the extent to which community-based clinicians can convene a true interdisciplinary team on a regular basis.[6]

Even within a unified interdisciplinary team, individual members may disagree about a final diagnosis of ASD. In our practice, emphasizing the importance of data-based decision-making and mutual respect across disciplines can prevent most disagreements.[7] Designating one professional as the

diagnostic "lead" prior to the evaluation can also help resolve conflicts amicably, especially if team members alternate in this role.[8]

DSM-5

The May 2013 release of American Psychiatric Association's fifth edition of the Diagnostic and Statistical Manual (DSM-5) includes substantive changes for Autism diagnosis. DSM-IV's "Pervasive Developmental Disorders" (PDD) umbrella—that included Autistic Disorder, Asperger's Disorder, Child Disintegrative Disorder, and PDD Not Otherwise Specified—has been collapsed into a single diagnosis: Autism Spectrum Disorder.[9] To capture the broad range of presentations that occur in ASDs, DSM-5 requires specifiers to describe co-occurring intellectual impairment, known medical and genetic factors (e.g., Rett syndrome), and language impairment. Specifiers also describe the Level of Support an individual will require in relation to the symptom severity in the domains of Social Communication (SC; formerly separate in DSM-IV) and Restricted/Repetitive Behavior (RRB). Criteria from the SC and RRB domains must both be met for ASD diagnosis; individuals without RRB meet criteria for the newly introduced Social Communication Disorder.

Debate over the empirical and conceptual justification for the DSM-5 revisions to ASD, as well as the possible impact of these changes, continues to appear in both professional journals[10,11] and the popular press.[12] Our position is that conscientious use of the revised ASD criteria will not adversely affect clinical practice; however, ongoing dialogue and cooperation among clinicians, researchers, insurance carriers, and other stakeholders will be critical as the field adopts these changes.

Resources for Best Practices

We encourage physicians and allied health professionals interested in further reading and resources related to the care of children with ASD to review the Missouri Autism Guidelines Initiative's 2012 consensus publication Autism Spectrum Disorders: Guide to Evidence-based Interventions (available at http://www.autismguidelines.dmh.mo.gov/). Compiled by interdisciplinary professionals from across the state, the Guide describes evidence-based practices across all levels of family-centered care. Information regarding the appropriate branch of the Missouri Regional Office for Developmental Disabilities for your area can be found online (http://dmh.mo.gov/dd/facilities/). Nationally, the Centers for Disease Control and Prevention (http://www.cdc.gov/ncbddd/autism/index.html) also provide a number of practical resources.

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Disclosure

None reported. **MM**

Children's Mercy KANSAS CITY / Division of Developmental and Behavioral Sciences

The ADHD Clinic: A Collaborative Model of Care

by Lisa Campbell, MD & Carla Allan, PhD

Primary care clinicians should manage ADHD as a chronic condition within the principles of the medical home.

Abstract

Attention-Deficit/Hyperactivity Disorder (ADHD) is a common chronic and often life-persistent neurobehavioral disorder. At Children's Mercy Hospital, collaboration between a developmental-behavioral pediatrician and a behavioral psychologist, both of whom specialize in ADHD, allows the use of both medication and behavior modification which are recommended by the American Academy of Pediatrics and which are equally effective as stand-alone therapies. Children who receive both of these treatment modalities also fare better than those who receive only medication in a number of areas. This article will describe our collaborative clinic model and will address considerations of parent preference about these therapeutic approaches.

Introduction

Attention-Deficit/Hyperactivity Disorder (ADHD) is an extremely prevalent and pervasive neurodevelopmental disorder and is associated with significantly higher utilization and costs of health care.[1] While the DSM-5 stipulates that the prevalence rates for ADHD are approximately 5% of all school-aged children,[2] some recent community-based samples have reported rates as high as 11%.[3]

The onset of ADHD tends to occur most frequently in early childhood and is associated with impairment in children's social relationships and academic performance. Current studies have also suggested that the impairment associated with ADHD tends to persist well into adulthood for a majority of those diagnosed with ADHD.[4] More recent studies have suggested that criminal behavior and substance abuse are more common, as is suicide,[5,6] highlighting the need for early and intensive intervention. Taken together with recent estimates that suggest that ADHD is associated with an annual cost to society of 42.5 billion dollars,[7] it is easy to see why ADHD continues to be an area that receives a great deal of attention in both the scientific literature and the popular media.

ADHD Clinic Model

Prior to the opening of the ADHD Clinic, Children's Mercy Hospital's Division of Developmental and Behavioral Sciences received over 400 calls per month seeking ADHD diagnostic and treatment services. To help meet this need, the ADHD Specialty Clinic at Children's Mercy Hospital was established in 2010. The clinic provides an interdisciplinary, collaborative model of diagnosis and targeted treatment of ADHD and related disorders. The clinic is staffed by a developmental-behavioral pediatrician and a behavioral psychologist. These providers make the diagnosis of ADHD, and often other co-morbid conditions, on the basis of an evidence-based assessment battery, which is comprised of standardized parent and teacher rating scales, a jointly administered clinical interview that examines the child's functioning as well as parental



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behavioral management strategies, and a complete medical and family history and physical examination. Once the diagnosis of ADHD is established, the interdisciplinary team offers families detailed education about ADHD as well as an individualized and comprehensive treatment plan that typically includes either medication, behavioral therapy or, in most instances, both. Families are usually offered team-based follow-up visits in which both the psychologist and the developmental-behavioral pediatrician monitor medication response and adverse effects; targeted behavioral interventions for home and school are also recommended during these appointments. The clinic's team-based approach allows awareness of the same clinical data on the part of both medical and psychology providers leading to an improved ability to offer the most helpful treatment options for each individual patient and family. If medication has not produced the optimal response, targeted behavioral strategies may be recommended before the medication dose is increased perhaps avoiding adverse medication effects. If families are not able to comply with parenting recommendations for whatever reason, the team may place greater emphasis on medication management.

A year after establishment of the clinic, data indicating that ADHD is a chronic condition associated with serious impairment across the lifespan led to the publication of updated ADHD assessment and treatment guidelines by the American Academy of Pediatrics (AAP).[8] The guidelines state that primary care clinicians should recognize ADHD as chronic condition, and consider children and adolescents with ADHD as children and youth with special health care needs. Management of such patients should take place within the medical home model. While the guidelines were extremely helpful in providing standards for the assessment and treatment of relatively straightforward cases of ADHD, the guidelines did not provide much guidance for how to handle more difficult cases. The ADHD Clinic was designed specifically to assist pediatricians with these kinds of cases, with the agreement that once treatment has stabilized the child's symptoms and provided an opportunity for the development of evidence-based parent management skills, the management of the child's ADHD symptoms will be returned to their medical home. Treatment is targeted and collaborative; the primary care physician is considered a part of the interdisciplinary team and brief progress reports are sent to the medical home at the conclusion of every appointment. The overall goal of the ADHD Clinic is to improve a child's functioning over the course of several months in order to make room for new referrals. This particular clinic model also affords many other unique opportunities to enhance treatment as usual for children and families with ADHD.

Advantages of the Collaborative Approach

Long-term Outcomes

First of all, the ADHD Clinic treatment model permits the use of combined medication and behavioral treatments, both of which are considered evidence-based treatments for ADHD according to the 2011 AAP Clinical Practice Guidelines.[8] While many primary care providers are familiar with the use of medication to treat ADHD, some have less knowledge about the reasons to utilize behavioral therapy, particularly in conjunction with medication. In a nutshell, the two most compelling reasons for including behavioral therapy in combination with medication management is that the longer-term outcomes are better and that parents prefer combined treatments.[9] While it is certainly the case that behavioral treatments take longer to demonstrate their effectiveness, mainly because the success of behavioral therapy is contingent upon the development of new skills, longer term follow-up data from the MTA (Multimodal Treatment of ADHD) studies demonstrate that the multimodal treatment group had the best outcomes.[9] Children who received medication and behavioral therapy fared better than those who received only medication with regards to the following quality of life factors: fewer anxiety and depression symptoms, fewer homework problems, fewer social problems, less frequent utilization of special education services, and better parent-child relationships.[9]

Inadequate Response to Medication or Adverse Effects

An additional strength of the ADHD Clinic is its ability to assist primary care physicians whenever medication management has already been initiated, but has not adequately improved functioning, perhaps due to adverse events, such as side effects, or in some instances, lack of response to medication management. A combined treatment approach may enhance the effectiveness of the dosage prescribed. Medication and behavioral therapy are equally effective as stand-alone treatments; at the same time, the combination of low-level behavior modification and low doses of stimulant medication (i.e., 0.15 mg/kg) have been shown to be as effective as high doses of stimulant medication or high levels of behavior modification used alone.[10] When medication was used alone, four times as much medication was required to achieve the same results as children who received a low dosage of stimulant medication with behavior modification,[11] placing children at greater risk for side effects.

Co-Morbidity

Another benefit of the ADHD Clinic model is its ability to provide targeted treatment for children with co-morbid conditions. Children with ADHD are at greater risk for anxiety disorders, sleep disorders, disruptive behavior disorders, mood disorders, and specific learning disabilities. Although many children with ADHD and co-morbid conditions respond favorably to stimulant medication, some children may require a more comprehensive treatment plan involving behavioral or cognitive behavioral therapy and/or the adjunctive use of a nonstimulant medication. Depending on the comfort level of

the primary care clinician, referrals to subspecialty care, such as the ADHD Clinic, may be appropriate when the treatment plan requires polypharmacy.

Young Children

Another unique strength of the ADHD Clinic pertains to the assessment and treatment of the young child exhibiting ADHD symptomatology. While stimulant medications have been shown to be effective in children ages six and older, efficacy appears to be more mixed for preschoolers.[12] Moreover, there has been some research to suggest that side effects are more common for preschool children relative to school-aged children.[13] The new AAP guidelines indicate that evidence-based behavioral therapies are the first-line treatment for preschool children with ADHD and that behavioral interventions should be prescribed first for them. If behavior interventions do not result in significant improvement and there is persistent moderate to severe impairment or in areas where such behavioral treatments are not available, medication may be started once the harm of delaying diagnosis and treatment has been determined to outweigh the risks of starting medication at an early age. The addition of medication should occur only when the behavioral therapy has failed to provide an increase in adaptive functioning and when the preschool-aged child is exhibiting moderate to severe dysfunction. For school-age and adolescent children with ADHD, the new guidelines continue to recommend that the physician prescribe medication and/or evidence-based behavioral interventions, preferably both.

Parent Preference

Last, but not least, the ADHD Clinic was designed to take parent preferences into consideration from the very first assessment appointment. In the largest and most well controlled study examining treatments for ADHD to date, parents were the most satisfied when they had access to behavioral therapy as well as medication.[9] One recent study indicated that shared decision making such as that offered in the ADHD Clinic, including active participation of both clinicians and families in treatment decisions, the exchange of information, discussion of preferences and joint determination of the treatment plan, leads to achievement of goals. Families are more likely to meet their goals if they receive the treatment they prefer.[14]

Summary

In conclusion, according to the new guidelines published by the American Academy of Pediatrics in 2011, primary care clinicians should manage ADHD as a chronic condition within the principles of the medical home. When medication is indicated, most children with ADHD can be managed by their primary care clinician, but referrals to subspecialty providers should be considered for very young children, at parent's request, whenever the response to medication is inadequate or intolerable side effects occur, or whenever a co-morbid condition limits the child's ability to respond to stimulant therapy on its own. The ADHD Clinic at Children's Mercy Hospital offers integrated assessment for ADHD and related conditions and provides both medication and home- and/or school-based treatments as outlined by the AAP in their guidelines.

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Disclosure

None reported.

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Children's Mercy KANSAS CITY / Division of Developmental and Behavioral Sciences

A Refresher on Tourette Syndrome

by James R. Batterson, MD, Shayla Sullivant, MD, J.B. Le Pichon, MD, Christy Kleinsorge, PhD, Sandy Price, RN & Stephanie Andrews, MSW

Tourette Disorder is characterized by a combination of vocal and motor tics that are present for at least one year and not attributable to a substance or other medical condition.



Clockwise from top left: James R. Batterson, MD, MSMA member since 1982, Lead Child Psychiatrist, Shayla Sullivant, MD, Staff Child Psychiatrist, J.B. Le Pichon, MD, PhD, Residency Program Director, Division of Child Neurology, Christy Kleinsorge, PhD, Clinical Psychologist, Sandy Price, RN, MSN, Nurse Manager, and Stephanie Andrews, MSW, LSCSW, LCSW, Clinical Social Worker, are all in the Division of Developmental and Behavioral Sciences at Children's Mercy Hospital in Kansas City, Missouri.
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Abstract

Tourette Syndrome (TS) is recognized as a more common neurodevelopmental disorder than once thought. In this article we present an update on TS including the DSM-5 revised criteria, new findings in the genetics of TS, treatment advances such as new medications for tics and the use of new tools including Cognitive Behavioral Intervention for Tics (CBIT). We also explore supportive services for the ongoing care of patients using nursing education and family therapy.

Introduction

Tourette Syndrome (TS) has been a recognized medical condition for over 125 years and is included in DSM-5 in the first chapter on Neurodevelopmental Disorders.[1] The diagnosis, known as Tourette Disorder, is characterized by a combination of vocal and motor tics that are present for at least one year and "not attributable to a substance or other medical condition."[1] A tic is a "sudden, rapid, recurrent, non-rhythmic motor movement or vocalization".[1,2] The diagnosis in DSM-5 contains only minor changes from DSM-4 TR, which include removal of the word "stereotyped" to describe tics. DSM-4 TR also required that tics not disappear for greater than three months and that statement is no longer included in DSM-5. The condition is often known to wax and wane from early childhood through adolescence, then improves in early adulthood. Some patients continue to suffer from more pronounced tics for much of their life. Though it has been claimed that Mozart had TS, more recent evidence has rebuffed this claim.[2] Historical figures including Samuel Johnson probably would have satisfied diagnostic criteria, however, and Jim Eisenreich, a well known baseball player, uses his TS diagnosis to educate others.

TS Epidemiology

According to the Mental Health Surveillance Among Children study published by the CDC in 2013, the prevalence of TS is 0.35% among children 6 to 17 years of age[3]. The prevalence in boys is twice as high as it is in girls (0.4% versus 0.2%). These are almost certainly underestimates, as TS often presents before the age of six and estimated prevalence rates were derived from parental reports that their child had ever been diagnosed with TS. A meta-analysis of 35 studies found a prevalence of 0.77% overall and, when stratified by gender, a prevalence of 1.06% in

boys and 0.25% in girls.[4] It is worth emphasizing that the prevalence of transient tic disorder in the same study was reported as 2.99%. TS and tic disorders occur at about half the prevalence of depression and the same prevalence as autism and are therefore a common problem in childhood.[3]

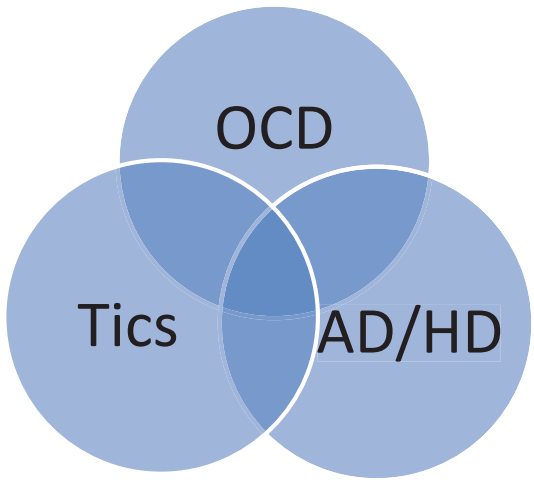
TS Environmental Contributions

There is little doubt that environmental factors contribute to the pathophysiology of TS. In one study of 60 patients with TS, there was a positive correlation between minor stressful events in life and the severity of tics.[3] The role of autoimmune mechanisms remains a topic of considerable debate. Over the last 20 years the existence of entities such as PANDAS (Pediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcal infection) have been argued. Strictly defined, PANDAS is characterized by an explosion of tics and severe Obsessive-Compulsive Disorder (OCD) behaviors following a streptococcal infection that usually resolves after a few weeks.[5] There is convincing evidence supporting the existence of PANDAS in a minority of TS cases, yet the epidemiological studies remain inconclusive.[6] There is no evidence to support prophylactic treatment with antibiotics at this time for PANDAS and standard treatments are recommended for TS and OCD regardless of etiology.[4]

TS Genetic Contributions

While environmental contributions to the pathophysiology of TS remain debated, the genetic contributions are becoming much better established. The strongest evidence for a genetic basis for TS is gathered from concordance studies among twins and first-degree relatives.[7] For TS, the concordance among monozygotic twins is as high as 56%, while it is 8% for dizygotic twins; first-degree relatives of patients with TS are 10 to 100 times more likely than the general population to develop TS. Yet sorting out the specifics of the genes involved is turning out to be much more complicated than may have been anticipated from these studies. It is now very clear that TS is a polygenetic disease, and multiple genes are contributing to its pathophysiology. Various studies have identified well over a dozen individual genes and chromosomal regions through genome wide analysis and searches for rare copy number variants in patients with TS. An excellent review by Pashou on the genetics of TS contains more detail.[7,8] TS has important genetic etiologies and as the contributions of various genes are elucidated, a new era in terms of its treatment will likely emerge.

Figure 1



Adapted from Jankovich, et. al

Co-Morbidity

Tourette Syndrome is frequently co-morbid with certain psychiatric disorders. The most notable are Attention-Deficit/Hyperactivity Disorder (ADHD) and (OCD).[9,10] See Figure 1. Studies of the rates of co-morbidity have shown widely varying results for both of these disorders with some as high as 80-90% and others as low as 10%.[10,11,12] Recent findings show the lowest co-morbidity rates are seen in the general population, and higher rates of co-morbidity are found when clinically referred patients are surveyed.[13] In addition to OCD and ADHD, rage attacks, sleep disturbances, depression and stuttering were all found at a higher rate in patients with TS than would be expected in the general population.[10] Cognitive deficits have been shown to be more common in TS, especially in the realm of executive functions.[14] Executive functioning is what helps an individual organize, prioritize and plan. In a study by Kurlan et al., aggression was found in 18.5% of patients with tics, and social problems occurred for 24.5 % of patients with tics.[12]

The OCD that accompanies TS appears to have different phenomenology from OCD alone. In the TS patient, touching compulsions and an obsessive need for symmetry are more commonly seen, along with a feeling that sensations need to be "evened up."[4] OCD responds less well to medication when tics are present than when OCD occurs alone.[11] Reasons for the higher rates of co-

morbidity with OCD and ADHD have yet to be clarified. Theories have included some structural areas of the brain that the three have in common including the fronto-striatal cortex as well as similarities in characteristics such as disinhibition.[10]

An individual who has TS, ADHD and OCD may experience unfortunate synergism among the conditions. For example, anxiety associated with an obsession may exacerbate tics and cause the attention span to further deteriorate. It can be challenging at times to discern which condition demands treatment first. Even though TS is known as a neurological disorder, mental health professionals often prove a valuable addition to the treatment team.

Pharmacology

The presence of non-impairing tics, even if qualifying for a TS diagnosis, does not demand treatment with medication or other therapies. Examples of impairment from tics include physical pain, difficulty performing Activities of Daily Living, and ridicule by peers, which can be detrimental to self-esteem. Assessing the level of impairment allows an analysis of the risk benefit ratio regarding the use of medication. Behavioral approaches such as Cognitive Behavior Interventions for Tics (CBIT) and a cautious approach of monitoring without medication are indicated in mild cases.[15] For moderate to severe tics and those that have not responded to CBIT, or when therapy is not an option, medications should be considered (See Table 1).[8]

Randomized, placebo-controlled trials of medications to treat tics show reduction in symptoms from 25-56%.[16] The goal of medication is tic reduction to improve functioning, but eradication of all tics is not typically achieved. It is critical to balance the negative side effects of treatment with the minimal impairment that might be experienced from residual mild tics.[16]

Alpha agonists, although off label for TS, are often used as first line choices for treatment given their lower propensity for side effects.[15] They tend to have a lower response rate at 30-37% than the dopamine antagonists.[8] Clonidine has been used for over 30 years for tics although it has limited empirical support.[17] Guanfacine is thought to be better tolerated but has limited evidence as well. Both can contribute to headaches and somnolence and can lead to rebound hypertension if stopped abruptly. Kapvay® (clonidine) and Intuniv® (guanfacine) are extended release formulations that have received FDA indications for ADHD; however, they have not been studied as treatment for tics.

While the first generation antipsychotics haloperidol and pimozide are FDA approved to treat tics in youth, they are often second and third tier choices, as other options are better tolerated. Pimozide carries a risk of prolonging the QTc more than other antipsychotics used to treat tics, and EKG's are recommended at baseline and with dosage increases.[8] Haloperidol and pimozide can lead to extrapyramidal symptoms as well as drowsiness and carry the risk of tardive dyskinesia.[17] Risperidone has at least four controlled trials demonstrating effectiveness in tic reduction, while studies on aripiprazole are ongoing. Open label studies have shown that aripiprazole and ziprasidone may help and they are used off-label. All antipsychotics are associated with weight gain, but Second Generation Antipsychotics (SGA) are associated with more weight gain in children. Monitoring of fasting glucose and lipids is recommended at baseline, at three months and then annually for the SGAs. The risk of tardive dyskinesia is present with SGAs as well.

Additional options include atomoxetine, a norepinephrine reuptake inhibitor, which is FDA approved to treat ADHD and is showing some early promise to reduce tics.[18] Topiramate also has one study showing impressive tic reduction and is a novel approach when traditional options have failed.[19] Supplements including Vitamin B6 and magnesium have some evidence but are not yet considered standard treatment.

Standard treatments for OCD and ADHD should be considered in the co-morbid patient. For ADHD in the presence of tics, non-stimulants are a logical first choice as stimulants carry warnings about the risk of exacerbating tics. The contraindication of stimulants for those with tics has been brought into question with several studies showing that tics do not always increase with stimulants.[8] Even though OCD may not respond as well to SSRIs when tics are present, the SSRI may still help some and Cognitive Behavior Therapy (CBT) also remains a viable option for these patients.

Comprehensive Behavior Intervention for Tics

Azrin and Nunn first described[15,18,19] Habit Reversal Training (HRT) as an effective intervention for tics in 1973.[20] HRT begins with psychoeducation regarding the neurobiological nature of tics and emphasizes the fact that while tics are not voluntary, it is possible to learn to alter their expression. Primary components of HRT include

Table 1

Medication	Starting dose	Max daily dose	Timing of dose	Suggested Monitoring	Side effects
Guanfacine immediate release	0.5mg	4mg	BID	Vitals at Dr. visits	Sedation
Guanfacine delayed release	1mg	4mg	Daily	Vitals at Dr. visits	Sedation
Clonidine Instant release	0.05mg	4mg	Bid or TID	Vitals at Dr. visits	Sedation
Clonidine delayed release	0.1mg	0.4mg	BID	Vitals at Dr. visits	Sedation
Aripiprazole	2.5mg	15-30mg	Daily	Fasting lipids, Glucose, LFT, Weight	Weight gain, EPS
Risperidone	0.5mg	6mg	BID	Fasting lipids, Glucose, LFT, Prolactin, Weight	Weight gain, EPS
Atomoxetine	18mg	100mg	Daily	LFT if symptomatic	GI Upset
Haloperidol	0.075mg/kg	1.4mg/kg	Daily or BID	ECG	Weight gain, EPS
Pimozide	1mg	10mg	Daily or BID	if >0.05 mg/kg need 2D6 genotyping, ECG	Weight gain, EPS
Topiramate	25mg	200mg	BID	None	Cognitive dulling
Fluphenazine	0.5 mg	3mg	Daily	ECG	Risk of TD
Ziprasidone	20mg w/food	160MG	BID	ECG,fasting lipids,glucose, LFT	Weight gain, EPS

Awareness Training and use of Competing Responses.[20] More recently, Comprehensive Behavioral Intervention for Tics (CBIT), a version of HRT specific to Tourette Disorder, has been developed. CBIT includes Awareness Training and use of Competing Responses, as well as a Function-Based Intervention, which addresses environmental factors influencing tic severity. CBIT is designed to teach its three core components in a series of 8 therapy sessions that occur over a 10-week period.[21]

Awareness Training emphasizes developing insight and awareness of premonitory urges and tic occurrence through self-monitoring. For example, children might practice the tic, or an approximation of the tic, while watching themselves in a mirror and paying attention to the muscles involved. In addition, keeping track of each occurrence of the tic helps to build awareness. For children, low-key prompts from caregivers are an essential part of developing awareness. Competing Responses provide children with alternate behaviors to engage in that are incompatible with the tic. For example, children with a leg lifting tic could be taught to push their feet into the floor rather than lifting their leg, and children with a tic involving head movements might be taught to tighten their neck muscles and hold their heads straight. The purpose of Function-Based Intervention is to identify antecedents and consequences that make tics more likely to happen and that negatively impact the child's functioning. Such factors are identified and then modified in order to reduce the likelihood of future tics and improve the child's ability to function. For example, if a child struggles with academics and experiences worsened tics at homework time, parents might decide to discontinue their homework time, inadvertently reinforcing the tic. CBIT therapists help families address sources of stress and reduce or eliminate secondary gain. If a child is teased by peers, thereby increasing their stress and anxiety, a therapist would help the school educate peers regarding the non-contagious, involuntary, neurological nature of tics, with a goal of reducing or eliminating teasing.

CBIT has been found to yield a significant decrease in tic severity that maintained over time in two randomized, controlled trials.[22] In their 2010 study, Piacentini and colleagues studied 126 children and adolescents with TS and found CBIT produced greater tic reduction than did supportive therapy and education.[22,23] It is important to note that many of these children were already on psychotropic medication and still demonstrated benefit from CBIT.[22] Given the very promising results of recent studies, increasing knowledge of the effectiveness of CBIT and the availability of psychologists and other

mental health providers with training in CBIT has become a primary goal of the National Tourette Syndrome Association.[22]

Supportive Services

The families of children with TS are met with great challenges. These children may display problems with adapting to aspects of the environment, have a higher level of emotional responses, or have a higher level of activity, all the while looking like the little girl or boy that lives next door. "It is therefore imperative to identify methods to deal constructively with those characteristics that make caring for children with TS so difficult."[24] Parents often feel lacking in the ability to educate schools and family members about the disorder and the specific needs of their child, leading to feelings of inadequacy as a parent. Skill sets used with other children do not always seem to have impact on these children. Due to the complexity of the disorder, nursing staff in our Tourette Clinic have been educated about tics, behavioral presentations, interventions and medications used to treat the disorder. The nursing staff can then assist in providing not only advocacy for the patient/family but also an avenue for the parent to be allowed to verbalize thoughts, feelings, and concerns without fear of judgment, thereby potentially providing a sense of validation.

Family therapy is an integral component in providing comprehensive services to families and children affected by TS, especially in the presence of co-morbid disorders. Ross Greene describes the difficulties with adaptation to change in their environments and transitions causing many of these children to have highly explosive, reactive behaviors and that these children "…can lay bare many family issues that might never have risen to the surface had the parents been blessed with a less difficult child."[25]

Conclusion

In the Division of Developmental & Behavioral Sciences at Children's Mercy Hospital, we recognize that patients with TS often need a multidisciplinary approach to treatment. This is especially true with those who suffer from co-morbid OCD and ADHD along with their TS. While we have been treating TS for many years, our newly established TS Clinic will involve psychiatry, neurology, psychology, nursing and family therapists to provide the holistic care needed for these patients.

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Disclosure

None reported. **MM**

Children's Mercy KANSAS CITY / Division of Developmental and Behavioral Sciences

Treating Our Youngest Patients: Psychotropic Medications in Early Childhood

by Catherine Madden, MD, Benjamin Black, MD & Debra Willsie, DO

With limited scientific research in this population, the use of psychotropic medications in very young children can be challenging.



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Abstract

Over the past several decades there have been multiple studies indicating that infants, toddlers and preschoolers who develop emotional and behavioral problems may not simply outgrow their problems. Early intervention is ideal, and may help to maximize long-term functioning. When other interventions fail or do not fully address the symptoms, psychotropic medications can be very helpful, even in the preschool years. With limited scientific research in this population, the use of psychotropic medications in very young children can be challenging. The judicious use of these agents in this population will be discussed, including weighing the risks and benefits of prescribing to these most vulnerable patients.

Introduction

The evaluation and treatment of emotional and behavioral symptoms presenting in the preschool age is best accomplished through a multi-dimensional and multi-disciplinary approach to fully understand what may be contributing to the problem. The Division of Developmental and Behavioral Sciences at Children's Mercy Hospital in Kansas City is comprised of a team of specialists including Developmental Pediatricians, Child Psychologists, Family Therapists and Child and Adolescent Psychiatrists, who together with other ancillary staff including speech pathologists, physical therapists and occupational therapists strive to fulfill that ideal. While such comprehensive resources may not be readily available to many providers, there are guidelines that can help providers screen, evaluate, and treat significant emotional and behavioral symptoms. The goal of this article is to specifically address psychotropic medication use in preschoolers, focusing on available research, prescribing trends, and inherent challenges.

Developmental & Diagnostic Considerations

A wide variety psychopathological symptoms and categorical psychiatric disorders may present in the preschool period.[1] A mental or psychiatric disorder is defined as a "syndrome characterized by a clinically significant disturbance in an individual's cognition, emotion regulation or behavior that reflects a dysfunction in the psychological, biological and or developmental processes underlying mental functioning."[2] The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) provides the clinician with valuable diagnostic criteria, but its utility in

diagnosing mental health disorders in the very young is more limited, as there have been few field studies including this age group.

There has been an emerging body of empirical data investigating the nosology and validity of several DSM Disorders among preschoolers. The diagnosis of Oppositional Defiant Disorder has been the most studied disorder in preschoolers. There is also well-established validity for the diagnoses in preschoolers with attention-deficit/hyperactivity disorder (ADHD) and conduct disorder and a substantial body of support for the diagnoses of major depression and post-traumatic stress disorder (PTSD).[3] Studies in the last decade suggest that mental disorders in the preschool-age persist into school age and therefore warrant early recognition and intervention.[4]

Due to the rapid changes in the social and emotional development which characterize the preschool age (ages two to six years), the astute clinician must be able to differentiate between developmentally normative behaviors and clinically significant psychopathology. Knowledge of developmental milestones, including motor development, receptive and expressive language development, and social and emotional development are essential. For example, Piaget's concept of egocentrism is characteristic of the preschooler's inability to understand another's viewpoint.[5] The preschooler's normal growing sense of autonomy, commonly referred as the "terrible twos" may mimic clinical oppositional behavior. Temper tantrums or defiance often lead caregivers to seek clinical attention although this behavioral pattern may be developmentally appropriate. The key in distinguishing normative from pathological temper tantrums requires knowledge of the frequency, intensity, duration and functional impairment across multiple domains.[6]

In addition to using the DSM for diagnostic purposes, a biopsychosocial formulation is established to reflect the impact of comorbid medical conditions, psychological distress, family relationships, social relationships, environmental stressors and educational functioning. The predisposing, precipitating, perpetuating and protective factors that have shaped the patient's clinical presentation are then incorporated into the child's treatment plan. For the clinician to overlook the biological, psychological and social aspects and provide medicine alone would be ultimate reductionism and a waste of potential healing experience. As physicians, we must not forget our role as "people skilled in the art of healing".[7] Collaborative patient management by physicians, psychologists, and family therapists allow us to address many of these factors for individual patients at Children's Mercy. A patient may be followed by a physician, such as a developmental pediatrician or child and adolescent psychiatrist, while also being followed by a family therapist for Parent-Child Interaction Therapy (PCIT), which is an empirically-supported treatment for conduct-disordered young children. This treatment model allows for medical evaluation and possible medication management, as well as providing a treatment that focuses on improving the quality of the parent-child relationship.

Recent Trends of Psychotropic Use in Preschoolers

National Patterns of Use

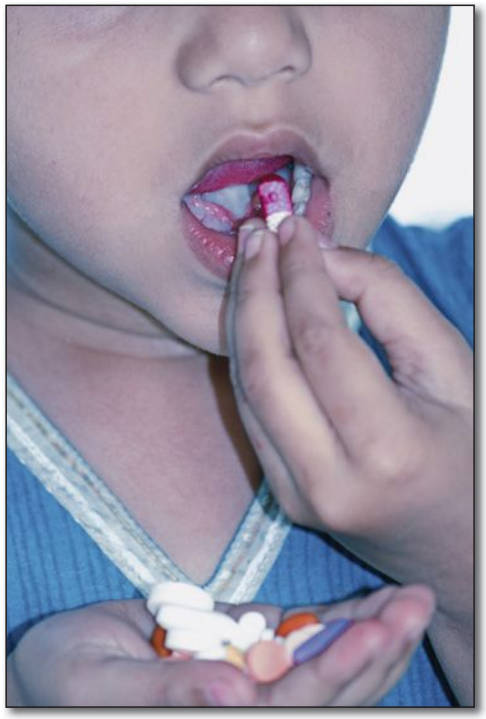
The use of psychotropic medications in young children increased substantially in the late 1990s, but has recently stabilized.[8] It is estimated that the use of psychotropic medications in young children approximately doubled between 1995 and 2001.[9] The escalation in use of these medications in very young children has caused increased concern in the public, especially when sensational and tragic events occur, such as the death of a four-year-old girl on multiple psychiatric medications.[10] Despite this concern, prescribing of psychotropic medications in very young children only represents a small portion of the psychotropic medications prescribed to children. In general, the vast majority of preschool children identified as having emotional or behavioral problems did not receive psychotropic medications. This follows the general recommendations that have been made to try non-pharmacological treatments for preschoolers first before trying medication.[11] In general, psychotropic medications are used for young children with severe disruptive behaviors, with the rates of the use of psychotropic medications being approximately four times higher in boys than girls.[12] It has been estimated that about one in five preschoolers in the United States suffer from a psychiatric disorder and a little under one half of those children have severe symptoms.[13]

The most commonly used medications in early childhood include stimulants, α-adrenergic agonists, selective serotonin reuptake inhibitors (SSRIs), and second generation neuroleptics.[14] While attention-deficit/hyperactivity disorder (ADHD) is the diagnosis most commonly treated with psychotropic medications in early childhood, anxiety disorders are the most common.[15] In one study looking at the rates of psychiatric diagnoses in young children starting school, anxiety disorders were, by

far, the most common, with specific phobia being the most common anxiety diagnosis.[16] The second most common diagnosis after specific phobia was ADHD followed by oppositional defiant disorder.

Patterns of Use at Children's Mercy Hospitals and Clinics

In looking at a one-month "snapshot" of psychiatric diagnoses and pharmacological treatment of children under the age of six years referred to Children's Mercy Hospital for evaluation and treatment, the population was very similar to national trends. However, compared to traditional psychiatric diagnoses, there was a higher incidence of developmental delay and autism because of the population that we serve and the advantage of having several developmental and behavioral pediatricians on staff. Boys were referred more often than girls, with boys making up 78% of the patients. The most common diagnoses included developmental disorders (34%), ADHD (27%), autistic spectrum diagnosis (18%) and disruptive behavior disorders other than ADHD (12%). Consistent with national trends, most (58%) of these young children were not prescribed psychotropic medications. Of those children who were prescribed psychotropic medications, 62% were prescribed an α-adrenergic agonist such as guanfacine or clonidine, followed by stimulants (32%), SSRIs (28%), trazodone (12%), atomoxetine (8%), risperidone (8%) and clonazepam (4%). Some of the patients were on more than one psychotropic medication.



The use of psychotropic medications in young children increased substantially in the late 1990s, but has recently stabilized.

While preschool mental illness generally covers the wide range of psychiatric disorders, specific pharmacological guidelines will be discussed for only the three most common psychiatric problems: ADHD, severe disruptive behaviors and anxiety disorders.

Available Guidelines for Psychotropic Medication Use

It is not surprising that most of the psychiatric medication studies in the preschool population have been done on stimulant medications because ADHD is the most common psychiatric diagnosis treated pharmacologically in this age group. Even though dextroamphetamine products are FDA approved down to age three, most of the research and clinical use is with methylphenidate. The Preschoolers with Attention-Deficit/Hyperactivity Disorder Treatments Study (PATS) is the most recent and extensive study of the treatment of ADHD in this population, and showed that methylphenidate provides clinically significant improvement in the symptoms of ADHD in preschoolers, but the effect size was not as great as in school-aged children.[17] The medication was generally well tolerated, but side effects were reported at a greater rate than in older children. Because of this and other studies of methylphenidate in this population, if it is determined that medication is needed to treat symptoms of ADHD, methylphenidate may be considered as a first line in the treatment of ADHD in preschoolers, even though it is not FDA approved in this age group. Dextroamphetamines, even though FDA approved down to age 3 years, would be a secondary option.[11] Non-stimulant medications, such as α-adrenergic agonists and atomoxetine are also options. In fact, our evaluation of psychotropic medication prescribing patterns at Children's Mercy showed that the α-adrenergic agonists, guanfacine or clonidine, are often utilized as first line options.

The next most common use of psychotropic agents in preschool-aged children is for severe disruptive behaviors. While primary disruptive behavior disorders do occur in preschool children, many of the behaviors may be secondary to other psychiatric disorders, such as ADHD, mood disorders, anxiety disorders or developmental disorders.[11] Therefore, it is very important to first address the primary psychiatric disorder in order to adequately treat severe disruptive behaviors. If behavioral interventions do not provide adequate improvement in behavior, if the child is unable to participate in treatment, or behaviors are so severe that safety is an issue, then psychotropic medications may be indicated.[15] While there are few studies, most

of the literature on treating severe disruptive behaviors in young children has been with the use of risperidone. Therefore, for severe disruptive behaviors in young children, one option is low-dose risperidone. Aripiprazole is approved for the treatment of disruptive behaviors in autism down to age six years, and this would be another choice for children with severe irritability and aggression who are on the autistic spectrum. Any child treated with a second-generation neuroleptic agent needs be monitored for weight gain, metabolic changes, parkinsonism and abnormal movements. Many clinicians at Children's Mercy choose to start with α-adrenergic agonists when treating severely disruptive behaviors, as the safety profiles tend to be more favorable and they can be quite effective.

The other most likely cause for psychotherapeutic intervention in early childhood would be an anxiety disorder. If cognitive behavioral therapy or another psychotherapeutic intervention is not adequately beneficial for the child, a young child may benefit from the trial of an antianxiety agent. Most of the research has been on SSRIs, particularly fluoxetine, which is considered the first choice in young children with clinically significant anxiety.[11] Other options to treat anxiety would include sertraline, fluvoxamine and buspirone. It is always recommended to start out with a low dose of medication and increase slowly. They are generally well tolerated, but may cause activation, which may include increased activity or impulsivity. One open-label study of clonidine for treatment of posttraumatic stress disorder (PTSD) in preschool children noted benefit in reducing aggression, hyperarousal and sleep difficulties.[18]

Special Considerations in the Preschool Population

Lack of Efficacy Data

The mantra "children are not little adults" is oft repeated, and is especially relevant in pediatric psychopharmacotherapy. Specific therapies are almost universally studied in adult populations first, while safety and efficacy evaluations in pediatric populations lag behind.[15] Dr. Harry Shirkey recognized this in the 1960s, when he wrote that, "By an odd and unfortunate twist of fate, infants and children are becoming therapeutic orphans."[19] This dynamic persisted and nudged clinical practice ahead of the available research on psychopharmacotherapy in preschoolers. However, the past 20 years have seen new reforms that have served to increase pediatric drug labeling. Most recently, the Food and Drug Administration (FDA) Safety and Innovation Act, passed in 2012, ensured permanence for the Best Pharmaceuticals for Children Act (originally passed in 2002) and the Pediatric Research Equity Act (passed in 2003).[20] Taken together, these acts aim to improve timely generation of pediatric drug information, both for new therapeutics and those that are off-patent or utilized off-label. Going forward, these acts will serve to enhance our knowledge of what medications are safe and effective in children, and help to optimize dosing. However, even with these advancements in pediatric drug development, the preschool population is often overlooked, as trials with such young patients can prove to be sticky endeavors due to issues of feasibility and ethics.[21,22] The Division of Developmental and Behavioral Sciences is engaged in training and research collaborations with the Division of Clinical Pharmacology and Therapeutic Innovations at Children's Mercy to help address some of these issues.

Lack of Safety Data (Short- and Long-Term)

Pediatric dosing is arrived at by various methods and is often extrapolated from adult data. Of course, reality is never as simple as plugging information into an equation, and there are certain pharmacokinetic determinants, such as metabolic enzyme activity, that follow a developmental trajectory and are not necessarily stable over time.[23] This means that an appropriate milligram per kilogram dose in an older child could either be toxic or ineffective in a younger child. Furthermore, there are developmental considerations unique to younger children that the prescribing provider must consider when weighing the option to prescribe a psychotropic medication. Very little is known about how these medications interact with a developing human brain, but animal models suggest that there are significant effects on neurotransmitter production and receptor expression, with implications on future mental health. Just one example is that early exposure to selective serotonin reuptake inhibitors has been shown to lead to increased anxiety behaviors in adult mice.[24] The converse may also be true, as developmentally sensitive periods could represent an optimal time for intervention as well, with the goal of decreasing symptomatology and ultimately preventing psychopathology. In 2011, Andersen and Navalta described this potential in detail, highlighting the need for collaborative research to help achieve that goal.[25] Characterizing the impact that psychotropic medications can have in the short and long-term on the developing brains of preschoolers continues to be an important area of investigation.

Legal Concern

Taken together, the lack of knowledge regarding impact and safety of psychotropic medications on the developing brain and the inherent difficulty in identifying psychopathology in preschoolers, providers face a significant challenge. The legal risks are not well documented, but there are examples of highly publicized tragedies related to psychopharmacotherapy in preschoolers that stoke debate and highlight all of the confounding issues regarding use of psychotropic medications in this age group.[10] We could not identify any publications where the authors examined the relative frequency of malpractice suits involving psychotropic medications in the preschool population. However, prescribing providers need to consider whether off-label use of a psychotropic medication in a preschool patient represents an accepted standard of care within their professional community. Previous authors have noted that "off-label" is not the same as "contraindicated."[15] Careful consideration of the diagnosis, level of impairment, medical comorbidities, and caregiver competence is required to make this important clinical decision.

Conclusions

The role of psychotropic medications in the treatment of clinically significant emotional and behavioral disturbances in preschool children is a complicated and ever-evolving issue that can represent a difficult clinical scenario for any health care provider. Knowledge and appropriate utilization of local non-pharmacologic resources is an important first step. However, many providers, especially in more rural areas, may find local resources to be limited, thereby increasing the relative role that psychotropic medications may need to play. Fortunately, there is some available literature to help guide treatment, though much more data is needed to fully characterize the potential impact that psychotropic medications may have on very young children. A thoughtful approach to such patients is needed, and escalation of therapies needs to correlate with symptoms severity and impairment level.

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Disclosure

None reported.

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Children's Mercy / Division of Developmental and Behavioral Sciences
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Implementing Motivational Interviewing in a Pediatric Hospital

by Timothy R. Apodaca, PhD, Sarah L. Tsai, MD, Melissa K. Miller, MD, Michele H. Maddux, PhD, Diane Kennedy, RN & Kelly Trowbridge, MSW

In the last decade, the application of motivational interviewing in pediatric settings began to receive attention.



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Abstract

Motivational Interviewing is a collaborative style of communication designed to strengthen a person's own motivation and commitment to change. We report on our ongoing efforts to implement motivational interviewing to address health behavior change among several patient populations in our pediatric hospital, including sexual risk reduction among adolescents, increased self-care for patients with spina bifida, increased adherence for adolescents with Type 1 diabetes, and facilitation with transition from pediatric to adult care among gastroenterology patients.

Introduction

Motivational Interviewing (MI) is a collaborative, goal-oriented style of communication designed to strengthen personal motivation for and commitment to health behavior change by eliciting and exploring a patient's own reasons for change.[1] It involves a combination of strategies and techniques, along with an overall style of collaboration between patient and provider. This communication style was originally developed more than 20 years ago in the substance abuse treatment field as an alternative to a confrontational approach, which was common at that time. Several meta-analyses demonstrated support for the efficacy of this approach in substance abuse, generally with small to moderate effect sizes.[2,3]

More recently, there has been considerable interest in the use of motivational interviewing in other fields of health care. In a recent review and meta-analysis of randomized controlled trials that included 48 studies (9,618 participants), modest support for motivational interviewing in a variety of health care settings was found.[4] In contrast to a typical medical model of communication or established patient education models – which posit that patients will engage in behavior change as a result of receiving expert advice or information from a provider – motivational interviewing seeks to empower the patient and share responsibility for health behavior change, such as diet, exercise, or adherence to a treatment regime.[5] Motivational interviewing is organized around a four-process model, that involves engaging,

focusing, evoking, and planning.[1] As such, rather than the provider dictating what the patient should or needs to do, attainable goals are proposed by the patient and then are refined with help from a health-care professional.[6]

In the last decade, the application of motivational interviewing in pediatric settings began to receive attention.[7] Suarez and Mullins[8] reviewed pediatric studies that used MI to encourage change in several behavioral domains, including diabetes management, weight loss, dental hygiene, reproductive health, and child behavior management. There were 15 studies, including nine randomized clinical trials (RCTs), and six non-RCTs. Seven of the nine RCTs reported positive findings, with the motivational interviewing groups obtaining better outcomes than control groups. Thus, while there is promising evidence to support further study of this approach in pediatric populations, there is more to learn about maximizing gains. The focus of our report is to describe ongoing efforts to implement motivational interviewing in our hospital.

Initial Training Efforts

Lectures, Consultation & Clinical Training

Initial efforts to infuse Motivational Interviewing into practice came in the form of a variety of lectures and consultation to various trainees and clinics. Trainees in our clinical child psychology internship program are provided with presentations on Motivational Interviewing ranging from two to eight hours per training year, and pediatric medical residents are provided with an annual presentation on the use of MI in primary care. In addition, the Division of Nephrology is provided with ongoing consultation at quarterly psychosocial rounds on the use of motivational interviewing to clinical staff on the dialysis/transplant team. A number of divisions requested and were provided with full clinical training workshops in MI, led by study author TRA. The workshops were approximately 16 hours in duration, and were provided in half-day or full-day increments to the divisions of Developmental and Behavioral Sciences, Pediatric Rehabilitation, Endocrinology, and Weight Management.

Evaluation

We have evaluated the use of MI through a series of studies. Two open trials of MI to examine issues of feasibility and acceptability have been completed. We are currently enrolling patients in a randomized trial, and have recently submitted a grant application to the National Institutes of Health about integrating motivational interviewing into a multi-component treatment intervention. The four studies described in more detail below were developed by co-authors SLT, MKM, MHM, DK, and KT as principal investigators, with co-author TRA serving as co-investigator.

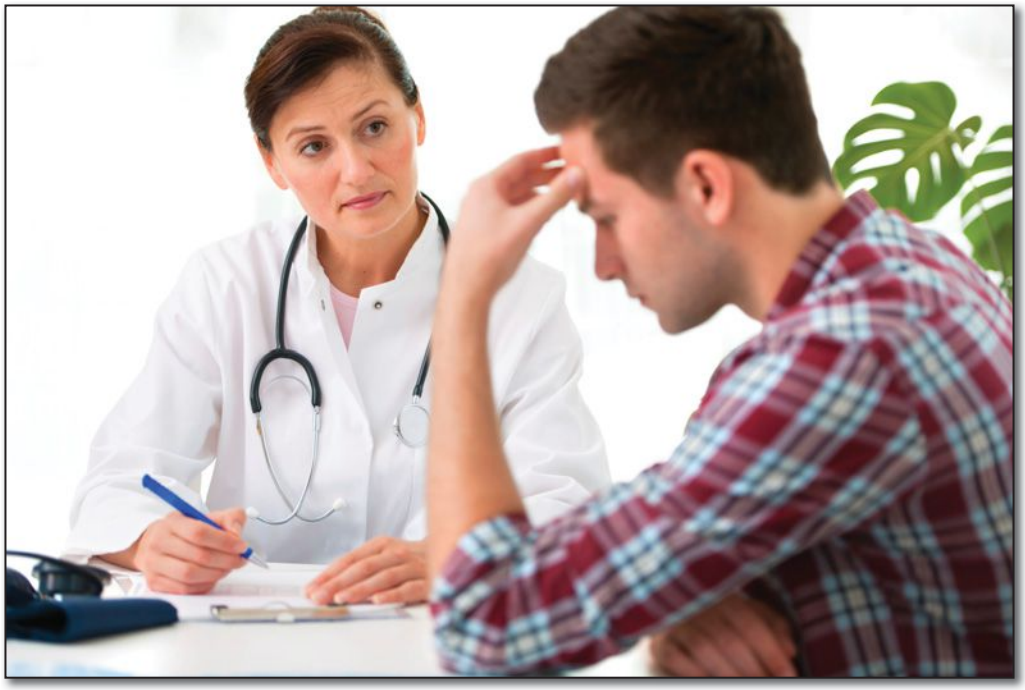
Feasibility & Acceptability

Reduce Adolescent Sexual Risk Behavior

The Centers for Disease Control and Prevention estimate 19 million sexually transmitted infections (STIs) occur each year, almost half among those ages 15 to 24, with adolescent women among those with highest infection rates.[9] Emergency department (ED) visits offer an opportunity to deliver brief interventions to improve health, but no proven ED-based behavioral intervention to reduce sexual risk behaviors exists. We designed a study to evaluate the feasibility of using motivational interviewing to target sexual health (Principal Investigator: MKM).

Study authors TRA and MKM developed an intervention manual for the study, based on motivational interviewing principles and style. An advanced graduate student in psychology was trained and served as health educator/interventionist. The intervention included agenda setting, exploration of behaviors, a decisional balance exercise, tailored feedback, provision of targeted health services (condoms, prescriptions for emergency contraception, and/or testing for STIs) and referral to the hospital-affiliated Adolescent Clinic. Due to the busy nature of the clinical setting, we designed the intervention to take 10-20 minutes to deliver. After initial training, the health educator received clinical supervision following each case.

Twenty sexually active patients aged 14-19 years were recruited (mean age 16.2, SD = 1.4; 60% female). Feasibility focused on subject ratings of interventionist fidelity to motivational interviewing, subject satisfaction, and session length. Most patients (78%) reported high fidelity to motivational interviewing by the interventionist, and most (80%) were very satisfied. The mean intervention length was 15.7 minutes (SD = 2.2 minutes). The study demonstrated feasibility and



There is considerable promise in the use of motivational interviewing as a style of provider-patient communication to improve treatment outcomes in pediatric populations.

potential utility of an ED-based intervention to address high-risk sexual health behaviors. We are applying these data (along with preliminary outcomes, not reported here) to the development of a larger study to evaluate long-term outcomes of providing expanded health care services in the ED.

Spina Bifida & Neurogenic Bladder Management

The majority of children with spina bifida have neurogenic bladders (impairment in emptying of the bladder due to a neurological condition) resulting in urinary incontinence.[10,11] Children are introduced to daily clean intermittent catheterizations before they enter school to achieve social continence.[12] Adherence in following a catheterization schedule can be difficult, especially in school-aged children and adolescents.[13] We designed a small, open trial to develop provider skills and describe the implementation of motivational interviewing in this population (Co-Principal Investigators: DK and KT). Three nurses, one social worker, and one physician received 16 hours of intensive training, completed readings about the approach, watched video examples, and met regularly to discuss implementation and the learning curve. An intervention manual was developed by authors DK, KT, and TRA. Also, providers received an additional eight hours of training specific to the study intervention, which was designed to be about 30-45 minutes in duration. The main focus of this study was to identify barriers or challenges in learning and implementing motivational interviewing, as well as describe patient response.

Subjects received a single intervention designed specifically to enhance motivation to engage in self-catheterization. The patient and family decided whether the interview occurred individually with the provider, or with the parent present. To provide feedback to interventionists, audio files of the intervention were reviewed by TRA using a coding system developed to assess interventionist skill at delivering motivational interviewing.[14] The coding scheme included level of empathy and adherence to the global spirit of motivational interviewing, as well as specific behavior counts (e.g., open-ended questions, reflections). Written and verbal feedback was provided to interventionists shortly after each motivational interviewing session throughout the duration of the study.

We are currently analyzing additional sources of qualitative data. The first involves narrative reflections from interventionists about learning and implementing motivational interviewing. Each interventionist kept written journals about each interaction with subjects (focusing on questions such as, "What was challenging or difficult? How did the patient respond to me? What did I learn from my interaction? What could I change to improve this interview? What clinic or staff issues were problematic?"). In addition, we will analyze the patients' experience of the intervention. To analyze the qualitative data, we plan to follow an inductive data analysis procedure.[15] Finally, we are examining daily

home journals kept by patients for one month following the intervention. The journal included number of catheterizations completed per day, and degree of daytime dryness.

These two studies demonstrated that hospital providers are interested in finding new ways to communicate effectively with patients, and that we can implement motivational interviewing interventions that are tailored to specific patient needs, and can be adapted to accommodate time limitations in different clinic settings. The next logical step was to examine patient outcomes. To this end, we have developed two clinical trials, described below.

Efficacy

Increase Adherence for Type I Diabetes

Type 1 diabetes (T1D) requires intensive and constant self-care by patients for optimal glycemic control. Physicians and allied health care professionals offer guidance and recommendations; however, the burden of diabetes management is ultimately the responsibility of patients and their families. As a result, patients may struggle with the substantial daily commitment required for optimal diabetes control. This is particularly true in adolescence, when it is common to see patients struggling with self-care as they achieve greater independence.[16] Most published behavioral intervention studies for teens with T1D have targeted single, direct adherence behaviors (e.g., blood glucose monitoring.[17]) Few studies have evaluated therapies that address motivation and the psychosocial processes that indirectly impact diabetes self-care, i.e. self-efficacy. Fewer still have incorporated critical feedback from recipients or providers in the design of the intervention.

We are currently recruiting patients for a study that will compare the efficacy of MI for improving glycemic control to traditional patient/physician interactions in at-risk adolescents with poor T1D control in a single-blinded, randomized controlled trial (Principal Investigator: SLT). The working hypotheses are that MI will lead to an improvement in glycemic control (specifically a reduction of Hemoglobin A1C $\geq$ 1) relative to traditional patient/physician interactions among at-risk teens, and that the improvement will be sustained over a six-month period. We will also examine the degree to which MI changes adherence to the diabetes regimen, as well as self-efficacy in diabetes management, relative to traditional patient/physician interactions.

We followed a similar procedure to training and development of an intervention manual as described above. Through collaboration of a clinical psychologist specializing in motivational interviewing and adolescents (TRA) and an endocrinologist with expertise in T1D and the clinic setting (SLT), we have tailored the interaction to suit the clinic setting, with a target length of 25-40 minutes. Thus far we have recruited 40 patients into the study, and will recruit a total sample of 80 patients. By testing the implementation of MI during routine pediatric diabetes clinic setting, we will be poised to immediately incorporate the approach into routine management of adolescents with poorly controlled T1D if it shows improved patient outcomes.

As Part of a Multicomponent Intervention

Inflammatory Bowel Disease (IBD), namely Crohn's disease and ulcerative colitis, is a chronic inflammation of the intestines with peak diagnostic prevalence in adolescence. Many adolescents with IBD demonstrate substantial deficits in self-management skills, and often lack the knowledge or behavioral skills to make appropriate health decisions and engage in optimal self-care by the time they transfer out of pediatric settings to adult providers.[18] Yet, interventions that focus on transition planning are lacking, key barriers to self-management are neglected, and evidence-based treatment approaches are scarcely applied in practice. Multicomponent treatment packages that combine empirically supported principles have shown effectiveness for improving medication adherence among chronically ill youth, but have never been adapted or applied to transition planning.[19]

In a project recently submitted to the National Institutes of Health, our goal is to develop a novel intervention that applies evidence-based educational, organizational, motivational, and behavioral strategies to enhance transition readiness and self-management among adolescents with IBD (Principal Investigator: MHM). This study will examine feasibility, acceptability, and efficacy of the multicomponent intervention to improve transition readiness among adolescents with IBD. The secondary aim is to examine the efficacy of the multicomponent intervention to improve other important correlates of self-management including adherence, patient self-efficacy, disease/treatment knowledge, quality-of-life, and disease activity. Forty adolescents with IBD and their primary caregiver will be randomized to a

five-session (five-week) multicomponent intervention or usual care arm. The intervention includes evidence-based principles such as behavioral contracting and guided problem solving, motivational interviewing to target family barriers to transition and health behavior change, and use of electronic pillboxes for continued adherence monitoring. The long-term aim is to develop a novel treatment approach to improve the ability of adolescents to successfully manage their health care needs and to maintain positive health behaviors following transfer of care to an adult provider. It is our expectation that this method of intervention could have both feasibility and utility in other pediatric patient populations, where effective self-management and transition to adult care would be anticipated to improve outcomes.

Limitation

An important consideration for other hospitals or medical practices that might be considering implementing the use of motivational interviewing should be noted. The first author (TRA) came to our hospital five years ago with considerable expertise in motivational interviewing. He had been formally trained as a trainer through the international Motivational Interviewing Network of Trainers,[20] and had been training and supervising clinicians on the use of this method for several years prior to joining our medical staff. Similar efforts in other settings would likely need one or more staff members with similar expertise.

Conclusion

We believe there is considerable promise in the use of motivational interviewing as a style of provider-patient communication to improve treatment outcomes in pediatric populations. Our efforts over the past several years have focused on developing clinical proficiency and establishing feasibility. Through ongoing collaboration between the Division of Developmental and Behavioral Sciences and multiple divisions, we plan to develop condition specific intervention trials to study the efficacy and effectiveness of motivational interviewing in pediatric specialties.

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Disclosure

None reported. **MM**

Children's Mercy / Division of Developmental and Behavioral Sciences
KANSAS CITY

No Guts, No Glory: Models of Integrated Care within a GI Subspecialty Practice

by Amanda D. Deacy, PhD, Michele H. Maddux, PhD, Matt Wassom, PhD, Rebecca J. Johnson, PhD & Jennifer Verrill Schurman, PhD

The programs utilize repeated measurement of patient-centered outcomes to monitor individual functioning, as well as to identify opportunities for programmatic quality improvement.



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Abstract

The focus in pediatric medicine has shifted from a concentration on mortality and morbidity to a more comprehensive view encompassing the physical, social, and psychological aspects of health. What follows is a description of four integrated, collaborative care clinics within the GI subspecialty at Children's Mercy Kansas City that specifically address this trend in pediatric healthcare. With these descriptions, we hope to inform broader acceptance and utilization of similar models across other pediatric populations.

Introduction

Recent and mounting evidence suggests that biological and psychosocial factors are mutually determinant, and often interactive, in many disease processes. Consequently, the focus of health care in pediatrics has shifted from concentrating predominantly on mortality and morbidity to a more comprehensive view which encompasses the physical, social, and psychological aspects of health care.[1] Integrated health care models, also referred to as interdisciplinary or collaborative care, do just that; they bring together health professionals from various disciplines to establish comprehensive treatment plans that address the biopsychosocial needs of the patient. This approach to care is characterized by a high degree of collaboration between all health professionals in the assessment of patients, treatment planning and implementation, and outcome evaluation. Integrated care has been shown to reduce the stigma often associated with seeking help for mental health concerns,[2] improve communication and collaboration between mental health and medical providers,[3] and enhance patient satisfaction.[4, 5, 6] Additional evidence suggests that integrated care can facilitate patient access to services, ensure fewer gaps in services, improve quality of care, and lower overall health care costs.[7]

Integrated care recognizes that there is rarely one single cause of symptoms, but rather a number of biopsychosocial factors that can contribute to symptom onset, severity, and duration. Further, integrated care

considers the interactions between biological, psychological, and social factors, rather than focusing on each area in isolation.[8] For pediatric gastrointestinal disorders, for example, equal emphasis is given to the biology and physiology of the gut and its psychological and social correlates, all of which are essential for understanding the specific medical condition and treating it appropriately. As such, treatments are often comprised of a combination of medical and psychological/behavioral interventions that work in concert with one another to benefit the patient. Thus, in addition to utilizing various medications, pediatric patients and their families might be asked to make psychological/behavioral changes to promote healthier bowel habits and routines, improve sleep, and better manage stress. Similarly, families may be asked to change how they respond to their child's symptoms, and school days may be restructured to decrease physical (and psychological) demands on children while, at the same time, ensuring ongoing opportunities for socialization and academic progress. Despite the growing evidence supporting a biopsychoscial conceptualization of many disease processes, highly integrated treatment programs remain rare in clinical practice. Below we review a few integrated programs currently in existence to serve GI populations at Children's Mercy Kansas City, with the goal of highlighting common themes and clinic-specific approaches to delivering integrated care that may help to inform broader acceptance and utilization of similar models across other pediatric populations.

Models of Integrated Care Within GI Subspecialty Clinics at Children's Mercy Hospital

Inflammatory Bowel Disease

The Inflammatory Bowel Disease (IBD) Team Clinic at Children's Mercy Kansas City, established in January 2011, is one clear example of an integrated medical-psychosocial care model. The IBD Team Clinic provides interdisciplinary and family-centered care to approximately 500 young patients with IBD with the goal of shifting from a reactive health care model to a proactive health promotion model of biopsychosocial care that recognizes the physical, nutritional, emotional, behavioral, financial, and social needs of patients and families. In other words, rather than waiting to address problems when they arise, the program is specifically structured to anticipate, screen for, and address common issues in this population before they become problems for a specific child or family. The IBD Team Clinic is staffed by two pediatric gastroenterologists, two nurse practitioners, one pediatric psychologist, one social worker, two dieticians, and two nurse coordinators, all of whom are dedicated programmatically to the care of IBD patients. During an IBD Team Clinic visit, each team member visits with a patient. The team then gathers to discuss the patient's overall health and functioning, and develop a holistic treatment plan that encompasses each discipline. To inform the psychosocial aspect of a patient's treatment plan, patients and parents complete psychosocial questionnaires on the patient's emotional/behavioral functioning, quality of life, and adherence. Based on psychosocial questionnaires and a discussion with the patient and family, treatment recommendations for psychological services (e.g., outpatient therapy, psychological evaluation) are made. Targeted intervention is also delivered by the psychologist with focus on promoting optimal disease management and self-care, adjustment to chronic illness demands, and attendance at school and other normally scheduled activities. This routine screening allows the team to monitor a patient's psychosocial functioning over time, target functional changes before they cause clinically significant impairment, and integrate the patient's psychosocial health into a comprehensive treatment plan. Patients are typically seen by the team within 1-4 weeks of their initial IBD diagnosis with once yearly follow-up thereafter for continuity of care.

Functional Abdominal Pain

Another of Children's Mercy Hospital's highly integrated medical-psychological clinical programs in GI is dedicated to the treatment of pediatric chronic abdominal pain in children ages 8 to 17. Initially launched in 2002, the Abdominal Pain Clinic has undergone significant expansion over the last decade and is currently comprised of two GI physicians, two pediatric psychologists, one psychology fellow, three advanced practice providers, three biofeedback clinicians, five nursing staff, and one clinical social worker. The program offers assessment and treatment of pediatric patients' abdominal pain and other GI symptoms from the point of initial evaluation through follow up. At the initial evaluation visit, patients and families are seen jointly by a GI physician and a pediatric psychologist. Likewise, at the first follow up visit, patients are seen by an advanced practice provider (an APRN or



The Abdominal Pain Program was the first integrated clinical care program in GI at Children's Mercy Hospital in Kansas City. The current team includes pediatric gastroenterologists, psychologists, APRNs, certified biofeedback clinicians, as well as other allied health professionals.
Photo Source: Used with Permission Children's Mercy Hospital, Kansas City.

physician assistant) and a pediatric psychologist. The need for patients to be seen by the psychologist at subsequent follow up visits is determined by the patients' follow up team. Standard of care in the APC includes a complete medical history, physical exam, and any necessary testing (i.e., procedures, laboratory work), as well as assessment of patients' coping repertoires, sleep habits, emotional and behavioral functioning, quality of life, and other family factors, using a standardized questionnaire battery. Based on findings from these assessments and discussion with the patient and family, a comprehensive and specifically tailored treatment plan is devised for each patient. Treatment plans typically include medications targeting presumed biological contributors to a patient's abdominal pain (e.g., allergic inflammation, visceral hyperalgesia, impaired motility), as well as the recommendation for biofeedback-assisted relaxation training, outpatient mental health treatment, and/or school intervention (in the form of a Section 504 accommodation plan). Psychoeducation and informal recommendations related to maintaining/returning to normal daily activities, coping with individual pain episodes, and parental coaching to support a patient's recovery efforts also are provided as part of the treatment plan. A similar, but pared down, version of the above battery is administered at all follow up visits in order to monitor patients' progress over time as well as allow for proactive and flexible intervention with necessary treatment targets (e.g., school attendance) before they cause clinically significant impairment and more sustained disability.

Functional Constipation and Encopresis

The Interdisciplinary Constipation and Incontinence (ICI) Clinic at Children's Mercy Kansas City is another highly integrated clinic that utilizes a biopsychosocial model in the assessment and treatment of children and adolescents with functional constipation and incontinence, or encopresis. The ICI Clinic was established in 2010

and provides interdisciplinary treatment from a pediatric psychologist and an advanced practice nurse (APRN). Patients are referred to the ICI Clinic from Children's Mercy GI physicians and nurse practitioners, as well as from community general pediatricians. Referrals also come from GI physicians who specialize in motility disorders, for patients who have been diagnosed with learned pelvic floor coordination issues or dysynergy. At the initial appointment, all patients are seen jointly by the medical and psychology providers who complete a combined history, assessment of contributing factors, and treatment conceptualization. Assessment, conducted via a standard questionnaire battery and semi-structured clinical interview, includes a thorough review of bowel and toileting history (including current symptoms of constipation or impaction), a physical exam, necessary laboratory assessment, and review of both the patient's behavioral and emotional functioning and relevant family factors. Standard of care in the ICI Clinic includes provision of detailed education about the nature of constipation and resultant soiling or encopresis, acute treatment of impaction (i.e., "clean-out"), maintenance medication(s), dietary modifications, and behavioral treatments to improve toileting habits. These behavioral treatments commonly include interventions for toileting refusal, parent training to manage child noncompliance, use of positive reinforcement and incentive systems to reach systematic goals with toileting, and techniques for improving "defecation dynamics" and appropriate control of the pelvic floor during elimination. It is also common for ICI Clinic staff to provide support and recommendations for accommodations and treatments at school. Follow up is initially held monthly due to the importance of close tracking of symptoms and adjustment to medical and behavioral interventions. Follow up appointments in the ICI Clinic continue to be interdisciplinary, but children and adolescents who need more intensive behavioral or psychological support may be seen separately by the psychologist between follow up visits. Between visits, children and families often complete bowel symptom rating sheets that track bowel movements in the toilet, soiling, consistency of stools, frequency of stools, and timing of stools. Rating sheets provide a specific way to monitor soiling accidents and other important treatment outcomes and to adjust the treatment plan over time, as needed. To improve treatment adherence and facilitate more timely adjustments to the treatment plan, many families will send their bowel symptom rating sheets to the providers via email.

Intestinal Failure/Short Gut Syndrome

The Intestinal Rehabilitation Program is the newest integrated clinical care program at Children's Mercy Hospital in Kansas City. The team includes a pediatric gastroenterologist, surgeon, psychologist, APRN, dietician, pharmacist, and social worker, as well as other allied health professionals. Patients from infancy through adolescence who meet criteria for intestinal failure/short gut syndrome receive team-based comprehensive care, across both inpatient and outpatient settings. To promote positive medical outcomes, family coping/adjustment, and continuity of care, many patients are first seen in the NICU, where the Intestinal Rehabilitation Team works closely with the neonatology team to tailor treatment recommendations for each child. Goals include progress toward enteral feeding and successful transition from the NICU to a medical inpatient unit. Patients who continue to need GI care post-discharge are followed in the outpatient Intestinal Rehabilitation Clinic. Common presenting concerns addressed by the psychologist, in collaboration with the larger team, include parent stress/coping, behavioral feeding and sleep recommendations, adherence concerns, and disruptive/noncompliant child behavior. This integrated approach allows for regular and close tracking of the developmental progress of this very vulnerable patient group, provision of anticipatory guidance at key developmental timepoints, and the formulation of tailored biopsychosocial recommendations designed to promote long-term positive outcomes.

Summary and Conclusions

Although the integrated programs outlined above vary to some degree in detail (e.g., the frequency and timing of follow up, whether all visits are team-based or simply informed by the joint treatment plan), common themes serve as a foundation for this type of work. Specifically, all of the highlighted programs are comprised of professionals in complementary specialty areas that allow for consideration of biopsychosocial factors, both independently and in interaction with one another throughout the assessment and treatment process. All of the programs prioritize proactive versus reactive care, using routine screening to identify opportunities for health

promotion and early intervention that can minimize long-term sequelae. The programs also focus on family-centered care, viewing the patient's own biopsychosocial contributors within a broader context to promote short- and long-term health. Finally, all of the programs utilize repeated measurement of patient-centered outcomes to monitor individual functioning, as well as to identify opportunities for programmatic quality improvement.

Replicating a truly integrated model of care, such as those described above, may be challenging for an individual provider, particularly in a private practice setting. Certainly, barriers exist to collaborative care, with one recent study identifying time limitations, access to other professionals, billing challenges, and family resistance among those faced most routinely in practice.[9] Moving toward greater integration, however, may be a realistic, attainable, and perhaps necessary goal. Simply understanding the management strategies consistent with an integrated care approach, such as routinely sharing and receiving notes, discussing conceptualization and progress over the phone, and/or engaging in joint treatment planning, can provide a roadmap for increasing an independent provider's level of care integration.[8] Finding the right collaborative partner(s) who are a good "fit" (e.g., same insurance panel), establishing reasonable expectations for communication regarding individual patient care, and beginning collaborative partnerships on a limited basis to refine the integrated model before expanding service are essential. In addition, recruiting a "champion" from your organization's administration who shares your vision can be vitally important.

Primary care providers interested in interdisciplinary collaborations (and their desired collaborators) should have sufficient experience or training to be expert in the clinical area needed, good social skills, willingness to engage in shared learning, and respect for scope of practice (both their own and others') as a foundation for developing an effective collaborative partnership. Over time, individual partnerships, under the right conditions, may evolve into more integrated team-based practice. In underserved geographic areas or populations, in particular, efforts to increase care integration among independent providers will be especially valuable. Fortunately, these efforts can be supported through the latest developments in communication technology (e.g., telemedicine, electronic record sharing, and video conferencing). Further, the Affordable Care Act[10] contains funding to promote integrated care and, in concert with this, newer pay-for-performance models of reimbursement emphasize cost effectiveness of the overall treatment package in attaining positive patient outcomes. These shifts in the broader healthcare system may result in integrated care models being considered more financially viable for many disease processes and chronic health conditions, provided that positive patient outcomes can be demonstrated through ongoing quality monitoring.

Health care models and delivery systems that simultaneously address patients' medical and psychosocial needs are certainly consistent with the conceptualizations of many chronic diseases, and are increasingly gaining empirical support in terms of their ability to produce healthcare cost savings, heightened consumer satisfaction, and improved patient outcomes. While the integration of medical and psychosocial care is not without its practical challenges, the models outlined above demonstrate that integrated care is possible within the right environment and with the right players on the team.

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Children's Mercy KANSAS CITY

Neonatal Circumcision: New Recommendations & Implications for Practice

by Elizabeth Simpson MD, Jean Carstensen MD & Patrick Murphy, MD

A standardized circumcision curriculum is helpful for all resident training programs whose graduates may expect to either perform neonatal circumcision or interact with parents during the prenatal and neonatal periods.



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Abstract

Neonatal male circumcision is the most common surgical procedure performed on pediatric patients. While the rate of neonatal circumcision in the United States has been dropping, circumcision continues to be frequent, ranging from 42% to 80% among various populations.[1] While the cultural debate over circumcision continues, recent evidence of medical benefits led to a revision of the American Academy of Pediatrics (AAP) circumcision policy statement.

In contrast to the 1999 AAP policy statement, the 2012 policy asserts that the preventive benefits of neonatal circumcision outweigh the risk of the procedure, which is well tolerated when performed by trained professionals, under sterile conditions, and with appropriate pain management.[2] This Circumcision Policy Statement has also been endorsed by the American College of Obstetricians and Gynecologists[2] and a similar policy statement is in place from the American Urologic Association.[3]

Despite the new recognized health benefits found by the 2012 Task Force of Circumcision (TFOC), circumcision remains controversial even among medical professionals. Other well recognized medical organizations including The American Academy of Family Practice[4] and some international pediatric societies have not adopted such a strong endorsement of circumcision. The policy statements from these organizations continue to more closely resemble the 1999 AAP policy statement that stated, "Existing scientific evidence demonstrates potential medical benefits of newborn male circumcision; however, these data are not sufficient to recommend routine neonatal circumcision."[5]

In this review we will summarize historical, cultural and ethical factors in neonatal circumcision and briefly compare common surgical techniques including anesthesia. In addition, we will discuss recent information regarding the benefits and risks of neonatal circumcision. Finally, we will discuss the financial reimbursement of practitioners and the benefits of standardized circumcision curriculum for trainees.

History and Culture of Circumcision

Circumcision has been performed since ancient times. Examples of circumcision can be found in Egyptian mummies, depictions of circumcision in ancient tombs etchings and in the Biblical covenants recorded in the Old Testament.

Historically, circumcision has often been associated in the United States with improved hygiene by both the medical community and the community at large. In Dr. Meredith Campbell's 1937 textbook of Pediatric Urology, circumcision was recommended as a way to improve genital cleanliness and avert masturbation.[6] The higher incidence of circumcision seen in the United States compared to European countries may also be influenced by the military practice of soldier circumcision prior to deployment in World Wars I and II.[7]

Today, as in ancient times, religious and often emotionally-charged cultural practices commonly dictate the practice of circumcision causing regional differences within the United States.[1] In some instances cultural clashes have resulted in legal involvement. In 2011 in response to anti-circumcision efforts in San Francisco, the State of California passed into law a bill banning any local community from restricting circumcision rights.[8] Angering many traditional Jewish practitioners, a 2012 New York City health code was established requiring traditional mohels who perform direct mouth suctioning (metzitzah b'peh) of the newly circumcised penis to obtain advance informed consent from parents regarding the risk of transmission of infection by this practice.[9] On a national US level, in 2013 the Federal Prohibition of Genital Mutilation Act of 2013 was submitted to the U.S. Congress seeking to make removal of the foreskin of boys younger than 19 years a criminal offense.[10] While these measures have failed to pass, they demonstrate the determination of individuals to increase regulation of circumcision.

Health Benefits of Circumcision

In preparation for development of a revised policy statement on circumcision, the AAP's Task Force on Circumcision (TFOC) completed a systematic review of the literature. This task force was comprised of a multidisciplinary team of stakeholders including Urologists, Family Practice Physicians, Anesthesiologists and Infectious Disease Physicians as well as Neonatologists and other newborn specialists. Ethicists, financial analysts and public health administrators also provided input. In addition to this systematic review of the literature, investigation into available patient databases and a review of National Health and Nutrition Examination Survey (NHANES) was completed. According to this systematic review, specific benefits of circumcision include the prevention of urinary tract infections (UTI), decreased acquisition of Human Immunodeficiency Virus (HIV), as well as decreased transmission of Human Papilloma Virus (HPV), Syphilis and Herpes. Both penile cancer rates and cervical cancer rates in partners were decreased in circumcised males. The TFOC concluded that the preventive health benefits of elective circumcision of male newborns outweigh the risks of the procedure.[1]

Decreasing the transmission of HIV in high HIV prevalence (African) countries has been a major public health initiative. In multiple randomized controlled trials, circumcision decreases the rate of HIV acquisition by heterosexual sexual transmission as much as 40-60% in high risk settings.[1] Opponents arguing against circumcision for HIV prevention note the multi-factorial nature of HIV transmission, the large number of circumcisions needed to prevent one case of HIV,[11] and the success of latex condoms. However, inconsistent use of latex condoms can lead to HIV and other sexually transmitted infections (STI) because transmission can occur with a single act of intercourse with an infected partner.[12]

The increased risk for UTI in uncircumcised boys is highest in infancy with an incidence rate of 1% for boys less than two years of age.[1] Morris and Wiswell[13] described additional benefits. Notwithstanding the marked increased risk of UTI during infancy, there are significant increased risks for UTI throughout the man's lifetime. They found the single risk factor of lack of circumcision to confer a 23.3% lifetime chance of UTI.

Contraindications to Neonatal Circumcision

Circumcision should be completed only after screening for contraindications has been completed. Contraindications can generally be grouped into four areas – concern for bleeding disorders, inadequate age/health of the infant, congenital malformations and insufficient size.[14-16]



Figure 1
Meatal abnormalities such as megalomeatus will usually not be evident until after the foreskin is incised and retracted during the procedure.

Infants, whose family history includes bleeding disorders such as hemophilia or thrombocytopenia, should not be circumcised until screening for these disorders has been completed. The routine administration of intramuscular Vitamin K after delivery should have been accomplished. In addition, infants who have clinical findings concerning for bleeding abnormalities such as significant bruising and petechiae or excessive bleeding from injection or blood draw sites require evaluation before circumcision.[16,17]

Minimum criteria for eligibility for circumcision include well appearing infants who are at least 12 hours of age, have previously had at least one void and after the collection of any needed urine specimens such as perinatal screens for drugs of abuse. To decrease the risk of emesis, infants should not be immediately post-prandial. In general, at least one hour should have passed since the previous feeding. The effect of circumcision on breastfeeding is a current topic of interest for many institutions. Since poor feeding may be a sign of illnesses, and the stress of the procedure likely impacts infant feeding, breastfeeding should be established and progressing satisfactorily prior to the circumcision.

Infants, who are born with associated genital-urinary congenital abnormalities that will likely require surgical repair including hypospadius, chordee, and webbed or buried penis, are not candidates for routine neonatal circumcision. Inspection of the penis with careful attention along the median raphe for evidence of hypospadius should be completed as part of the initial examination of all male infants and repeated at the time of the surgical preparation prior to the procedure. At times the median raphe is torsed. Raphe torsion of <60 degrees is considered a normal variant, however >60 degrees is associated with penile torsion and should prompt urologic consultation.[16,17] Grade 1, mis-placement of the meatus on the glans (either hypo- or eip-spadius) as well as meatal abnormalities such as megalomeatus (See Figure 1) will usually not be evident until after the foreskin is incised and retracted during the procedure. Current urologic surgical practices do not involve use of foreskin for this minor misplacements of the meatus so in contrast to previous recommendations, the circumcision may be completed.[19,20] In this situation the infant should be referred to Urology for evaluation of the need for a second procedure.

Small size in diameter or length of the penis may preclude neonatal circumcision. Premature infants often have insufficient growth prior to hospital discharge for the procedure to be performed. Both the Gomco and Plastibell devices are "sized" and even term infants may have a penis whose diameter is too small for the smallest device available. In contrast, the Mogan clamp is available as a single standard size and it's use is not dependent on the diameter of the penis.[14] The diagnosis of micropenis (stretched penile length <1.9 cm), or penile webbing (foreshortened ventral skin surface between tip of foreskin and scrotum) makes neonatal circumcision inappropriate.[14,16,21] Infants with bilateral cryptorchidism and small penile size should be evaluated for endocrine disorders such as congenital adrenal hyperplasia or disorders of sex differentiation.[14,16,22]

Care of the Foreskin in Non-Circumcised Males

When neonatal circumcision is not desired or is contraindicated, physicians must be able to instruct families on the care of the foreskin. Little recent evidence exists for current practice, but a study from 1981 found physicians often gave no guidance at all or frankly incorrect advice. The study also included parental reports of physicians forcibly retracting their

son's foreskin during infancy.[23]

Phimosis is physiologic at birth and resolves spontaneously with gradual desquamation and formation of the preputial space. No forcible retraction should be recommended or completed. During bath time parents should be instructed to only gently withdraw the foreskin allowing the easily exposed portion of the glans to be cleaned with mild soap and water.

While most boys (about 90%) will have retractable foreskins by the age of five, others will not achieve full retraction until puberty. Without complications such as recurrent balanitis or other indications, watchful waiting is all that is necessary for the school aged boy with phimosis. At age 17, only 1% of uncircumcised men will have a non-retractable foreskin.[24,25]



Figure 2

Parental understanding of the procedure and follow up care should be assured prior to the procedure. Models of both the circumcised and uncircumcised penis are helpful to explain the procedure.

Consent and the Parental Role

If no contraindications are present, the practitioner may proceed with addressing the issue of circumcision with the new parents. Changes recommended by the new AAP policy statement involve the information and anticipatory guidance that should be given to all parents of male infants. In a recent AAP publication Brown[26] suggests that newborn documentation for male infants should include the following five points:

1. Circumcision is elective and locations where circumcision can be performned should be listed.
2. Circumcision lowers risk for UTI during infancy and reduces risk for transmission of HIV and STIs later in life.
3. The AAP and ACOG have concluded that the benefits outweigh the risks.
4. There are lower risks and greater benefits when circumcision is performed in the neonatal period.
5. Parents should consider their own cultural, religious and personal preferences when deciding to circumcise their child.

Previous surveys have found that fathers are often the primary decision makers regarding circumcision, that the decision was made early in pregnancy and that only a small proportion of pediatricians routinely discuss the procedure with parents.[1] Bisono et al.[27] found that among a Hispanic population interviewed when their child was three years of age, 44% of parents reported neither being informed of the advantages nor disadvantages of circumcision. Although many parents have made circumcision decisions prior to their son's birth, the new statement recommends physicians inform all parents of the benefits and risks of circumcision.

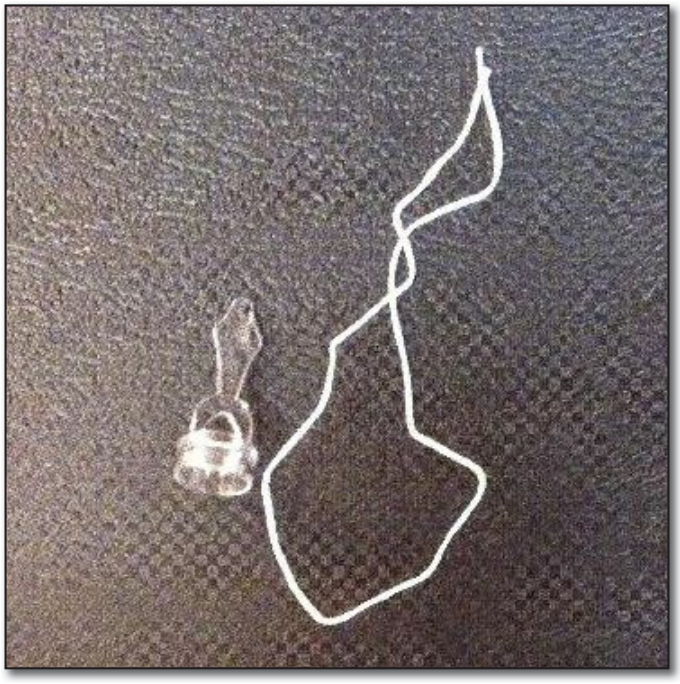
Much attention has been given to the consent process and the parental role as surrogate decision makers for this nonemergency prophylactic procedure. Parental understanding of the procedure and follow up care should be assured prior to the procedure. Methods of consent utilizing health literacy "teach back" techniques where patients are asked to restate the facts about the procedure, have been shown to more accurately evaluate patient's understanding and support health providers' obligations to communicate in simple, clear, and plain language.[28,29] Mothers are commonly required to sign consents since paternal rights may not be as easy to establish. Often when circumcision is not part of the family's culture, health literacy challenges arise. In our institution, models of both the circumcised and uncircumcised penis (See Figure 2) have been helpful to explain the procedure. Certified interpreters should always be used when any language barrier exists.

In a recent review of circumcision, Pinto[30] summarizes previous ethical debates regarding elective procedures, parental biases and the risk of deferral of the procedure. Adult males request elective circumcision only rarely. Therefore, it can be argued that the parental decision may not reflect the child's wishes at maturity.

Morris et al.[31] note that regardless of the debate over parental consent, infancy appears to be the

Figures 3, 4, 5
The most common devices used in the United States. From top: the Gomco, followed by the Plastibell and the least common in medical settings, the Mogen Clamp.







optimal time for circumcision. An infant's low mobility facilitates the use of local anesthesia, sutures are not required, healing is quick, cosmetic outcome is usually excellent, costs are minimal, and complications are uncommon. The earlier the circumcision is completed, the less the risk of Urinary Tract Infection in infancy. Circumcisions completed outside the neonatal period have higher complication rates, particularly for bleeding.

Procedural Pain Control

Procedural pain control also gets new attention in the 2012 guidelines. Sugar and swaddling alone are not enough. Analgesia is both safe and effective for circumcision and should be provided for every circumcision. Penile nerve block techniques provide the best analgesia with reported failure rates of between one and ten percent. Edema, improper needle position and medication errors have rarely been reported as procedural complications. The specific anesthesia technique should be determined by the provider's training and experience. Topical anesthetic creams may cause skin irritation especially in low birth weight infants. The TFOC concluded that penile nerve block techniques are the preferred anesthetic for all neonatal circumcisions and that topical anesthetic creams should not be used in low birth weight infants.[1, 32]

Surgical Procedural Devices

The most common device used in the United States is the Gomco, (See Figure 3) followed by the Plastibell (See Figure 4) and the least common in medical settings, the Mogen Clamp (See Figure 5). Proponents of the Gomco tout direct inspection of the penile glans for contraindications, ease of estimation of the appropriate amount of foreskin removal and the lessening chance of infection since no plastic ring is retained after the procedure.[16,33] The major downside to use of the Gomco clamp is the increased risk of bleeding over the Plastibell technique. When using the Gomco technique, lack of recent circumcision procedural experience has been correlated with increased risk of bleeding.[34] This correlation may be a significant consideration in training programs where residents and even attending physicians may rotate "in and out" of

newborn settings and procedural completions may be intermittent. Careful consideration of the minimum time of clamp application must be observed and care should be taken to not disrupt the weld between the residual prepuce and shaft skin after clamp removal. Petroleum jelly is needed to protect the exposed glans and the residual prepuce during the healing process. [16,35]

The Plastibell procedure is initially similar to the Gomco. The procedure differs as the plastic ring (Plastibell) is applied rather than a metal clamp. The Plastibell is tied tightly onto the foreskin at the level of desired foreskin removal. The ligature is tight enough to achieve tissue strangulation. The excess foreskin distal to the ligature can then be trimmed. The Plastibell effectively protects the exposed glans so no petroleum jelly is needed. Proponents note the use of scissors than the scalpels making inadvertent injury to the penile glans or shaft less likely. The ligature provides hemostasis so bleeding is less common. However, infection (although still very rare) is more likely with use of Plastibells. This is likely due to the presence of strangulated foreskin as well as the presence of the Plastibell "foreign body" during the first week following the procedure. Complications can also occur if the Plastibell is mis-sized. Plastibells which are significantly too small may incarcerate the glans and cause significant pain. In contrast, Plastibells which are significantly too large may slip down onto the shaft of the penis and cause incarceration of both the shaft and the glans. [16,35,36]

The Mogen (or Mogan) clamp requires the least amount of procedural time. It is commonly used in traditional Jewish circumcision rituals and sometimes performed by mohels or other lay practitioners in other non-medical settings. The foreskin is grasped and the glans is pushed down, the Mogen clamp is applied over the foreskin with the glans positioned below the clamp. The Mogen clamp can only open 3 mm to avoid major glans entrapment and potential amputation. The clamp is closed and the foreskin is removed with sharp dissection (scalpel).[16,35] The residual foreskin is retracted from the glans. As in the Gomco procedure, petroleum jelly is used to protect the glans. Proponents including lay circumcision providers note the speed of the procedure. Although practitioners of ritual circumcision may have professional training and certification, they typically are not licensed providers and do not have a license to use injectable anesthetic agents. Therefore, no anesthesia other than oral sucrose is usually provided in ritual circumcision. These providers often argue that nerve blocks are painful and time consuming. The Mogen clamp procedure time is much shorter in comparison to the length of time necessary for nerve block anesthesia combined with other circumcision techniques. Discounting the value of continued anesthesia after the procedure, these lay providers purport that infants undergo painful procedures for an overall smaller portion of time. Comfort measures such as swaddling and feeding after the procedure are anecdotally adequate for pain control. Skeptics of the Mogen clamp procedure note the lack of inspection of the glans for meatal abnormalities, the possibility of partial amputations of the glans and the increased incidence of bleeding as reasons to favor another technique.

For ease of nursing care protocols and availability of supplies, institutions often prefer all practitioners of neonatal circumcision to use similar methods. However, there is little difference in outcomes between procedural methods for neonatal circumcision as long as the medical provider is trained and the procedural experience is recent.[1]

Complications after Circumcision

Significant acute complications of neonatal circumcision are rare (1/500); usually minor and most commonly involve bleeding, infection or an imperfect amount of tissue removed.[1]

Infants should be observed for bleeding after the procedure. The length of time for observation is generally at least two hours for sharp circumcisions. Since the Plastibell procedure has less incidence of post-procedural bleeding, it may be the most suitable technique for outpatient circumcisions. Infants have often been required to remain in the hospital after the procedure until they have voided. However, in two studies, Narchi and Kulayat,[37] and Perlmutter et al.,[38] this was found to be unnecessary. All the studied infants voided without complication. The length of time to voiding after circumcision was only found to be related to the type of infant feeding with breastfeeding predictably associated with longer times to void.

Overall complication rates generally are expected to be 1.5%. Late complications do occur and fortunately are usually minor. Most late complications involve

Figure 6
Circumcision Objective Structured Assessment of Technical Skills (OSATS)

CIRCUMCISION ACTION STEPS

- Obtain Consent from parents
- Match consent to patient arm band
- Restrain infant appropriately
- Put on non-sterile gloves
- Inspect exterior of penis for ectopic meatus
- Draw up 1 ml of 1% Lidocaine
- Use alcohol to cleanse skin prior to injection
- Have pacifier with sugar available as needed
- Apply small gauge needle for injection
- For Ring Block anesthesia, make a subcutaneous bleb of Lidocaine at base of penis
- Beginning laterally, inject superficially in a ring circumferentially around base of penis
- Inject 1.0 ml of anesthetic subcutaneously in a superficial ring circumferentially around base of penis
- Set up circ tray and select Plastibell
- Put on Personal Protection Kit of sterile gloves & cover gown as needed
- Sterilely prep patient using expanding ring technique with betadine two times
- Drape the baby sterilely
- Apply two hemostats to foreskin at 10 and 2 o'clock position
- Separate the adhesions between the previously placed hemostats with another hemostat tip remaining superficially
- Crush the foreskin with a straight hemostat placed at 12 o'clock to a length approximately the same length as the width of the glans
- Place ligature underneath at the base of the penis
- Wait at least 30 seconds after clamping before cutting slit
- Use tissue scissors to make the dorsal slit on the crushed line
- Manually retract the foreskin
- Free remaining adhesions completely exposing the sulcus
- Check bell size
- Apply bell to penis and draw the foreskin back up over the plastibell
- Place the bell so that the groove of the bell is about 1.0 cm distal to the sulcus
- Make sure that the apex of the dorsal slit is distal to the bell's groove
- Position the ligature around the bell's groove and draw ligature very strongly
- Finish the surgeon's knot squarely with 4 ties as a square knot
- Snip off excess ligature
- Trim off foreskin using outer ridge of bell as cutting guide
- Break off bell handle
- Clean off excess blood or betadine

adhesions, skin bridges, incomplete circumcision with uncircumcised appearance and meatal stenosis.[16,39] Major complications are extremely infrequent.[1]

At our institution, the most common reasons to return for urology consultation after circumcision are penile adhesions, redundant foreskin and meatal stenosis. Parental education after circumcision both during the newborn hospitalization and during routine well child appointments may prevent some of these subspecialty referrals. Foreskin adhesions between the inner prepuce and the glans are reported in 71% of boys <12 months and only 2% of boys > nine yrs. The formation of adhesions may be reduced by parental instructions to routinely retract any redundant foreskin with baths and stool diaper changes. These adhesions typically resolve without intervention. In contrast, with skin bridges the cut edge of the foreskin heals to the glans. These connections are epithelialized on both sides and do not spontaneously resolve. [39-41] Meatal Stenosis is only seen in circumcised boys and is thought due to chronic irritation of the meatus due to contact with diapers. While the incidence of meatal stenosis is rare, the incidence may be further reduced by the use of petrolatum on the glans/meatus as a protective agent.[16]

Standardized education for trainees and adequate supervision and support are critical to reduce procedural complications. In our experience, one of the most difficult aspects of the procedure is estimation of the amount of foreskin to remove. With inexperienced surgeons, the procedural time is often prolonged and the penis and foreskin may become edematous making the assessment of appropriate foreskin removal more difficult. To assist with removal of the correct amount of foreskin, trainees at our institution are encouraged to use a skin marker to draw the anticipated line of resection on the foreskin prior to initiating the circumcision.

Reimbursement for Circumcision and Cost Effectiveness

Many states have blocked Medicaid payment for routine newborn circumcision effectively creating inequalities in access to the procedure. Currently, the state of Missouri is among the states whose compensation level is so inadequate that many practitioners are unable to justify the time

necessary for the procedure completion. While other demographic factors may be confounders, circumcision rates are highest in privately insured populations.[42] The TFOC recommends that the preventive and public health benefits associated with newborn male circumcision warrant third-party reimbursement of the procedure.[1] Parents who are considering deferring circumcision until later in life should be informed that circumcision at an older age is associated with increased risks and costs. In one cost analysis performed by Schoen et al.[43] circumcision after the neonatal time period was ten times more expensive than circumcision in the neonatal nursery and 9.6% of the uncircumcised infants later had medical indications which required circumcision.

Decreasing rates of circumcision in the United States have led to increased interest in the cost effectiveness of the procedure. Kacker et al.[44] recently found that decreasing circumcision rates to 10%, similar to the rates in Europe, will increase life-time health care costs by $407 per man and $43 per woman. Others have criticized this analysis citing the anticipated availability of lower priced generic drugs for the treatment of HIV and utility of the HPV vaccine. Additionally, criticism revolves around Kacker's methodology and his comparative analysis that 285 newborns would need to be circumcised to prevent each case of HIV transmission.[45]

Training of Practitioners

Neonatal circumcision is performed by multiple specialties. Pediatric, Obstetrical and Family Practice residency programs should all provide circumcision training. The TFOC states that practitioners must be trained and competent.[1] The Pediatric Residency Review Committee (RRC) requires that residents have knowledge of circumcision,[46] but in a survey published in 1998, only 43% of responding pediatric residency programs provided training in circumcision. Other specialties performed better with 95% of family practice and 84% of obstetric programs providing training.[47] Another survey of Pediatric Program Directors found that only 28% of responders agreed that "all or almost all" of their residents were competent to perform the procedure at the end of their training.[48]

Even when circumcision is taught to residents, the old apprentice model (''see one, do one, teach one'') for surgical skills may be falling short. As noted by Fenner, ''a new model for the teaching and assessment of surgical skills is needed that ensures the standardization of skills with reliable performance measurements.''[49]

At our institution, we have implemented standardized circumcision training which includes both required didactic modules and observed procedural performance on a model. Similar to results by Goff and Lentz [50,51], and Martin et al, [52] we have found that an Objective Structured Assessment of Technical Skills (OSATS) (See Figure 6) with key procedural steps is useful to guide both surgeons and mentors who are rating competency.

Documenting ongoing competency for procedures has also been a recent focus for hospital credentialing committees. Faculty ongoing procedural performance evaluation for circumcision is documented in our facility by completion of our standardized educational curriculum including circumcision simulation on the model with use of the OSATS metric for evaluation.

Summary

We agree with the AAP policy that neonatal circumcision has medical benefits that exceed the medical risks and should be available for families who choose the procedure. We strongly support additional anticipatory guidance and documentation of informed consent. Cultural, religious and ethical family traditions must be respected and supported as physicians counsel these new families. We believe that neonatal circumcision is cost effective. Insurers including state associated Medicaid programs should cover this procedure with adequate funds to encourage practitioners to perform neonatal circumcisions in appropriate settings. Additionally, we believe that a standardized circumcision curriculum is helpful for all resident training programs whose graduates may expect to either perform neonatal circumcision or interact with parents during the prenatal and neonatal periods. Finally, physicians performing the procedure have a responsibility to demonstrate ongoing competency, including adequate pain control, during the procedure.

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Disclosures

None reported. **MM**

Missouri Medicine Series
PAIN MANAGEMENT

Pediatric Pain Management: A Review

by Frederick T. O'Donnell, MD & Kathleen R. Rosen, MD

Children are at increased risk for adverse drug effects from analgesic therapy if proper vigilance and monitoring are neglected. Analgesics and anesthetics are responsible for the majority of adverse drug effects in hospitalized children.



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Abstract

Although the occurrence of pain in hospitalized children is common, assessment and treatment of pain presents unique challenges to practitioners who care for pediatric patients. Knowledge of drug mechanisms as well as metabolic differences in infants and children compared with adults is necessary for the successful treatment of acute and chronic pain syndromes. Recent reports of adverse events in children receiving both opioid and non-opioid analgesics have prompted re-examination of some long standing pain medication regimens and prescribing practices. We review advances in diagnosis and management of pain in pediatric populations.

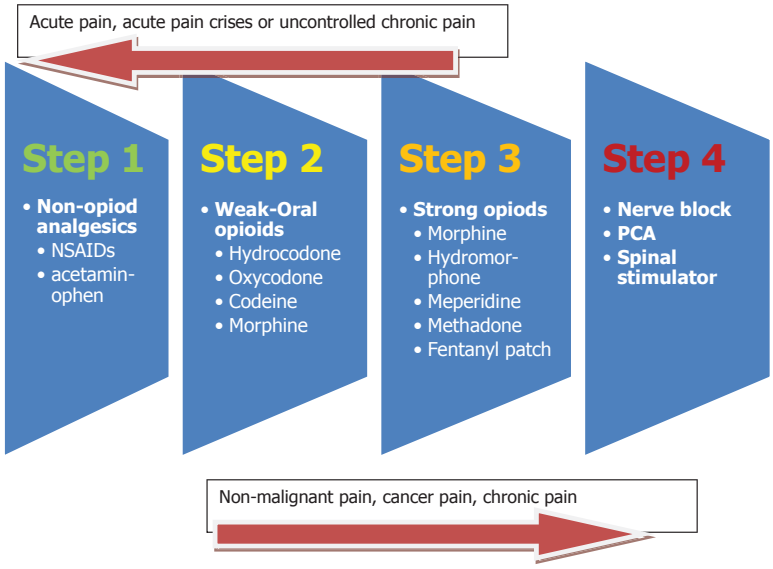
Background

The incidence of pain is common among neonates, infants, and children, with an estimated 33-82% of hospitalized pediatric patients experiencing moderate to severe pain, especially following surgery or other painful procedures.[1] Despite this, it has long been recognized that pain in pediatric populations is poorly assessed and undertreated or mismanaged, leading to adverse patient outcomes (both long-term and short-term) and increased healthcare expenditures. Attempts to improve analgesia through education include designation of pain as the fifth vital sign and the application of the World Health Organization (WHO) pain ladder. Although originally intended to guide management of cancer pain, it has been expanded to other mechanisms of acute and chronic pain.[2] (See Figure 1) Many pain management strategies, both pharmacologic and non-pharmacologic, are available to practitioners for the treatment of acute pain and procedural pain in children.[3] Management of chronic pediatric pain due to conditions such as musculoskeletal pain, recurrent abdominal pain, headaches, vaso-occlusive crises, and cancer is complex, and often requires a multidisciplinary approach and is beyond the scope of this paper.[4]

Pain Assessment

Timely and accurate assessment of pain in hospitalized children is important to diagnosis and management, improving patient satisfaction and clinical outcomes, as well as reducing distress during subsequent hospitalizations and painful interventions.[3] Pediatric pain assessment tools are difficult to validate because it is often impossible to distinguish pain from other causes of distress in children. There are many age-appropriate tools available for assessing pain in pediatrics.[5] In general, self-report methods are useful in children at least five to six years old.[6] Visual analog scales such as those used for adults can be used in children age 8 and above, and include face scales such as the Oucher Pain Scale™ and Wong-Baker Faces

Figure 1: WHO pain ladder modified for acute and assorted chronic pain[2]



Scale.[7] (See Figure 2) The Oucher™ uses actual photographs of children's facial expressions. Five different ethnic posters are available: African-American, Asian, Caucasian, First Nations, and Hispanic. Line drawings show the spectrum of facial expression in the Wong-Baker scale. These scales are more appropriate in younger children. The Oucher™ is not valid in children less than three years of age. Self-report tools are not useful for many children because of age, cognitive impairment, or language/cultural barriers. In these situations, use of observational measures of behavior and physiologic parameters such as heart rate, blood pressure, facial expressions, crying, and body posturing

Figure 2

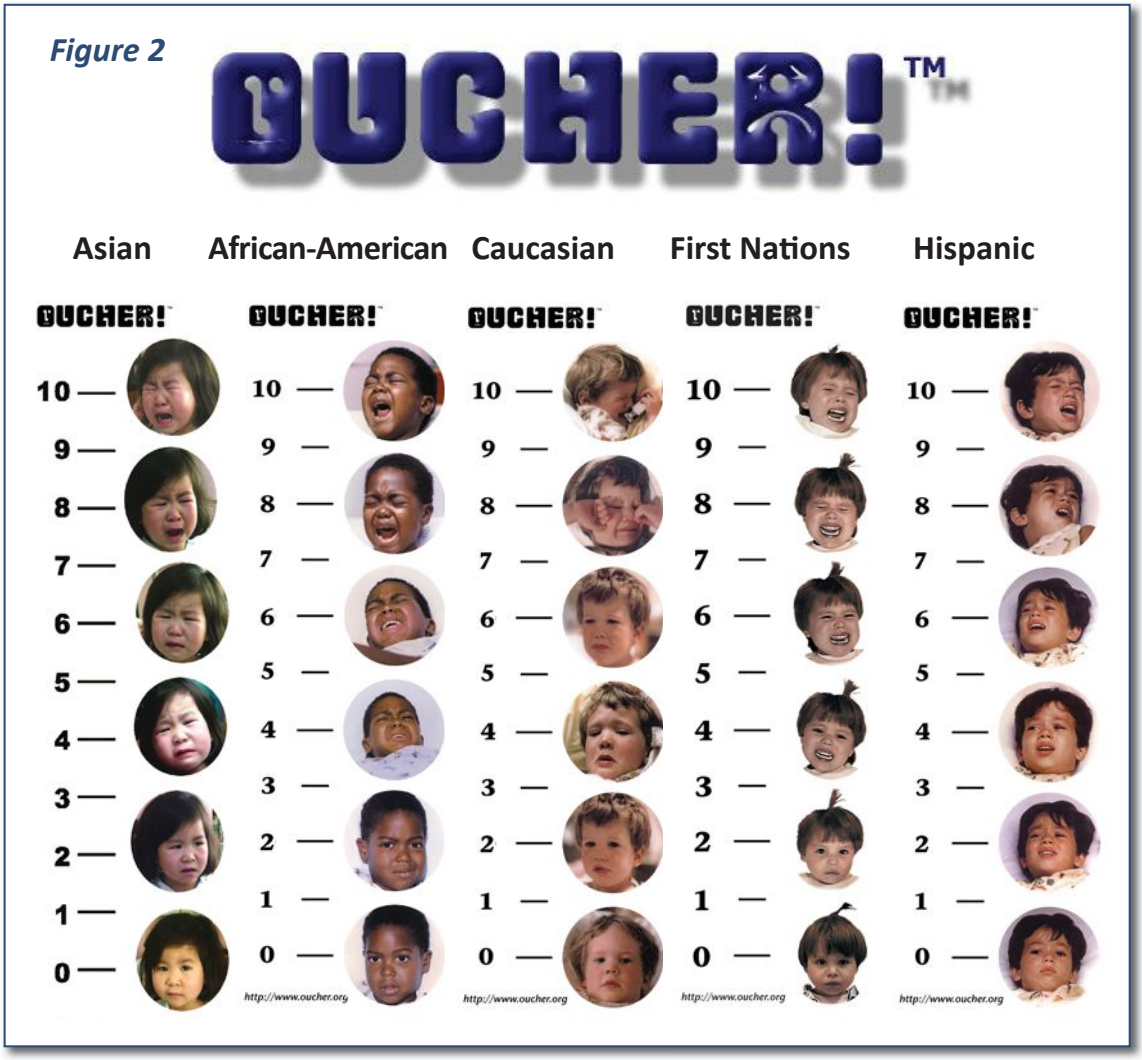


Table 1: Non-Opioid Analgesics

Drug	Route	Age	Dose	Frequency
		Acetaminophen		
Acetaminophen	Oral	< 10 days	10-15 mg/kg	Q6 hrs
Acetaminophen	Oral	NB > 10 days	10-15 mg/kg	Q4-6hrs
Acetaminophen	Oral	Infants & Children < 12 yrs	10-15 mg/kg	Q4-6hrs
Acetaminophen	Oral	Children ≥ 12 yrs	10-15 mg/kg	Q4-6hrs
Acetaminophen	Rectal	< 10 days	30 mg/kg	Q8hrs
Acetaminophen	Rectal	NB > 10 days	30 mg/kg	Q6-8hrs
Acetaminophen	Rectal	Infants & Children < 12 yrs	20 mg/kg	Q4-6hrs
Acetaminophen	Rectal	Children ≥ 12 yrs	325-650 mg	Q4-6hrs
Acetaminophen	Intravenous	2-12 yrs	12.5mg/kg or	Q4hrs
Acetaminophen	Intravenous	2-12 yrs	15 mg/kg	Q6hrs
		NSAIDS		
Aspirin*	Oral		10-15 mg/kg	Q4hrs
Ibuprophen	Oral		5-10 mg/kg	Q6hrs
Naproxen	Oral		5-6 mg/kg	Q12hrs
Ketorolac	Intravenous		0.5 mg/kg	
Ketorolac	Intramuscular		1.0 mg/kg	

*Do not use in children with acute febrile illness due to risk of Reye's syndrome

is recommended.[6] Autistic patients are frequently described as insensitive to pain. A recent study using objective measures suggests that their response may be greater and recovery delayed compared to normal children when assessed by behavioral and physiologic scales.[8]

Pharmacology of Pain Medication in Pediatrics

Although afferent pain pathways are thought to be mature by 26 weeks gestational age, pediatric dosing regimens for analgesic drugs are complicated by age-related differences in drug metabolism. Differences in body water composition, metabolic rate, and plasma protein binding often offset each other to produce minimal change in dosage. However, immaturity of metabolic pathways and clearance mechanisms frequently require prolonged intervals between recommended doses.[3] Adult metabolism may not be achieved until adolescence. However, the majority of the increase occurs in the first year of life.

Medications

Traditional Non-Opioid Analgesics

Acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDS) are among the most commonly prescribed medications during pediatric hospitalizations for control of mild to moderate pain.[9] NSAIDS inhibit cyclo-oxygenase (COX) enzymes and reduce inflammatory mediators in peripheral tissues. NSAIDs are largely free of side effects commonly associated with opioids.[10] The mechanism of acetaminophen is less completely understood but is believed to involve multiple pain pathways. Some studies describe benefit to combining acetaminophen and NSAIDS for the treatment of post-surgical pain in adults or children post-tonsillectomy.[10, 11] Combination therapy is associated with better post-operative pain scores, fewer side effects, and improved patient satisfaction. Although these drugs are recommended for mild to moderate pain, they are useful adjuncts in the management of moderate to severe pain. (See Table 1 for recommended dosing.) A large meta-analysis in children documents significant opioid sparing for both NSAIDS and acetaminophen in the treatment of moderate to severe pain.[12]

Acetaminophen is available over-the-counter in liquid formulations and chewable tablets with variable concentrations alone or in combination with other medications. These inconsistencies increase the risk of accidental overdose. Intentional ingestion of acetaminophen by children accounts for roughly half of pediatric acetaminophen overdoses requiring hospitalization and treatment.[13] Acetaminophen has a narrow therapeutic index and overdose produces

Table 2: Maximum Daily Dose Oral or Rectal Acetaminophen[3]

Age	Dose
Children	100 mg/kg/day
Infants	75 mg/kg/day
Term & preterm neonates ≥ 32 weeks post conceptual age	60 mg/kg/day
Preterm neonates 28-32 weeks	40 mg/kg/day

accumulation of the toxic metabolite N-acetyl-p-benzoquinoneimine (NPQI) that damages hepatic tissues, and may result in acute liver failure or even death. Maximum safe daily dose varies with age (See Table 2). The FDA has recently recommended that acetaminophen concentration in liquid formulations be standardized to 160 mg/5 mL and that any acetaminophen-containing medication be clearly labeled.[14] Prior to the introduction of intravenous acetaminophen, rectal administration of acetaminophen (40 mg/kg loading dose) was common in infants and children unable or unwilling to take oral formulations, but rectal dosing is associated with delayed onset, variable uptake, and prolonged clearance.[15]

In 2011, intravenous acetaminophen (Ofirmev, Cadence Pharmaceuticals, San Diego, CA) was approved in the United States for the treatment of fever and mild to moderate pain in children greater than two years of age. Unfortunately, there have been numerous reports of ten-fold overdoses of intravenous acetaminophen resulting from dosages being calculated in milligrams (mg) but administered in milliliters (mL) of the 10 mg/mL intravenous solution.[16, 17] The recommended dosing of intravenous acetaminophen for children between ages two and twelve is 12.5 mg/kg Q4 hours, or 15 mg/kg Q6 hours, not to exceed 750 mg per dose or 75 mg/kg per day.[18]

There are three types of NSAIDs available for pediatric use: salicyclates, traditional NSAIDS, and COX 2 inhibitors. Aspirin, ibuprophen and naproxen are available over-the-counter and in liquid form. Indomethacin and Celebrex® are available only by prescription. Celebrex is a COX2 inhibitor that has no liquid formulation. Use of aspirin in the setting of fever/acute illness has been abandoned because of the risk of Reye Syndrome in children. Aspirin, indomethacin, and Celebrex are prescribed for the control of chronic pain associated with rheumatoid arthritis.

Some studies demonstrate no difference in efficacy between NSAIDs and acetaminophen for the management of mild pediatric pain. Other reports support improved analgesia with NSAIDs.[3] Similarly, some studies indicate a greater degree of opioid sparing with NSAIDs.[12] Common adult NSAID risks, such as gastrointestinal bleeding and renal insufficiency, are rare in children during short term usage in the absence of known gastrointestinal or renal pathology. Patients and care givers should be advised against taking or administering these medications on an empty stomach.

Ketorolac is a non-selective COX inhibitor that may be given intravenously or intramuscularly and is especially useful in hospitalized patients.[19, 20] Ketorolac may be relatively contraindicated in patients at risk for bleeding due to its inhibition of platelet function. It has been used safely in many surgical patients after hemostasis has been achieved. Based on reports of adverse events, its use is limited after tonsillectomy and some orthopedic procedures. Intramuscular dose (1 mg/kg) is double the recommended intravenous dose (0.5 mg/kg).

Opioids

A variety of opioid medications (See Table 3 for recommended dosing) are available for the treatment of pain in pediatrics and are recommended by the WHO in combination with non-opioid analgesics for the treatment of moderate to severe pain resulting from acute and chronic pain syndromes as well as post surgical pain.[2,21] Although effective, opioid analgesics are associated with undesirable side effects (e.g., nausea, pruritis, ileus, urinary retention, sedation, and respiratory depression). Neonates are at especially high risk for central respiratory depression because hepatic enzymes, renal function, and hypoxic

Table 3: Opioid Analgesics in Infants ≥ 6 Months and Children[3]

Drug	Route	Dose	Frequency
Codeine	Oral	0.5-1.0 mg/kg	Q3-4hrs
Codeine	Intramuscular	0.3-0.5 mg/kg	Q4-6hrs
Fentanyl	Intravenous	0.5-1.0 mcg/kg	Q1-2hrs
Fentanyl	Intranasal	1.5 mcg/kg	May repeat x1 at 10 minutes
Fentanyl	Intranasal 2nd dose	0.75-1.5 mcg/kg	
Hydrocodone	Oral	0.1-0.15 mg/kg	Q3-4hrs
Hydromorphone	Oral	40-80 mcg/kg	Q3-4hrs
Hydromorphone	Intravenous	10-20 mcg/kg	Q2-4hrs
Meperidine	Oral	2-3 mg/kg	Q2-3hrs
Meperidine	Intravenous	0.8-1.0 mg/kg	Q2-3hrs
Methadone	Oral	0.1-0.2 mg/kg	Q6-8hrs
Methadone	Intravenous	0.1 mg/kg	Q6-8hrs
Morphine	Oral	0.3 mg/kg	Q3-4hrs
Morphine	Intravenous	0.1 mg/kg	Q2-4hrs
Oxycodone	Oral	0.1-0.2 mg/kg	Q3-4hrs

respiratory drive are immature and less efficient than in adults.[3]

It is recommended that acetaminophen and opioids be prescribed separately so that acetaminophen can be administered regularly (e.g., every four to six hours) and oral opioid preparations can be reserved for breakthrough pain and give on an as-needed basis (pro re nata). There are four commonly prescribed pediatric oral opioids: codeine, hydrocodone, oxycodone, and morphine. While morphine is the gold standard for analgesia, it has a relative low oral bioavailability. Morphine and oxycodone are active drugs and do not require biotransformation to produce analgesia. Codeine and hydrocodone are prodrugs without significant analgesic properties and require metabolism by hepatic cytochrome P450 (CYP) enzymes to achieve clinical benefit.

In May 2013, the FDA issued a black box warning for codeine following outpatient tonsillectomy and adenoidectomy in children. A cluster of three reported deaths in this population appeared in 2012. Subsequent FDA investigation revealed an additional seven deaths and three overdoses since 1969. Codeine remains in widespread use despite these reports and knowledge of marked differences in clinical effect.[22] Inter-individual variability in expression of the CYP2D6 allele of the CYP enzyme system leads to different rates of metabolism of codeine. Poor metabolism varies from 10% in the Caucasian population to 30% in the Chinese population.[12] The greatest risk for ultra-rapid metabolism, 16-28%, occurs in the Arabic and North African populations.[12] Other ethnic groups show less than 10% incidence of this genetic feature. Patients who metabolize codeine slowly may experience little to no analgesic effect from the drug, while ultra-rapid metabolizers may be at risk for respiratory depression from resulting high blood levels of morphine.

Similar to codeine, hydrocodone is also a prodrug that uses the CYP2D6 enzyme to produce its active form, hydromorphone.[23, 24] The dearth of case reports about pediatric overdose with hydrocodone may simply reflect the historical preference for codeine. All commercial liquid formulations of hydrocodone contain other drugs: acetaminophen, ibuprophen or pseudoephedrine. Oxycodone is an active drug and more effective than most of its metabolites. The CYP3A4 enzyme is its major metabolic pathway. However, a small proportion of this drug is also handled by the CYP2D6 enzyme. Ultra-rapid metabolizers may not achieve adequate analgesia for the expected duration. Slow metabolizers demonstrate

an increased incidence of side effects. The FDA has issued a black box warning for oxycodone based on drug interactions. Macrolide antibiotics, antifungal agents and antiviral agents inhibit the CYP3A4 enzymes and can enhance opioid side effects. There is an adult case report of inability to achieve adequate analgesia in a CYP2D6 slow metabolizer.[25] The Toronto Hospital for Sick Children has removed codeine from its formulary and recommended morphine as the primary oral analgesic for children because it does not rely on any cytochrome reactions.[26] Oxycodone and codeine are all available as individual drugs or in combination with acetaminophen. Recently, the FDA recommended limiting the dose of acetaminophen in fixed drug combination tablets to 325 mg because acetaminophen overdose may be an inadvertent side effect of therapeutic opioid dosing.

The most commonly prescribed parenteral opioid analgesics in pediatric hospitalizations are fentanyl and morphine.[9] Hydromorphone, meperidine, and methadone can also be used. Intermittent intramuscular dosing has been replaced by intravenous administration, either bolus administration on demand or through patient controlled analgesia (PCA). Children receiving PCA should be monitored with continuous pulse oximetry +/- end-tidal carbon dioxide measurement. PCA is widely used for post-surgical pain in adults, and has also been validated in pediatric patients as young as six years of age.[3] Treatment should be individualized and adding a background basal infusion to demand doses is controversial due to the possible increased risk of hypoxia, especially during sleep. Allowing nursing staff or care givers to administer PCA doses (so called nurse-controlled or parent-controlled analgesia) may be appropriate for infants or children who are unable or unwilling to operate a PCA pump, but requires additional education in order to prevent overdoses and respiratory depression. The presence of comorbidities or concurrent use of sedatives is associated with an increased risk of adverse drug events. Meperidine is not routinely used for PCA because of the risk of accumulation of the toxic metabolite normeperidine. The long half life of methadone does not make it a good choice for PCA either. Intranasal fentanyl, 1-2 mcg/kg, is an alternative to achieve rapid analgesia in the hospitalized child who does not have intravascular access.

Non-Traditional Analgesics

Several drugs classically used in the operating room are migrating to other locations where children require analgesia and sedation. Nitrous oxide inhalation was embraced by pediatric dentists decades ago to facilitate painful dental care in children. More recently it is being used throughout pediatric hospitals to provide analgesia for needle sticks and other minor procedures. It provides analgesia, anxiolysis and some amnesia within 3-5 min of starting inhalation. It has no odor or taste. Most locations limit the inspired concentration of nitrous oxide to 50%. Special education about the safe delivery of medical gases is necessary for personnel.

Ketamine was originally developed as an anesthetic agent but is used more commonly, at lower doses (0.25-0.5 mg/kg intravenous), for sedation and analgesia in children. It is often administered intramuscularly (1-3 mg/kg) in patients with learning and behavioral disabilities because it is rapidly effective and requires minimal patient cooperation. Ketamine is effective orally (3-5 mg/kg) either alone or in combination with midazolam. Ketamine is a central sympathetic nervous system stimulant and may produce mild hypertension and tachycardia. Unlike opioids, it does not produce respiratory depression or decrease airway tone.

The primary indication for dexmedetomidine is sedation but analgesia is a desirable side effect. Dexmedetomidine does not depress respiration or airway reflexes. Transient bradycardia or mild hypertension can be observed with bolus administration. Traditional regimens for continuous intravenous infusion use a loading dose, 1 mcg/kg, delivered over 10 minutes followed by lower dose, 0.5 mcg/kg/hr continuous infusion. Mild hypotension +/- bradycardia may be observed during the maintenance phase. It can be easily be treated by dose reduction. The uses for dexmedetomidine in children are expanding.[27] Intranasal delivery of dexmedetomidine is effective at a dose of 1-2 mcg/kg.

Local Anesthesia

Needle sticks are one of the most common painful procedures in children. There are both chemical and mechanical methods to diminish pain. Stimulation of both cold and vibration nerves can block transmission of painful impulses.[28] Application of ice alone or vapocoolant spray is inexpensive & effective. A

commercial product, Buzzy®, provides both cold and vibration and can be purchased without a prescription.

The topical application of local anesthetics can significantly reduce pain and increase IV placement success rates. The two most commonly used products are eutectic mixture of local anesthetics (EMLA) and lidocaine 4% in liposomes (LMX4). EMLA is a creamy mixture of lidocaine and prilocaine that is placed over the injection site and covered with an occlusive dressing for 45-60 minutes. Blanching and venospasm can produce difficulty with venipuncture. EMLA is a prescription product. Beware of potential prilocaine overdose when used in young infants or on broken skin. LMX4 is equally effective and available OTC. It has a more rapid onset (20-30 minutes) compared to EMLA, and must also be protected with an occlusive dressing. The anesthetic effect also dissipates more rapidly. LMX does not produce vasoconstriction, which may improve the conditions for IV placement. Solutions of lidocaine, tetracaine and epinephrine (TAC, LET, LAT) may be directly applied to larger wounds before repair to provide analgesia.

Summary

There is a wide variety of effective pharmacologic treatments for pain in children. Children are at increased risk for adverse drug effects from analgesic therapy if proper vigilance and monitoring are neglected. Analgesics and anesthetics are responsible for the majority of adverse drug effects in hospitalized children.[33] It is also critical to not only assess the child's pain but to reassess after the delivery of therapy.[1] It is equally important to not let fear of adverse effects to impede delivery of adequate pediatric analgesia.

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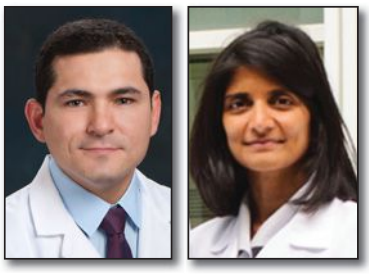
Disclosure

None reported. **MM**

Safety and Efficacy of Electronic Cigarettes: A Review

by A. Rolando Peralta, MD & Vamsi P. Guntur, MD

As E-cigarettes address not only nicotine delivery, but also the behavioral cues related to this addiction, they should be considered a potential tool in harm-reduction and smoking cessation.



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Abstract

Tobacco smoking remains the highest cause of preventable deaths worldwide. Electronic cigarettes have recently become popular as nicotine alternatives. With public use on the rise and recent tobacco industry interest, field experts and regulatory agencies voiced concerns about their safety and unregulated production. Electronic cigarettes are safer than conventional cigarettes and at least as safe as other approved nicotine replacement therapies. Further evidence is needed as their popularity increases amidst controversy over safety and efficacy.

Introduction

The percentage of U.S. adults who smoke cigarettes has been steadily decreasing over the past several decades, down to 18.1% in 2012.[1] Globally however, prevalence remains much higher, with 50% of young men and 10% of young women currently smoking cigarettes. There were five million deaths attributed to cigarette smoking in 2010, making it the leading cause of preventable deaths. Based on current use patterns this number will double within the next several decades.[2] Approximately 69% of U.S. smokers report a desire to quit and 52% attempt to quit yearly.[1] Unfortunately, success rates for different smoking cessation strategies (nicotine replacement therapy or NRT, pharmacologic agents and combinations of these) remain low, with six-month abstinence rates of 19%-36.5%.[3] Despite not being approved for this indication, electronic cigarettes (EC) have caused a nationwide debate regarding their potential use for smoking cessation. Studies of EC have failed to show a clear benefit regarding smoking cessation when compared to other accepted strategies. However, they have shown a trend towards decreasing number of cigarettes smoked. In this way ECs present a harm-reduction strategy. Safety, efficacy, behavioral and regulatory concerns have been justifiably raised by field experts and regulatory agencies such as the Food and Drug Administration (FDA). We will review these particular issues, in order to provide guidance for clinicians charged with counseling patients on the use of ECs.

The Electronic Cigarette and Market Trends

Electronic cigarettes (E-cigarettes; personal vaporizer; electronic nicotine delivery system or ENDS) were first introduced to the public in 2004 by the Chinese company Ruyan (Golden Dragon Holdings). The E-cigarette

Figure 1

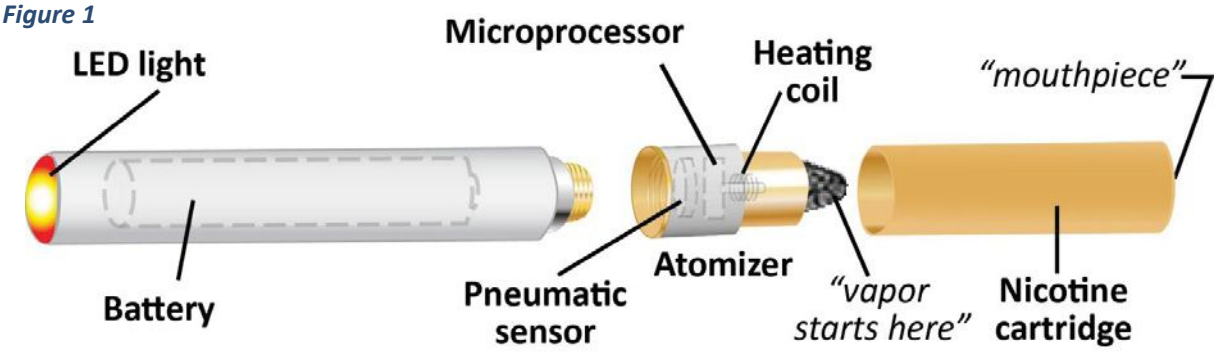


Figure 1. Anatomy of the electronic cigarette. The vaper (or smoker) inhales at the mouthpiece, triggering the pneumatic sensor to activate the microprocessor, which in turn triggers the heating coil to heat the liquid and release a vapor.

consists of a rechargeable battery with an optional light emitting diode (LED) simulating a burning cigarette tip. This battery is attached to a vaporizer (or atomizer) composed of a microprocessor, a pneumatic sensor and a heating device; and lastly a replaceable cartridge containing a solvent mixture of water, propylene glycol, glycerol with additive flavoring and nicotine (See Figure 1). When the user inhales, the pneumatic sensor activates the microprocessor, which in turn activates the heater to raise temperature in the chamber, creating an aerosol resembling cigarette smoke. Cartridges can contain varying nicotine concentrations from zero to 19.5mg. One cartridge may provide 300 puffs, an estimated equivalent to one pack of cigarettes.[4] Therefore, 15 puffs of EC have been equated to one conventional cigarette. Users can choose to purchase a refill solution bottle, known as "juice." Colloquially, the use of E-cigarettes (EC) is termed "vaping"; and the smoker of the electronic cigarette is referred to as a "vaper."

ECs are sold in some mall kiosks, but mainly through internet distributors using online affiliate-based marketing schemes. These consist of commercial networks that run content websites redirecting viewers to vendors. Forensic analysis of this marketing strategy for ECs suggested that affiliate websites, but not linked sellers, made smoking cessation claims.[5] This approach allows sellers to distance themselves from unsubstantiated claims, such as smoking cessation efficacy and reduced harm in comparison with conventional cigarettes.

The EC market has grown exponentially, with 2.7% of Americans having tried them at some point. Total sales in 2008 approached $20 million U.S. dollars (USD). Sales soared in 2013 to over $1-2 billion USD.[6] Initially handled by small companies, projected profits have attracted large tobacco companies who are now entering the competition. Lorillard (maker of Kent and Newport cigarettes) was the first tobacco company to engage in the EC market by purchasing blu eCigs® in April 2012. In 2014, Reynolds (maker of Camel and Pall Mall) and Altria (maker of Marlboro) will each launch their own EC to the market,[7] Vuse and MarkTen, respectively. Each EC could cost a minimum of $10 USD for basic supplies, with additional cost for batteries and cartridges.

Public Perceptions and Use

Public interest in smoking cessation methods, particularly EC, has rapidly grown. By 2011 Google searches for EC had increased by 5000% in two years.[8] Most common reasons for EC use in adults include: perceived lower toxicity compared with cigarettes (84%), control of tobacco craving (79%), and smoking cessation or relapse avoidance (77%).[9]

Amongst adolescents and young adults the main source of information on EC is the Internet.[10] Concerns of EC as a gateway drug grew, particularly due to recent increase in their availability and use within this age group. A recent survey of ninth through twelfth grade students showed a prevalence of only 0.9% in 2010; however this doubled within a 16-month period.[11] By 2009, 4.9% of college students had tried EC at some point. Twelve percent of these students had never smoked conventional cigarettes. This study also suggests that EC use in this population was not for desire to quit smoking cigarettes, but possibly as a novel form of recreational activity.[12]

Experienced and long-term use of EC has transcended into a cultural phenomenon, including emergence of associations such as the National Vapers Club and American Vapers Club, which hold frequent national meetings. A survey of 104 EC aficionados at one such convention revealed that 73% started using them with the intention to quit smoking and 99% felt that EC helped them succeed.[13] Interestingly, most subjects surveyed in this study were not using the most widely known EC brands, instead they were using customized variations intended to allow the atomizer to achieve a higher and more consistent temperature, probably resulting in hotter and more intense vapor.

Public views regarding EC have polarized the conversation. For harm reduction organizations such as the Consumer Advocates for Smoke-Free Alternatives Association (CASAA) and for smokers themselves, ECs present a healthier alternative to tobacco smoke[14] and a promising smoking cessation tool. However, much concern has been raised by the FDA regarding the presence of toxic substances, such as tobacco-specific nitrosamines (TSNA) and diethylene glycol (DG).[15] There is difficulty in defining EC due to a conceptual uncertainty of this product as either a medicinal nicotine drug-delivery device or a form of smokeless tobacco. The FDA initially tried to obtain regulatory control over them as a drug-delivery device. However, the U.S. Courts of Appeals overturned the decision in 2010.[16] On April 24 2014, the FDA proposed a rule to regulate electronic cigarettes (along with cigars, pipe tobacco, nicotine gels and waterpipes) as a form of tobacco product, and impose similar requirements to those applied to conventional cigarettes. These requirements include: a) registration with the FDA and ability to market the product only after their review; b) reporting of ingredients; c) not making claims of reduced health risk until confirmation by the FDA; d) not distributing free samples; e) enforcing a minimum age for purchase; and f) including health warnings.[17]

In the U.S., the degree of state regulation is variable. As of April 2014, only three states (New Jersey, North Dakota, and Utah) have banned the use of EC in public places that currently ban cigarettes. Large cities such as Chicago, Los Angeles, and New York implemented similar bans. On a more local level, three counties in Missouri (Creve Coeur, Jefferson and Washington) have prohibited their use in public places where conventional cigarettes are currently banned.[18]

Internationally, the World Health Organization already recognized EC as a form of smokeless tobacco.[14] French officials believe that further investigation is needed into long-term implications of EC; thus they banned EC use in public places, and all media advertising to their sale to minors.[19] After analysis by the Medicines and Healthcare Products Regulatory Agency in June 2013, EC and other ENDS will be regulated as medications in the UK starting 2016.[20] Other countries such as Mexico, Brazil, Uruguay, Singapore, and Turkey have gone further and banned them completely until further information is available.

Safety

Safety concerns have been raised regarding the substances in EC and effects of smoke exposure on health. The temperature required to create a mist varies depending on the type of EC and the carrier substance. Glycerol requires higher temperatures than PG. In some instances temperatures higher than 100 degrees Celsius needed to heat glycerol may lead to production of toxic substances such as acrolein,[21] which is a strong irritant of skin, eyes and nasal passages.

Chronic exposure to theatrical fogs (PG or mineral oil) released by EC has been associated with signs of airway obstruction and systemic inflammation. Theatrical fogs may result in small reductions in the lung volumes forced vital capacity (FVC) and forced expiratory volume in one second (FEV_1). Increased prevalence of acute and chronic respiratory symptoms, including asthma-like symptoms, work-related wheezing and chest tightness, has also been noted.[22] In a recent study, use of EC for five minutes was not associated with changes in spirometry data, but was associated with decreased exhaled nitric oxide (F_{eNO}) and increased pulmonary impedance. These changes may be markers of early obstructive lung disease.[23] However, PG is currently used as a carrier for multiple medications (including nebulizers) without known adversities. Therefore the clinical significance of described adverse findings is unclear.

Cigarette smoking is linked to elevations in inflammatory markers and low-grade systemic inflammation;[24] a proposed mechanism for atherogenesis. When compared to conventional cigarettes, acute EC exposure (active or passive) was not associated with increases in total white blood cell, lymphocyte or granulocyte counts.[25] This suggests lack of correlation between acute EC use and systemic inflammation. The chronic effects however, remain unknown.

Another area of concern is the potential toxicity of EC refill fluid ingestion. According to the U.S. Environmental Protection Agency 2008 report, nicotine doses of 40-60 mg may be lethal to humans.[26] Opponents of EC use have

Table 1. Comparison of toxin levels between conventional and electronic cigarettes

Toxins	Conventional cigarette (mcg in smoke)	Electronic cigarette (mcg per 15 puffs)	Average ratio (conventional vs. electronic cigarette)
Formaldehyde	1.6-52	0.20-5.61	9
Acetaldehyde	52-140	0.11-1.36	450
Acrolein	2.4-62	0.07-4.19	15
Toluene	8.3-70	0.02-0.63	120
NNN	0.005-0.19	0.00008-0.00043	380
NNK	0.012-0.11	0.00011-0.00283	40

Source: Goniewicz ML, et al. Tobacco Control 2014; 23(2): 133-139.
NNN and NNK are the tobacco-specific nitrosamines, nicotine-derived nitrosamino ketone and N'-nitrosonornicotine, respectively. Comparison of toxin levels between conventional and electronic cigarettes was made using a standardized approach to puff time and puff inhalation.

Table 2. Percent of reported side effects after 9 hours of EC vs. Nicorette inhaler use

	EC 16mg	Nicorette inhaler
Mouth/throat irritation	38	88
Aching jaws	8	5
Nausea	29	18
GI discomfort	5	23
Vertigo/feeling high	21	18
Headache	18	18
Sweatiness/clammy skin	4	3
Palpitations	5	0

Bullen C, et al. Tobacco Control 2010; 19(2): 98-103. Table was altered from original to illustrate differences in side effects between EC and Nicorette inhaler. Data above reflects percent of participants that reported the specific side effect. When comparing electronic cigarette (EC) to Nicorette inhaler, significant difference was seen only for mouth/ throat irritation, $p<0.001$.

touted toxicity based on EC refill bottles containing nicotine in excess of 60 mg. The lethal dose quoted by the EPA has been questioned. A recent report based on post-mortem analysis of fatal cases suggested a much higher lethal dose of 0.5 – 1 g.[27] The risk of childhood accidental ingestion is one of the reasons for above discussion which is prompting stricter regulation of EC. But without a clearly defined and reliable lethal dose of nicotine, claims of EC nicotine toxicity may be weak.

The effects of EC use during pregnancy are not known. A recent cytotoxicity analysis showed that embryonic and neonatal stem cells are more sensitive than lung fibroblasts to EC refill fluid. The flavor additives rather than the nicotine, glycerin or PG[28] are culprits of stem cell toxicity.

In 2009, the FDA tested and reported toxic substances in e-cigarettes. They reported presence of TSNAs in five of ten EC cartridges tested, and detectable DG in 1 of 18 cartridges tested.[15] DG is a potentially lethal substance with gastrointestinal, cardiac and neurologic toxicity. Based on these results the FDA warned consumers about EC use. Further studies showed that vapor generated from EC indeed contains toxic substances, particularly carbonyl compounds (formaldehyde, acetaldehyde, acrolein, 0-methylbenzaldehyde), volatile organic compounds (toluene and m,p-xylene), TSNAs (N'-nitrosonornicotine, nicotine-derived nitrosamino ketone) and heavy metals (cadmium, nickel, lead). However, levels of these compounds in EC were 9-450 times lower than in cigarette smoke (See Table 1) and, in many cases, comparable to a 10 mg nicotine Nicorette inhaler, an already approved form of NRT.[29]

Subjective undesirable effects of EC use have also been variable between studies. Based on multiple surveys and observational studies to date, the main undesirable effects of EC use are mouth and throat irritation, nausea, vertigo/dizziness, dry cough and headache.[30] On one survey, the frequency of these adverse events was comparable to a Nicorette inhaler (See Table 2).[31] A 12-month randomized controlled trial (RCT) on smokers not intending to quit showed no significant adverse events in EC users. In fact, the study showed a decrease in frequency of cough, dry mouth, shortness of breath and headache from baseline [32]. Overall there may be minor adverse effects related to EC use but these are, at least in short-term analyses, much less significant than those related to cigarette smoke, and need further structured investigations.

Efficacy

Electronic cigarettes have many potential benefits; therefore careful distinction should be made when evaluating their efficacy as a smoking cessation tool, a nicotine delivery device, or a harm-reduction strategy. The latter refers to the development of principles and strategies designed to minimize the adverse consequences of behaviors that may pose serious health risks,[33] rather than a "complete abstinence" approach.

The main objective of EC is to simulate use of conventional cigarettes through creation of a mist containing varying concentrations of nicotine. A recent analysis showed variability amongst different brands of EC on total levels of nicotine present in vapor (0.5-15.4 mg) for a single cartridge, most of which was delivered within 150-180 puffs (equivalent to half a pack of cigarettes). When compared to smoking one conventional cigarette, 15 puffs of an EC (the equivalent to one conventional cigarette) deliver considerably less nicotine (0.025-0.77mg vs. 1.54-2.60mg).[4]

Survey of current EC users found that 63% had recently quit smoking and 95% of these ex-smokers attributed cessation to their use of EC. Most commonly reported beneficial effects of EC use were: improved breathing, decreased cough and sore throats, and help with smoking cessation.[34] On a different survey of first-ever EC use amongst subjects with three previous failed smoking cessation attempts, two-thirds had reduced the number of cigarettes smoked, almost half had at least a period of abstinence and almost one-third were not smoking at six months. Abstinence rates were higher with more EC use.[35] Amongst more experienced users (more than one year) with multiple prior failed attempts, 99% felt that EC helped them quit cigarette smoking.[13] Use of EC has been associated with decreased desire to smoke cigarettes when compared to placebo.[31] This effect was also seen despite using EC with no nicotine content suggesting the importance of behavioral cues in cigarette addiction.[36]

A prospective six-month study in subjects not trying to quit showed that 32.5% of them had a 50% reduction in cigarette smoking by 24 weeks. Sustained abstinence at 24 weeks occurred in 22.5% of subjects.[37] More recently, a 12-month RCT of 300 subjects comparing EC with nicotine and placebo showed that 23% of participants had decreased smoking by half at 12 weeks. Only 14.5% of participants maintained this reduction at 52 weeks. Quit rate at 52 weeks was 11%.[32] Even though there was no significant difference when compared to placebo, these results are comparable to success rates for some forms of NRTs. A post-hoc analysis of an RCT by Bullen et. al, using a 5% non-inferiority limit for the risk difference, reported that EC were at least as effective as nicotine patches.[38]

Conclusion

The electronic cigarette market has expanded rapidly and will continue to do so as large tobacco companies enter the competition. The general population will be increasingly exposed to publicity and many will become potential users despite the lack of well-established safety analyses and regulatory measures. Perceptions and impact of EC amongst adolescents differ from that of adults, potentially subjecting them to targeted marketing campaigns.

In light of the high prevalence of EC use, and expected increase in the near future, their safety is clearly the biggest concern. Initial reports about the presence of toxicants in EC cartridges were validated in further studies. But levels of toxins were similar to already approved NRTs and much less than those found in tobacco smoke. As multiple brands enter the market, safety and uniformity of ECs would be difficult to guarantee. However, stringent bans, as implemented in other countries, may not be an optimal alternative as they could negatively impact subjects already deriving benefit from their use.

Currently, ECs appear to be as safe as other forms of NRTs and considerably less toxic than cigarette smoking in the short-term. Their long-term safety, however, remains unknown. Despite safety concerns, they have tangible potential as an alternative to cigarette smoking and perhaps a smoking cessation tool. Current evidence suggests ECs are at least effective in reducing quantity of cigarette consumption, as experienced by many current users. They

E-Cigarettes Not All They're Puffed Up To Be

by Jim Blaine, MD
Tobacco Prevention Expert
Chair, MSMA Public Affairs Commission

As a primary care physician, I have ambivalent thoughts about E-Cigarettes. The vendors for E-Cigarettes claim that they are selling a safer alternative to cigarettes, and a valuable ally to help our patients quit smoking. We are told that Electronic Cigarettes emit only harmless water vapor, and are safe to use anywhere without concern for the health of others. They seem, on the surface, to be worthy of consideration.

However; E-cigarettes manufacturers (tobacco companies) have refused to seek FDA approval as a tobacco cessation device. E-cigarettes are clearly being marketed to children with flavors that include Cherry, and Creamy Milk Shake, and, since they contain Nicotine, are potentially as addictive as any other tobacco product.

Additionally, there are no objective studies that prove the safety of either active or passive vapors, and no studies that prove the efficacy of tobacco cessation with E-Cigarettes. In an effort to protect children from becoming addicted to the nicotine found in E-Cigarettes, Senator Jay Wasson introduced SB841 to make it illegal to sell them to children under the age of 18. However, tobacco industry inspired language was added in committee that would prohibit the regulation or taxation of E-Cigarettes as tobacco products. This simple phrase puts E-Cigarettes in a class by itself, and would allow them to be used in any place where smoking is currently prohibited.



Another "Marlboro Man" Dies From Smoking

Eric Lawson, 72, died January 10, 2014, in San Luis Obispo, California, of chronic obstructive lung disease. Lawson began smoking at age 14. He is at least the fifth "Marlboro Man" to die prematurely of smoking related health problems. The Marlboro Man advertising campaign lasted for 45 years and officially burned out in 1999.

Photo Source: www.pikabu.ru
Article Source: People.com http://www.people.com/people/article/0,,20780930,00.html

The MSMA, the Greene County Medical Society, the Campaign for Tobacco Free Kids, the Missouri Academy of Family Physicians, the American Heart Association, the American Lung Association, the American Cancer Society and the Tobacco Free Missouri Coalition support the veto of SB841. This product cries out for additional study, and not the free reign provided by this bill; please ask your Senators and Representatives to support its veto, and to encourage FDA oversight of E-Cigarettes.

may also be as effective as nicotine patches for smoking cessation. More studies are urgently needed comparing EC to NRTs and other smoking cessation tools, and determining the long-term effects of EC use. They have not been compared to other forms of smoking-cessation products such as bupropion or varenicline.

As ECs address not only nicotine delivery, but also the behavioral cues related to this addiction, they should be considered a potential tool in harm-reduction and smoking cessation. As of April 2014, the FDA is attempting to regulate EC similar to conventional cigarettes. This oversight is intended to assure uniform and safe production of EC and to guarantee limited exposure to targeting children and adolescents, while continuing important research on its safety and efficacy as a smoking cessation tool and its impact on public health.

While regulatory entities continue to debate on this topic, physicians will increasingly be confronted with the need to answer questions and counsel patients regarding EC use. Based on current information, the use of EC in

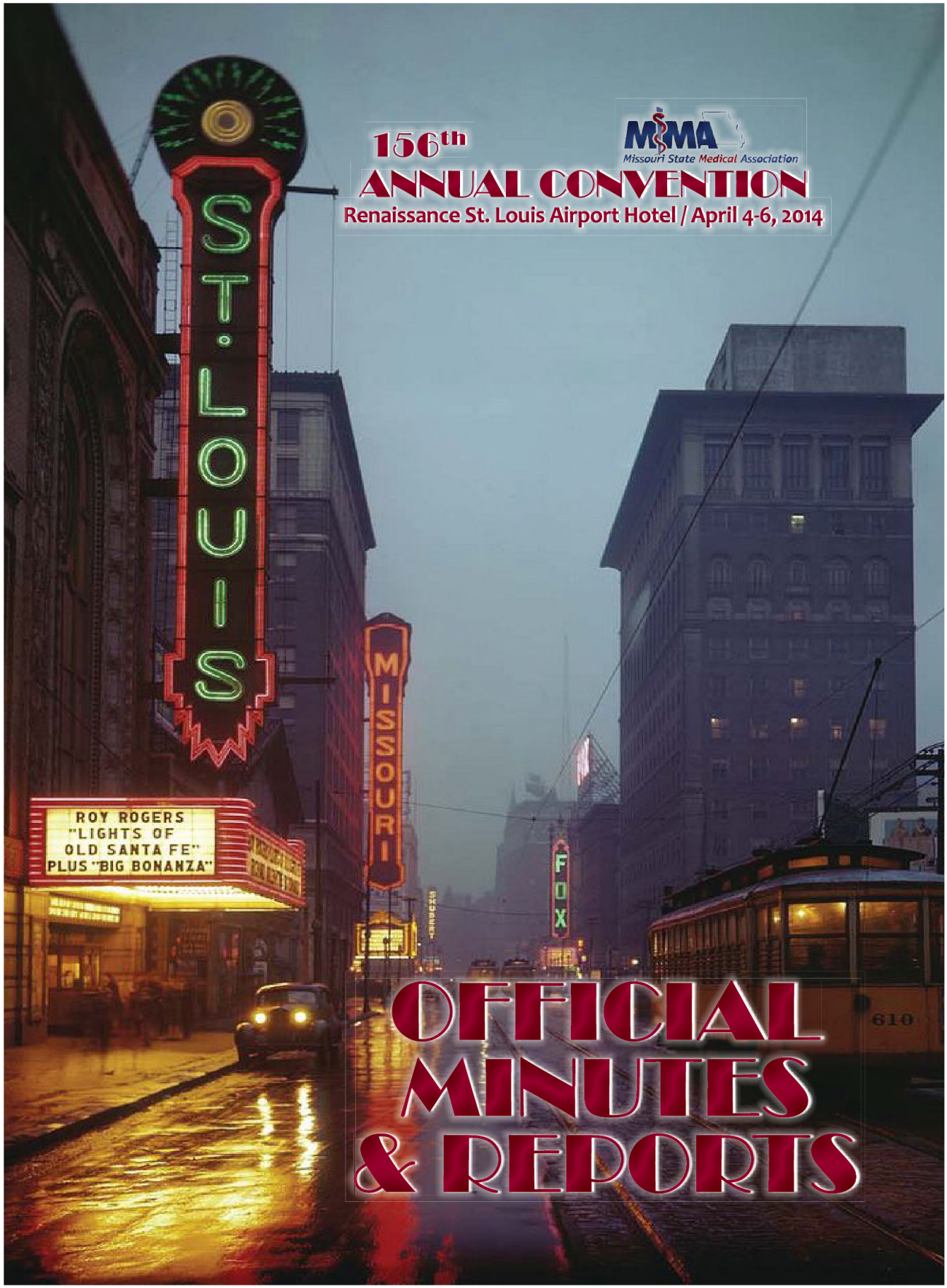
patients interested in quitting smoking should probably not be encouraged as a first line aid. However, in patients who have decreased or stopped smoking while using them, it would seem reasonable to continue their use along with other approved measures for short durations. For patients not interested in quitting smoking who inquire about EC, they should be counseled regarding possible lower harmful effects when compared to conventional cigarettes. They should also be reminded that the long-term safety of EC remains unknown. The main focus of interaction with patients who smoke cigarettes should continue to be smoking cessation with already approved strategies. Since we only know that EC is safer than conventional cigarettes, possibly comparable to other NRTs, but more harmful than not smoking at all, health care providers should definitely discourage non-smokers from initiating EC as a new recreational tool. Unfortunately, adolescents and young adults are at greatest risk to fall into this last group.

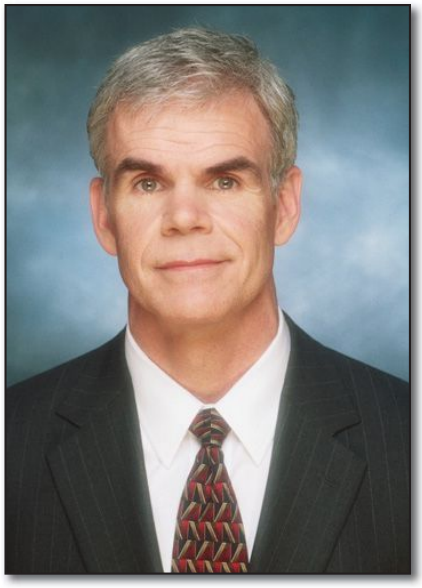
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Disclosure

None reported. **MM**


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Missouri State Medical Association
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Meet MSMA's 2014-2015 President

Jeffrey G. Copeland, MD
St. Peters, Missouri

Contact: jgcope@me.com

Jeffrey G. Copeland, MD, FACP, a board-certified Plastic Surgeon from St. Charles, Missouri, will serve as President of the Missouri State Medical Association in 2014-2015. He will be formally installed in St. Louis tonight, April 5, 2014, during the MSMA's 156th Annual Convention.

Dr. Copeland is a resident of St. Charles, Missouri, and is on the medical staff at all of the area hospitals. He attended the University of Missouri where he completed his undergraduate degree in premedical science, attended medical school, and completed residencies in general and plastic surgery and a fellowship in microvascular surgery. He was a chief resident in both general surgery and plastic surgery.

He has been a practicing plastic surgeon in the St. Louis, St. Charles, and St. Peters areas for almost 27 years. He was in solo practice from 1987 to 1998. He was then a partner in Plastic Surgery Consultants, Ltd., until 2005, when he established Copeland Cosmetic Surgery. The new practice located in Saint Charles County afforded him the opportunity to concentrate on patient-centered cosmetic surgery.

Long active in organized medicine and physician leadership, Dr. Copeland has been president of the St. Charles-Lincoln County Medical Society and is a corresponding member of the St. Louis Metropolitan Medical Society. He has been a member of MSMA since 1988, and he is a member of the American Medical Association. He is a past president of the Missouri Association of Plastic and Reconstructive Surgeons, and past board chairman of Primaris (the Missouri Quality Improvement Organization).

Dr. Copeland has been chief of staff at St. Joseph Health Center, and president of Plastic Surgery Consultants, Ltd. He is also past chief of staff at Barnes Jewish St. Peters Hospital, and a former member of the Board of Directors of the St. Louis Crisis Nursery.

His chosen medical specialty of plastic surgery has given him the opportunity to express his creativity while helping a wide variety of people in multiple ways, especially in assisting patients in restoring form and/or function after injury or disease.

Dr. Copeland's interests include spending time with his family, music (especially jazz and blues), and various forms of physical exercise including running, biking, and resistance and core training. He and his wife, Cindy, have three children, Katie, Brian, and Wesley.

Goals for MSMA during his tenure as President are:

- To spend as much time as possible with the physicians of Missouri, and those from other states, to gain the best possible understanding of the challenges that face them in their daily practice of medicine.
- To convey to the physicians of Missouri the reasons that membership in organized medicine generally, and Missouri State Medical Association specifically, are valuable to their patients and to them, and to encourage them to participate actively and assertively.
- To seek to identify instances of unnecessary, inefficient and/or wasteful policies and practices that interfere with the best practice of medicine and to draw attention to them and encourage their modification to be useful and effective or their revocation. **MM**

Kathy Weigand to Lead Medical Alliance

Kathy Weigand
St. Joseph, Missouri

Contact: daffodil4302@yahoo.com



Kathy Weigand, St. Joseph, was installed as the 90th President of the Missouri State Medical Association Alliance (MSMA) during the Annual Meeting on April 5, 2014, in St. Louis at the St. Louis Renaissance Airport Hotel.

Kathy was born and raised in Kentucky, the oldest of five children. After high school she graduated from Vocational school where she received her Practical Nursing License. She worked as a cardiac nurse in Northern Kentucky one of the first LPNs in Kentucky to do so.

Kathy and Tom Weigand married before he started medical school at the University of Louisville. It was then Kathy first started her involvement with the American Medical Association Auxiliary as a medical school student spouse, followed by a member of the Kentucky State Medical Association Auxiliary as a Resident spouse. Kathy and Tom had three children while Tom was in his residency in Internal Medicine.



The family moved to southern Kentucky where Tom joined an Internal Medicine practice and raised their family. Kathy became a volunteer at their children's Catholic school and also at the local hospital as an Auxiliary member.

While in southern Kentucky Tom went on to an Oncology fellowship at the University of Kentucky. Upon finishing, Tom was recruited and the family made the move across the country to St. Joseph, Missouri, to pursue Tom's new career there. Kathy became very active in their children's school as a volunteer, working at the local St. Joseph Hospital, and working as a substitute nurse at Dr. James Conant's office.

Since arriving in St. Joseph in 1987, Kathy has been involved with the Buchanan County Medical Society Alliance, her church as a choir member, Lead Sacristan, Lay Minister, and member of the RCIA for many years. She was the President of the local chapter of the American Cancer Society, and was instrumental in starting the Relay for Life in Buchanan County and served many years as the chair of "Daffodil Days."

Within the Missouri State Alliance, she has served as Regional Coordinator, Recording Secretary, Vice President of Health, Foundation, Membership and Legislature.

Kathy enjoys traveling with her husband and being with their three children and five grandchildren. Her grandchildren and friends are her "Shining Stars". **MM**

State of the Association: Presidential Address

by James B. Wolfe, MD, 2013-2014 MSMA President

It has been my pleasure to have served as your president for the past year. My duties have been extremely gratifying and rewarding, especially my travels to the various component organizations around the state.

It would be appropriate, at this time, to give you the headlines from the Missouri State Medical Association.

We all know the story: in 2012, the Missouri Supreme Court ruled that the state's $350,000 cap on non-economic damage awards was unconstitutional. That cap was the linchpin of a very important package of tort reforms MSMA won in 2005.



From left, Vice Speaker Lancer Gates, DO, Speaker David Chalk, MD, and MSMA President James Wolfe, MD.

We convened a large coalition of tort reform allies and set out in pursuit of legislative remedy.

This year your MSMA staff is leading again an all-out effort to repair what the Supreme Court has done and reinstate the cap before your professional liability insurance premiums double and triple as they did a decade ago.

In 2010 Congress enacted the far-reaching and controversial Patient Protection Patient Protection and Affordable Care Act. To help physicians navigate these uncharted waters, your MSMA is working to provide timely information and assistance as the new laws and rules unfold.

On numerous occasions over the last decade, Congress has enacted temporary patches for the flawed Medicare Sustainable Growth Rate formula, temporarily preventing cuts in physician reimbursement. The last "fix" was enacted just in time to avert a 24% payment reduction that would have taken effect January 1, of this year. MSMA continues to demand from Congress a permanent repeal of the flawed SGR, and a new, responsible Medicare payment formula.

Your MSMA leadership and staff traveled to Washington, DC, to lobby the halls of Congress for the Association's health system reform principles, GME funding, and other issues.

We organized a White Coat Rally in support of tort reform in the Missouri Capitol. Physicians from every corner of the state showed up to lobby their senators and representatives for the good of the cause.

In the last year I attended a number of local component society meetings across the state. From Maryville to Poplar Bluff, and from Hannibal to Joplin, your leadership and staff make themselves available to every component society, no matter how large or small.

We held a popular and well-attended "Grassroots Advocacy Training" seminar for specialty and component society leaders.

And MSMA boasts an outstanding group of member physicians who give the better part of a week twice a year to represent you and your patients in the AMA House of Delegates. There is not a better AMA delegation than yours.

Your MSMA staff and leadership are constantly striving to bring even more value to your membership.

This last year MSMA conducted a series of seminars, teleconferences, and webinars to inform you and your staff about a variety of important topics, including 2013 Medicare Updates, PQRS and Value-Based Modifiers, the new ICD-10 codes, e-prescribing, Medicare and Medicaid Audit Recovery Contractors, and insurance claims billing and coding issues.

Missouri Medicine, MSMA's journal, is free to you with your membership. It has won seven prestigious Ranly Awards, and now is published in digital format in addition to the paper copy you receive. The journal's scientific content is accessible in the renown PubMed database, and it enjoys a unique partnership with MedHelp, the world's largest online health community, joining such other notable partners as Johns Hopkins, Cornell University, and others.

Progress Notes, our monthly newsletter (free to members), is chock-full of timely news items, tips, and information.

MSMA also offers you free CME credits at the Annual

Convention every year. In addition to that, MSMA accredits 33 organizations to offer CME, many of which participate in joint sponsorships across the state.

And I would ask you to be mindful of the more direct benefits your MSMA membership offers.

For example, we negotiated a member discount with Epocrates (mobile and web-based clinical tools), saving all active and student members 25% on a subscription.

We are partners with Moneta, an outstanding financial services firm that provides MSMA members with expert financial planning and investment services.



Doctors in MSMA's House of Delegates focus on reports and resolutions.

We also have a relationship with the Resolve Physician Agency, which offers a wide range of career services, including job placement, contract review and a lot more, all at a discount to MSMA members.

We also have partnered with the CCPA Purchasing Partners to give you access to up-front discounts on a variety of medical and office supplies, including some vaccines.

We have an exclusive arrangement with DocbookMD, which offers you a secure, HIPAA-compliant tool to send messages, patient information, images, and more to your MSMA colleagues through an application your smart phone or other hand-held device. This is absolutely free to MSMA members.

And our newest partner is TSYS, one of the largest and most respected payment services companies that offers you an MSMA discount on a wide range of payment acceptance products to help you get paid.

Other great offers include the Missouri Drug Card, PQRS Registry services, collection services, tax audit services, credit card merchant services, coding and billing resources, and even travel arrangements, all with special rates and savings for MSMA members.

Your MSMA Foundation has loaned more than $11 million to Missouri medical students since its inception fifty years ago, It annually awards financial need scholarship grants to 30 medical students at all six of the allopathic and osteopathic medical schools in the state.

In addition, the Foundation offers $5,000 matching funds to component medical society scholarship funds.

Your Missouri Physicians Health Program is widely considered one of the most successful of its kind in the nation. Last year the program served 225 physicians who are dealing with chemical or emotional problems.

Your Missouri Medical Political Action Committee is one of the most respected and effective PACs in the state. In the last election cycle MMPAC contributed nearly $165,000 to support physician-friendly candidates across the state.

Your MSMA Insurance Agency was formed by MSMA and is directed by physicians to serve you and your practice. This trusted, physician-owned agency offers you access to all lines of insurance, and provides some financial support for MSMA.

The Center for Patient Safety is a private, not-for-profit organization formed by MSMA, the Missouri Hospital Association, and Primaris. It is dedicated to being the leader in providing solutions and resources to reduce medical errors and improve patient safety, and was among the very first organizations in the nation to win federal designation as a Patient Safety Organization. We are very proud of the Center's work.

It is nearly impossible to list all of the duties and services MSMA provides for the physicians of Missouri. The MSMA is YOUR organization, and your officers and staff welcome your thoughts on how best to serve you and your fellow members.

It has been my distinct pleasure to have served as president this past year. It is an honor I will always remember and cherish. Thank you very much for your support.

MM

Presidential Inaugural Address Progress or Just Complexity?

by Jeffrey G. Copeland, MD
2014-2015 MSMA President

I would like to open my address tonight with an expression of gratitude to those have been responsible for my pursuit of medicine as a career.

I can imagine nothing else that would be as rewarding as what I am allowed to do on a daily basis. Of course, my parents have primary responsibility for the opportunities that I received.

I also had an excellent role model in my home town, Wally Carpenter, a family practitioner who, in my small town, practiced a wide scope of medicine. In those days, family practitioners were trained to cover the whole spectrum of medicine.



He was at once a surgeon, internist, anesthesiologist, pediatrician, orthopedist, obstetrician–gynecologist, allergist, dermatologist, psychiatrist and gerontologist. He also sang in the church choir, farmed and generally kept everybody entertained. It was with that person in mind that I went off to school to pursue medicine.

It is, of course, impractical to try to do all those things today. In fact I eventually chose the path of becoming a surgical specialist, about as far away from family medicine as one can get.

But the importance of the relationship with the patient that he showed me both when I was growing up around him and when I went back later on for a preceptorship with him, has stuck with me.

I also need to thank my wife and children for their endurance of the time I have spent away from them in the service of organized medicine.

Medicine is, by its nature, an interesting and compelling endeavor in its myriad forms. Undoubtedly, the changing, constantly progressing nature of medicine has something to do with why we can enjoy it so thoroughly for such a long time.

When we are allowed the opportunity to enjoy our practices and the variety inherent in the care of our patients, I believe we are generally happy physicians.

Unfortunately, many different agendas have become superimposed upon our practice of our chosen discipline that keep this from happening. This intrusion has reached a point where physicians often counsel their own children away from medical careers. How have we come to this?

Physicians who have been in practice for more than a short time have watched changes that have come to interfere with what we would rather be doing. I started practice when diagnosis related groups (or DRGs) had just appeared.

Senior physicians at that time were pretty sure that no good could come of that and some physicians were retiring rather than deal with the meddlesome government rules.

Since that time, and before that, we have been on a course of continuing complexity, regulation and oversight, frequently by people who did not truly understand medicine but were in a position to control reimbursement.

I have occasionally thought that this continued increase in complexity has been the result of various disconnects including:

- the interposition of insurance companies and other third parties between the physician and the patient
- the changes in the tax laws that made insurance benefits pre-tax, and
- the positioning of business relationships, often brought on by healthcare system integration.

There are also intra-specialty efforts to contain certain types of care within that specialty, even when other, similarly qualified specialists may be more readily available to provide good care in a more efficient, less expensive way.

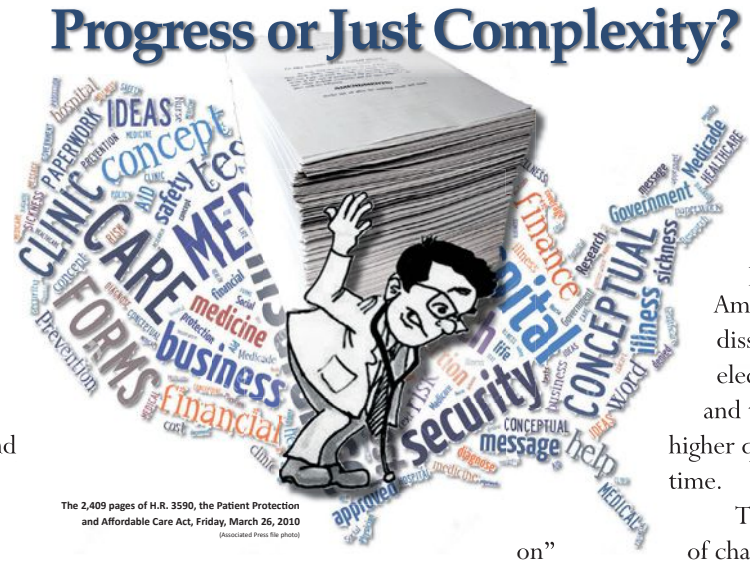
Especially as we look toward the time when physicians and hospitals are rewarded for keeping people healthy, that thinking will not work.

I am puzzled about what it will take to make that change to quality over volume happen without a very big change in philosophy.

A lot of people could be out of a job in a hurry.

I came across a discussion by Dr. Atul Gawande, a Harvard surgeon and author, who undertook to discuss some of the core problems that medicine faces today.

- He specifically addressed complexity - but in this case it was the complex world that medicine has created in its efforts to provide effective treatments.



- He compared the relatively ineffectual care that was delivered prior to the advent of penicillin, when only a few really beneficial treatments were available beyond nutrition and physical comfort, to today's world where we have extremely sophisticated diagnostic capabilities, and 4,000 procedures and 6,000 medications to choose from.
- He drew an apropòs analogy between how physicians are chosen and trained, with emphasis on autonomy, courage and a wide sense of capability, and the classical concept of a cowboy.
- He went on to say that in the current world of complex medicine, rather than cowboys, we need physicians who are more in the mindset of auto-racing pit crews, all working toward the same end in an orchestrated and organized way.
- He also said that we have a big problem with cost. At that point, he made the telling comment that the most expensive medicine is not necessarily the best medicine. One example of this is that through the use of well designed checklists, surgical care has been rendered safer at virtually no cost.We can "work smarter." But not every new initiative is good or effective, just because it is new.

I have just enough old-school private practice philosophy in me to think that there is still a significant place for independent practice, less closely integrated than the pit crew member but still working efficiently within the medical community, and possibly with a wider perspective.

The concept of what a medical community is has changed drastically. I fear that the commercial medical entities have taken the place of the collegial community we have known in the past, and not necessarily for the better.

Physicians are inherently analytic. I also believe that we all want to do a great job for our patients. In that spirit, physicians can and do embrace complexity. We are capable of designing systems that will identify problems, suggest solutions, test them scientifically and create effective implementation.

My beef is that a lot of the complexity foisted upon us today has nothing to do with good medicine. It is no challenge to come up with examples of this.

At a recent AMA meeting, there was a discussion of a relatively new Rand Corporation study of physician satisfaction. Among the biggest dissatisfying factors were electronic health records, and the demand of delivering a higher quantity of care in a shorter time.

There has been a "piling on" of challenges in the recent past, including:

- the somewhat coercive pressure to adopt electronic health records to meet "meaningful use"
- new governmental requirements and huge uncertainties associated with "Obamacare" and
- the "possible" rapidly approaching required use of ICD-10 (although it appears that we have received a year long reprieve) with threats of high penalties for "fraudulent" coding and likely delays in reimbursement, and
- the unrelenting pressure for physicians to become employed by large, integrated systems.

The electronic medical record is a particularly onerous issue, because it appears that most systems have been designed to do something other than deliver medical care, specifically to capture charges and to accomplish some degree of risk management, although it is said that electronic records are looked at by plaintiff's attorneys as a fertile area for evidence in liability litigation. I believe that.

I also believe that patients are de-humanized by the EHR. Savvy practitioners have identified this and often include a capsule of "impression" and "plan" outside the check box structure of the EMR, in narrative form, to personalize the patient and to guide care and protect the patient from the "high-fiber", frequently quite useless, notes that electronic tic-box input creates.

Also, suddenly, physicians are made into clerical personnel with data entry duties. There is literature that has identified increased physician burn-out when more functions are introduced into the EHR systems. No wonder there is burn-out.

There is room for useful epidemiology in the process, but that should be a great side benefit, rather than the end

game.

We can do better. The creators of the health information software need to design for clinical needs. That means clear, logical, uncluttered displays of meaningful data, fewer clicks to accomplish routine or even occasional tasks, workflow that wraps itself around clinical needs instead of vice versa and data that is patient-centric.

We need the story of the patient. This means photos, social notes, and evidence of our human contact with this other person we have as a patient. Patient satisfaction goes up, even when they have to wait for us, if they feel they have had quality, focused, face-to-face time with us.

Many good ideas are emerging in this and other areas. We have an opportunity for physicians to drive these changes. We need to think hard about what we want and make it clear that what we have now is not okay.

There is a lot coming our way.

We hear the term "evidence-based" a great deal. Physicians strive to be scientific and dispassionate in their decision making, so that scientific-sounding terminology hits us where we live.

It is my observation that some times, things that we are compelled to comply with as evidence-based are not grounded on very good evidence.

An epidemiologist named Ben Goldacre noted that studies of new drugs coming from pharmaceutical companies often deliver true results but may omit portions of their sample which do not support their conclusions. I think that happens in a lot of circumstances.

Rigorous scientists have methods of identifying these maneuvers, but most clinicians, already hurried, have a hard time applying additional statistical analysis to whatever white papers they may get the time to read. So, it is hard to identify the less-than-reliable information on which some rules and guidelines are based.

We do see examples where real progress is made through careful scientific investigation of new therapies or approaches to care delivery, but we also, often, are required to stop doing some inexpensive, very effective things that have been around for a long time with no evidence of significant risk.

This may be the result of "knee-jerk" responses for the sake of public perception that our oversight bodies are doing their job, but when the change does nothing identifiable but increase cost, take up time and annoy physicians, it is not something we can afford to continue.

There has been just such a response to handling of medications following the very serious issues related to contaminated steroids given in spinal injections.

Of course we do not want those things to happen, but does that automatically mean that every time we use good sterile technique and draw a dose from a bottle of medication, that the bottle needs to be discarded, because to do otherwise would be creating some unacceptable level of risk to the patients? I don't think so. But that type of practice has become the standard in many places.

There need to be effective ways to revisit results of changes that have been made in systems to determine if they have reduced bad outcomes, lowered cost or improved efficiency.

The Physician Consortium for Performance Improvement, or PCPI, has been formed with many different interested parties, including the AMA and multiple specialty societies, to devise and oversee the determination and validity of quality measures. This initiative was undertaken with the intent of putting knowledgeable physicians in control of the process and to employ useful elements, rather than claims data. This is a difficult proposition which requires ongoing effort, but it is significantly better than having bureaucratic bodies or insurance executives do this for us.

Historically, our country has relied on market forces to improve our activities. In simpler times, that made sense. Those who did things better were rewarded.

We have somehow lost that thread as competing systems try to ensure their own viability by employing more physicians, effectively owning more of the market, rather than attracting patients and physicians to them by the smart, personal care that they provide.

That business focus leads to things like proprietary information systems, exclusionary staff structures and loss of focus on the ultimate target of making our patients as healthy and happy as we can.

These are things that we, as physicians, all seek as results for the people we care for. I suggest that our patients might well be better off if we could return to simpler, less formally regulated approach. We could have a much more open system, with information available to any appropriate physician on a real time basis without regard to where the patient routinely gets their care.

Patients then might be in a position to choose where they went, or ask a trusted physician or nurse who they themselves might seek for a similar problem.

My appeal is that we, as physicians and medical families, resist temptation to simply accept what we see going on around us as unavoidable. We need to think large and speak up. We need to evaluate those things forwarded from all quarters as progress and be sure that they are genuine, well-founded in science, logic and common sense and that if they are not, that they do not become established.

Clockwise from top: Frederick Hahn, MD, with wife, Marge, at the 50-Year Pin Ceremony.

Alliance members Mary Aiken and Stacy Peters during the General Assembly.

MSMA Past Presidents Lent Johnson, MD, and Carol Williams, MD and Warren Lovinger, MD and wife, Marilyn, at the Presidential Inauguration activities.

Jeffrey Copeland, MD and wife, Cindy, during the Presidential Inauguration.













Above, John Stanley, MD, is nominated to President-Elect by fellow Kansas City physician James DiRenna, DO.



Left, Barbara Hover, outgoing Alliance President, installs the incoming Alliance President Kathy Weigand.

In the coming year, my goals will be:

- to spend as much time as possible with the Physicians of Missouri, and those from other states, to gain the best possible understanding of the challenges that face them in their daily practice of Medicine.
- to convey to the Physicians of Missouri the reasons that membership in organized Medicine generally, and Missouri State Medical Association specifically, are valuable to their patients and to them, and to encourage them to participate actively and assertively.
- and, to identify instances of unnecessary, inefficient and/or wasteful policies and practices that interfere with the best practice of Medicine and to draw attention to them and encourage their modification to be useful and effective, or their revocation.

In that spirit, I am looking forward to my year at the helm of this great organization.

So, as you are going about your business, taking care of patients, think about these issues and consider:

is this Progress, or just Complexity?

Thank you for your attention and the hard work that you each do, every day. **MM**

Recipients of the 50-Year Physician Pin

Forty-six career physicians earned their 50-Year Physician Pin during the MSMA Presidential Inauguration from MSMA President James B. Wolfe, MD. After the Installation, many celebrated at the reception. Below is the listing of all pin recipients.



Attending 50-Year Physician Pin recipients include, from left: Drs. Joe A. Gardner, Rogelio L. Bautista, Kirby L. Turner, Frederick W. Hahn, Jr, President James Wolfe, Charles W. VanWay, III, L. Michael Silvers, and Robert B. Brigden.

- Eugene R. Adelmann, MD, St. Louis, MO
- Andres G. Apostol, MD, Monett, MO
- Rogelio L. Bautista, MD, Moberly, MO
- John D. Bentley, MD, Springfield, MO
- Robert B. Brigden, MD, Lacey, WA
- G. Cabral, MD, Florissant, MO
- Marvin A. Cook, MD, St. Louis, MO
- Robert L. Cooper II, MD, Leeton, MO
- John W. Cowden, MD, Columbia, MO
- James S. Criscione, MD, St. Louis, MO
- Ronald G. Evens, MD, Kirkwood, MO
- Lees C. Forsythe, MD, Shawnee Mission, KS
- Joe A. Gardner, MD, Joplin, MO
- Michael A. Gentry, MD, Springfield, MO
- Frederick W. Hahn Jr, MD, Kansas City, MO
- David A. Hardy, MD, St. Louis, MO
- Teddy C. Hatfield Jr, MD, Dexter MO
- John H. Ippensen, MD, Fort Myers, FL
- Gareth R. Johnson, MD, Kansas City, MO
- Charles R. Kelly, MD, Mission, KS
- Harvey S. Kimble, MD, Shawnee Mission, KS
- Ricardo A. Labayen, MD, Overland Park, KS
- Burnell Landers, MD, Kearney, MO
- Meth Linwong, MD, Cape Girardeau, MO
- Lynn D. Mitchell, MD, Columbia, MO
- Georgia J. Nolph, MD, Columbia, MO
- David E. Payne, MD, Columbia, MO
- Alan E. Powell, MD, Lee's Summit, MO
- Vincent J. Proskey, MD, St. Louis, MO
- Abdul R. Qureshi, MD, St. Louis, MO
- Howard H. Roberts, MD, Joplin, MO



AMA Board of Trustees Chair David Barbe, MD, left, AMA President Ardis Hoven, MD, center, and AMA Foundation President Edmond Cabbabe, MD, right, mingle during the Presidential Reception.

- Alfred D. Roth, MD, Mission, KS
- E. David Scott, MD, Bonnots Mill, MO
- Philip J. Shanahan, MD, St. Louis, MO
- L. Michael Silvers, MD, Kansas City, MO
- Narendir T. Soorya, MD, St. Louis, MO
- Bennie N. Till, MD, Poplar Bluff, MO
- Kirby L. Turner, MD, Poplar Bluff, MO
- Charles W. VanWay, III, MD, Kansas City, MO
- Teodoro C. Vargas, MD, Pacific, MO
- Gerardo G. Vergara, MD, Overland Park, KS
- John R. Wagner, MD, Clayton, MO
- Donald K. Wantuck, MD, Springfield, MO
- Harold D. West Jr., MD, Lee's Summit, MO
- Noel F. Weyerich, MD, Chesterfield, MO
- Bruce I. White, MD, Chesterfield, MO

House of Delegates Votes on Resolutions

Resolution #1 - One Health Initiative
Adopted

Resolved, that the Missouri State Medical Association endorses the One Health Initiative.

Resolution #2 - Cigarette Tax
Substitute Resolution Adopted

Resolved, that MSMA support legislation to increase Missouri's excise tax on tobacco products, to at least the same level as the lowest tax among its contiguous states.

Resolution #3 - Birthing Centers
Amended Resolution Adopted

Resolved that the MSMA would support changing the current Missouri law and require a free-standing birthing center to have a transfer agreement with a hospital close enough to satisfy ACOG's guideline of being able to perform a C-section within 30 minutes.

Resolved, that the MSMA would support legislation that would require the physician in the collaborative agreement with a birthing center have C-section privileges at the hospital with which they have a transfer agreement.

Resolution #4- Billing for Pathology Services
Withdrawn by Sponsor

Resolution #5 - Prescription Drug Monitoring Program
Amended Resolution Adopted

Resolved, that the Missouri State Medical Association support legislation to develop a patient prescription drug monitoring program giving licensed prescribers the option to monitor and minimize drug abuse by patients that can lead to untoward outcomes.

Resolution #6 - Professional Liability Insurance
Referred to the MSMA Council with a report to the 2015 House of Delegates

Resolved, that the Missouri State Medical Association work to enact legislation that instructs the Missouri Division of Professional Registration to require that all individuals involved in the diagnosis and/or treatment of patients be licensed by the appropriate Missouri state licensing board and have appropriate malpractice insurance.

Resolution #7 - Non-Physician Disclosure
Substitute Resolution Adopted

Resolved, that MSMA support legislation to require all health care providers to clearly and accurately identify themselves and their professional license categorization in any and all communications with patients.

Resolution #8 - Rendering Opinion in Tort Actions against Physicians
Referred to MSMA Council

Resolved, that the Missouri State Medical Association support legislation defining legally qualified health care provider in tort actions against physicians as a physician licensed in this state or any other state, and either actively practicing or within five years of retirement from actively practicing substantially the same specialty as the defendant.

Resolution #9 - Strengthening DUI Statute 82.100
Substitute Resolution Adopted

Resolved, that MSMA support the strengthening of the state's DUI laws and the uniform application and enforcement of those laws across jurisdictions.

Resolution #10 - Prescribing Cranial Electrotherapy Stimulation
Adopted

Resolved, that the Missouri State Medical Association work to enact legislation to limit the prescription of the introduction of an electrical stimulation to the brain, such as Cranial Electrotherapy Stimulation to licensed MDs, DOs, Dentists, and Veterinarians and their physician extenders because of the potential reaction with medication.

Resolved, that after a prescription is written and approved by the appropriate MD, DO, Dentist, Veterinarian or physician extenders, the administration of the device can be done by counselors, psychologists, and patients in their own homes.

Resolution #11 - Physician Malpractice Tail Coverage
Adopted

Resolved, that the Missouri State Medical Association Council commission a study to explore possible solutions for physicians who want to continue to practice and/or volunteer without voiding their free tail coverage, and report findings of such study to the membership at or before the MSMA Annual Convention in 2015.

Resolution #12 - Improved Physician Communication with Elected Officials
Referred to MSMA Council

Resolved, that the Missouri State Medical Association facilitate improved physician communication with our elected officials by using the software (CapWhiz or CQRoleCall) currently available to the American Medical Association.

Resolution #13 - Tobacco Sales
Amended Resolution Adopted

Resolved, MSMA send a clear message that, in general, businesses that wish to promote the goal of better health should recognize that selling tobacco products contradicts that commitment.

Resolution #14 - Continuing Medical Education
Withdrawn by Sponsor

Resolution #15 - Sterilization Procedures for Medicaid Patients
Referred to MSMA Council

Resolved, the MSMA encourages the redesign of the current Medicaid Title XIX sterilization consent form, to make it easy to read, with elimination of the 30-day mandatory waiting period.

Resolution #16 - Missouri Scholarship Support for Medical Students Entering Shortage Areas
Referred to MSMA Council

Resolved, that the Committee on Legislative Affairs convene a study of increasing Missouri state funding support for medical scholarships and loan repayment programs.

Resolved, that this study include representation of the views of the Missouri Hospital Association, Missouri Academy of Family Physicians, the Missouri Chapter of the American College of Physicians, Missouri College of Emergency Physicians, Missouri Chapter of the American Academy of Pediatrics, Missouri Chapter of the American College of Surgeons, Missouri Psychiatric Association, and the Missouri Association of Osteopathic Physicians.

Resolved, that the study group provide an action plan and draft legislation in a timely fashion for introduction to state elected officials prior to the 2016 legislative session with the purpose of expanding funding and refinement of medical scholarship and loan repayment support for medical students, residents, and physicians entering health profession shortage areas in Missouri.

Resolution #17 – Opposition to Criminalization of the Practice of Medicine
Referred to Council with a report to the 2015 House of Delegates

Resolved, that the Missouri State Medical Association opposes the criminalization of mistakes made by physicians in medical records and operative notes in the absence of any proven billing fraud.

Resolved, that a copy of this resolution be transmitted to the AMA House of Delegates for its consideration.

Resolution #18 – Opposition to Maintenance of Certification.
Referred to MSMA Council

Resolved, that the Missouri State Medical of the State of Missouri opposes mandatory maintenance of certification, and encourage physicians to strive constantly to improve their care of patients by the means they find most effective.

Resolved, that the Missouri State Medical Association (MSMA) acknowledges that the certification requirements within the Maintenance of Certification process are costly, time intensive and result in significant disruptions to the availability of physicians for patient care.

Resolved, that MSMA acknowledges and affirms the professionalism of individual physicians to self-determine the best means and methods for maintenance of their knowledge and skills.

Resolved, that MSMA communicate to the American Medical Association (AMA) and American Board of Medical Specialties (ABMS) examples of disproportional fees, onerous time requirements and unnecessary fragmentation of commonly recognized specialties.

Resolved, that a copy of this resolution be transmitted to the AMA House of Delegates for its consideration.

Resolution #19-Opposition to Maintenance of Licensure
Referred to MSMA Council

Resolved, that the MSMA insists the lack of specialty board certification does not restrict the ability of the physician to practice medicine in Missouri.

Resolved, that the Medical State Medical Association the State of Missouri opposes any efforts by the Missouri Board of Registration for the Healing Arts, to require the Federation of State Medical Boards (FSMB) "maintenance of licensure (MOL)" program as a condition of medical licensure.

Resolved, that a copy of this resolution be transmitted to the AMA House of Delegates for its consideration.

Resolution #20 – United Healthcare Medicare Complete Coverage
Referred to the MSMA Executive Committee for immediate action

Resolved, that MSMA inform United Healthcare of its opposition to the mid-contract panel restrictions.

Resolved, that MSMA investigate the feasibility of providing a framework for patients to initiate a class action lawsuit against United Healthcare for breach of contract.

MM

Awards: Legislative



Representative Jeanie Riddle accepts MSMA's Legislative Award from President James Wolfe, MD.

Each year MSMA recognizse a legislator or two who has demonstrated unusual support for our profession and our patients. Over the years we have applauded some truly outstanding individuals.

Representative Jeanie Riddle represents the 49th House district, which encompasses much of Callaway County, including the city of Fulton. She was elected to the House of Representatives in November 2008, and quickly earned the respect and admiration of her colleagues on both sides of the aisle. For the past two years, Representative Riddle has served as Chair of the important House Rules Committee. In this position, she controls the speed of any legislation in her committee which impacts physicians and the practice of medicine.

Representative Riddle has come to medicine's aid countless times during her service in the General Assembly. She has been a tireless advocate for patient safety. And, she has been an ardent supporter of our battle to restore the noneconomic damage caps through commonsense tort reform measures. Most importantly, she is a consistent protector of the practice of medicine when other health care professionals attempt to expand their scope of practice.

For example, she has supported MSMA efforts to extinguish HB 1491, which would create a statutory scope of practice for nurse practitioners outside of a collaborative practice arrangement. She also co-sponsored HB 1327, an MSMA-backed bill which requires cost parity between intravenous and oral cancer medications.

Representative Riddle regularly seeks the advice of organized medicine on important health care issues at the Capitol, and shares that information with her colleagues and the members of her committee.

Whether it is big issues, like tort reform and scope of practice, or the less visible ones, like tanning beds and mental health issues, Representative Riddle has been a habitual supporter of Missouri physicians and their patients.

Awards: Arthur Gale Freedom of Expression

MSMA presented a new award this year, on behalf of its Journal, *Missouri Medicine*.

The Arthur Gale Freedom of Expression Award - this year to be the inaugural presentation - is awarded annually to the author of the best commentary article published in *Missouri Medicine*, in honor of Arthur Gale, MD, one of the Journal's Contributing Editors and MSMA member since 1976.


Nathan Nolan, center, accepts the first annual Arthur Gale Freedom of Expression Award from Arthur Gale, MD, left, and *Missouri Medicine* Editor John Hagan, MD.

This prestigious and monetary award is offered to encourage MSMA physicians to submit personal perspective essays on issues that are topical and provocative.

The first recipient of this award is Nathanial S. Nolan, a second year MPH/medical student at the University of Missouri and a member of the AMA-MSS national Committee on Medical Education.

His article, "We Can Do Better Than Work Restrictions," which focused on resident work restrictions, was published in the November/December 2013 issue. **MM**

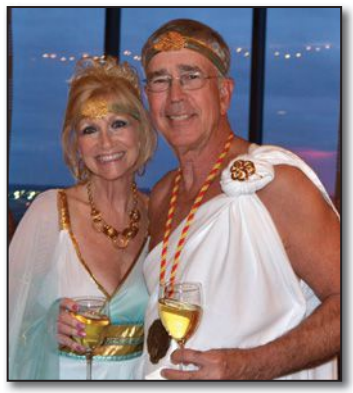
156TH ANNUAL CONVENTION



Drs. Herluf Lund and Bill Huffaker, both Delegates to the House.



From left: Southern Medical Association President Susan Risch, AMA President Ardis Hoven, Missouri Alliance President Barbara Hover, and AMA Alliance Director Cami Pond.



Greek Gods and Goddesses at the Foundation Fundraiser, above: Robert and Karen Corder and below: Jana and Jim Wolfe.

Left, Senator Robert Schaaf, MD, presents incoming Missouri Alliance President Kathy Weigand with a special Senatorial Resolution commemorating her 2014-2015 year.







Above, General Session Speakers Jill Watson and Nathan Granger, MD. Right, Medical students study proposed resolutions for discussion and voting.



Sponsors & Exhibit Partners

MSMA thanks the following Sponsors and Exhibit Partners who supported the Annual Convention through educational grants.

- Aegis Sciences Corporation
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- Citizens Memorial Hospital
- Elite Medical Scribes
- Ideal Protein
- Medical Liability Alliance
- Medical Waste Services
- Medicus Insurance Company
- MGMA Missouri
- Missouri Doctors Mutual Insurance Co.
- Missouri Drug Card
- Missouri State Board of Healing Arts
- Missouri State Medical Foundation
- Missouri State Medical Association Health Education Foundation
- Missouri State Medical Association Insurance Agency Inc
- Moneta Group
- MPM Insurance Company
- North American Healthcare Management
- Pfizer Vaccine
- PhenoPath Laboratories, PLLC
- Physicians Professional Indemnity Association
- Primaris
- ProAssurance
- Quest Diagnostics
- Schumacher Group
- S.L.P. Inc.
- TSYS Merchant Solutions
- The Doctors Company
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- Wilhsire-Pennington Wealth Advisors

Credentials & Appointments

The 156th Annual Convention of the Missouri State Medical Association was held at the St. Louis Renaissance Airport Hotel. David Chalk, MD, Washington, Missouri, presided as Speaker of the House of Delegates. Parliamentarian was Jo-Ellyn M. Ryall, MD, St. Louis.

The Committee on Credentials announced there were six Officers, 18 Councilors, and 58 Delegates in attendance for the Opening Session of the House of Delegates.

This report and the minutes of the 155th Annual Convention as published in the May/June 2013 issue of *Missouri Medicine* were approved.

At the Second Session of the MSMA House of Delegates, the Committee on Credentials reported there were seven Officers, 18 Councilors, and 107 Delegates in attendance.

Reference Committee A members were James DiRenna, DO, Gladstone, Chair, Eil Shuter, MD, St. Louis, John Gianino, MD, Kansas City, Sarah Florio, MD, Lee's Summit, and Nathan Nolan, Columbia. Reference Committee B members were Michael Stadnyk, MD, Chesterfield, Chair, Michael O'Dell, MD, Kansas City, Lisa Thomas, MD, Columbia, Robert Corder, MD, St. Joseph and Bradley Harr, DO, Fairview Heights, Il.

The MSMA Nominating Committee members were: 1st District - Robert Corder, MD, St. Joseph; 2nd District - John Memken, MD, Hannibal; 3rd District - Edmond Cabbabe, MD, St. Louis; 4th District - Keith Ratcliff, MD, Washington; 5th District - Ted Groshong, MD, Columbia; 6th District - David Kuhlmann, MD, Sedalia; 7th District - James DiRenna, DO, Gladstone; 8th District - William Reynolds, MD, Springfield; 9th District - David Barbe, MD, Mountain Grove; Organized Medical Staff Section & Chair - James Conant, MD, St. Joseph; Resident Physicians Section - Raghav Govindarajan, MD, St. Louis; and Medical Student Section - Doug Crase, Columbia. **MM**

Reference Committee B members, clockwise from left: Drs. Michael O'Dell, Lisa Thomas, Robert Corder, Bradley Harr, and Michael Stadnyk, Chair.



Summary of Council Actions: 2013-2014

Meeting of April 7, 2013 - Kansas City

James Wolfe, MD, Springfield, President, presided. Ann Romaker, MD, Kansas City, was elected Chair. Ravi Johar, MD, St. Louis was elected Vice-Chair. David Redfern, MD, Springfield, was reelected Secretary. George Hruza, MD, St. Louis, was reelected Treasurer.

Meeting of July 14, 2013 - Jefferson City

As in 2013, MSMA's top legislative priority in 2014 was tort reform, as announced during the July Council Meeting in Jefferson City. To that end, MSMA began working on political strategy with a coalition of like-minded organizations. MSMA is also involved in the operation of the three General Assembly Medicaid Committees that are meeting over the summer and will introduce Medicaid transformation legislation for next year.

Advocacy

The Legislative Committee discussed the implementation of the state's health insurance exchange and received an update on the status of the SGR. Planning for the summer and fall, MSMA will work the pharmaceutical industry to develop a uniform prior authorization form for prescriptions. The Committee will begin talks with the Board of Healing Arts regarding the use of medical students who did not receive residency slots to provide care under physician supervision. MSMA will also discuss the proper use and regulations of telemedicine with the Board of Healing Arts and other interested parties.

Resolutions

Resolution #3 – Support for Ethics Rulings on Markups for Pathology Services

This resolution called on the MSMA Council on Ethical and Judicial Affairs to consider the ethics of the practice of client billing. The House of Delegates referred the resolution to the Council, and the Council instructed MSMA to contact the AMA Council on Ethical and Judicial Affairs for clarification on the issue.

Resolution #4 – Support for Direct Billing Legislation for Pathology Services

This resolution called for MSMA to pursue legislation to require direct billing for pathology services. This issue has been previously reviewed by the Legislative Committee and the MSMA Council, and both took a neutral stand on the issue. The Council for MSMA recommended neutrality on this issue.

Resolution #6 – Prescription Only Pseudoephedrine

This was referred to the Committee on Legislative Affairs, and the Committee recommended to the Council that Resolution #6 be not adopted. This keeps MSMA neutral on the issue.

Membership

MSMA is reaching out to young physicians and employed physicians as a method of growing membership. MSMA partners at Moneta and the Resolve Physician Agency have agreed to produce a series of educational modules for MSMA's website that are aimed at helping residents and young physicians. MSMA continues to work with Epocrates, DocBookMD, and Oakstone for online CME. MSMA also offers discounts on theme park tickets for physician members.

MSMA President Jim Wolfe, MD, reported he attended the meeting of the Organization of State Medical Association Presidents held in conjunction with the AMA Annual Meeting held in June, and he indicated that other state medical societies are also making changes to make their Associations more appealing to young physicians

Continuing Education

Potential General Session topics for the 2014 Annual Convention were discussed. MSMA will continue to offer five General Sessions on Friday and Saturday during the meeting. MSMA and Kansas Medical Society will jointly host a CME Provider/Surveyor training in October in Kansas City. MSMA's self-study for reaccreditation was submitted to the ACCME the last week of June.

Insurance Agency

The Agency business has increased not only in the professional liability area, but in every line of business it markets. The Agency currently does business with 12 professional liability carriers.

Physician Consortium for Performance Improvement

Alex Hover, MD, 8th District Councilor reported the PCPI was formed 12 years ago by the AMA with the goal of fostering quality improvement for clinical practice with a particular emphasis in ambulatory medical care. The primary thrust has been the development of measures related to clinical practice quality. Initially the focus was on process measures, but the direction has recently been more toward outcome and care coordination measures.

Key initiatives include 1) shifting from process measures to outcomes measures and a new initiative to develop a "toolkit" to identify key outcomes for specific conditions; 2) work supporting the national quality registry network. This is an effort to form closer ties for existing clinical registries to improve functionality and reporting capability; 3) a new work group to address quality improvement activity in the ambulatory setting as an advisory committee given the current heavy emphasis on inpatient and hospital outpatient department quality; 4) developing quality improvement activities in regard to the referral process in the ambulatory setting.

Physicians Health Program

Bob Bondurant, MPH Executive Director, stated in addition to practicing physicians, the Physicians Health Program is receiving referrals for students and residents who have behavioral problems. He encouraged Council members to have their medical staff request funding for the program from the hospital administration. PHP is conducting a campaign "$500 from 500 physicians" to raise money for the program.

AMA Report

Some of the major issues considered at the recent AMA Annual Meeting included: the lack of sufficient GME positions for all medical school graduates; maintenance of certification and how to decrease the multiple exams some specialists are required to take; specific guidelines for invasive pain management; continued efforts to improve the flawed portions of the Affordable Care Act, including the lack of any provisions dealing with the SGR, tort reform and the Independent Payment Advisory Board; implementation of ICD-10 and what it will mean for physician practices. David Barbe, MD, was re-elected to the AMA Board of Trustees, and now serves as Chair of the Board.

Council District Reports (selected)

The northeast area of the state reported that the medical staff in Hannibal is currently updating their medical staff bylaws and working on a code of conduct. Mid-Missouri reported that St. Mary's Health Center in Jefferson City is currently constructing a new hospital that will be ready in 2015. Capitol Region Medical Center in Jefferson City recently announced a $35 million expansion. Several districts and sections are concerned with membership, and are looking at hospital system physicians vs. physicians working in private practice.

Medical Student Section

Six representatives from Missouri attended the recent AMA Student Section meeting. The American Bar Association, in conjunction with the Chicago Medical Society, gave a presentation that discussed such topics as patient safety, physician employment and contract review. First-year medical students who join MSMA by August 30 for the full duration of their schooling have the opportunity to win an MSMA Medical Journey Giftpack. For every medical student section that recruits during orientation week and activity fairs, MSMA will draw one winner. The giftpack includes a custom, engraved Littmann Cardiology III Stethoscope with identification tag, a pre-ordered copy of the USMLE Step 1 First Aid Student Guide, a WhiteCoat Clipboard engraved with "MSMA Member," donated by MDPocket, an ACLS Algorithms 2013 Pocket Card Set, a Mr. Thrifty Anatomical Skull, IKG calipers, a reflex hammer, tuning fork, and an MSMA pocket tool. A Student membership is $8 per year.

Alliance

MSMA Alliance President Barbara Hover reported she, MSMA Alliance President-Elect Kathy Weigand, and seven other Alliance members attended the AMA Alliance Annual Meeting in June in Chicago.At the AMA Alliance meeting, the Greene County Medical Society Alliance, also representing Missouri, received first place in the prestigious Health Awareness Promotion award category for their new DVD "Pills are NOT a Party." Mrs. Hover previewed a short version of that DVD and "Smoking Makes Me Ugly" for the Council. The Alliance will make these available to schools along with teacher aids by the end of October. The Alliance also received second place nationally in the Legislative Education Awareness and Promotion awards, which are given for legislative activity. Their summer leadership meeting was held in July in Cape Girardeau. Their Fall Conference will be held in Branson in October.

Appointments

The Council appointed Ann Romaker, MD, to the Primaris Board of Directors. The following were appointed to serve as Councilor Advisors to the indicated Committee or Commission: Commission on Continuing Education-Peggy Barjenbruch, MD; Commission on Medical Economics-Ann Romaker, MD; Commission on Public Affairs-Joseph Corrado, MD; Commission on Interspecialty Medicine-Kirby Turner, MD; and Physicians Health Committee-Ravi Johar, MD.

Meeting of October 20, 2013 - Jefferson City

MSMA announced the Show Me Tort Reform Coalition will hold a "White Coat Rally Day" at the State Capitol on March 5, 2014, to reinforce the importance of Tort Reform to the Missouri legislature and the public. Physicians,

Alliance members, medical students, and medical office staff are all invited to participate in this event. Visit www.ShowMeTortReform.com for more information.

The MSMA Council met in Jefferson City on October 19-20, and worked through a number of business items.

MSMA is a part of a broad tort reform coalition that will introduce a collection of pro-business, pro-medicine bills in 2014. It is anticipated that the nurses will file a bill in 2014 for APRN independent practice. MSMA will continue to work on the issue, as well as the Medicaid transformation effort.

The Board of Healing Arts is proposing legislation that would allow it to discipline physicians for a single act of negligence. At present, the statute allows for "repeated" acts of negligence. The Council voted to oppose the proposed Board language. Another proposal by the Board of Healing Arts to change the current one year of post-graduate education to three years was not supported by the Council. MSMA has encouraged Healing Arts to keep the current one-year requirement.

MSMA and the Missouri Hospital Association sent a letter to CMS regarding a grace period for health exchange plan enrollees. Current rules require qualified health exchange plans to grant individuals a 90-day grace period during which their coverage cannot be terminated for failure to pay premiums. However, the plans are only required to pay claims for the first 30 days of the grace period and are allowed to pend and deny any claims during the remaining 60 days of the grace period. MSMA objected to this rule.

A series of educational modules targeting younger physicians and their needs are beginning to appear on MSMA's website, (which also received a restructuring to enhance new tools and information.) Members are encouraged to visit www.msma.org/EducationModules, and utilize the information as more modules are loaded.

MSMA's Health Insurance Exchange Toolkit is at www.msma.org/HealthInsuranceExchange to assist physicians and answer questions. The MSMA Insurance Agency has two Certified Application Councilors to help physicians navigate the federal exchange, and Primaris is an official Federal Navigator. See the MSMA website for more information.

The Missouri State Medical Foundation will begin providing scholarship assistance to the two Missouri osteopathic medical schools, and continue the same assistance to students in the four state allopathic schools.

MSMA Insurance Agency

There has been no substantial change in the medical malpractice insurance premiums recently. Members are asked to call the Insurance Agency at 866-575-2467 to compare rates when renewing their insurance needs for 2014.

CME

The Council approved five General Session topics for the 2014 Annual Convention. They include presentations on Accountable Care Organizations, the FDA's Risk Evaluation and Mitigation Strategies, updates on MoHealth Net (Missouri Medicaid), Women's Health, and Chronic Pain Management. Reaccreditations were reported for Capitol Region Medical Center, Jefferson City; Bothwell Regional Health Center, Sedalia; and Saint Francis Medical Center,

Cape Girardeau. New provider training was conducted in August, and the MSMA and Kansas Medical Society jointly hosted CME Provider/Surveyor Training in October.

District Reports (selected)

District #3 (St. Louis) reported that members recently participated in a food packet project. District #4 (St. Charles), along with the MSMF grant program, provided medical students with funds for medical school. Tort reform, membership, and employed physician status concerns other districts in the state. The Council also heard reports from the committees of Physicians Health and Membership.

AMA

The American Medical Association Interim Meeting will be November 16-19 at National Harbor, Maryland. AMA Reference Committees are open for virtual testimony and comment; everyone is invited to participate online if they are not attending the meeting.

Alliance

The MSMA Alliance launched a new health initiative at its Fall Conference in October aimed at increasing physical fitness and quality family time. It is called Move Across Missouri (MAM). Medical families and families in general are urged to Move Across Missouri, whether it is biking, hiking, swimming, walking or running – just be active with your family or individually. Each local Alliance is encouraged to incorporate the initiative into their health projects. A celebration of this health program will be held at the Annual Meeting and prizes will be awarded. All contributions for the holiday sharing card need to be received by November 15. The Greene County Medical Alliance was awarded an $8,000 AMA grant to develop and mail 10 packets of prescription drug abuse educational materials including the Alliance DVD Pills are NOT a Party! to all state Alliances in the country. If no Alliance exists, it will be sent to an appropriate state agency. For the Alliance's Annual Meeting next April 4-5, 2014, the business portion

will conclude by Friday noon, with a guided tour of the St. Louis Art Museum to follow on Friday afternoon.

Appointments

Jeffrey Copeland, MD, St. Peters, was appointed to the Primaris Board. The MSMA endorsed Edmond Cabbabe, MD, for his nomination to the AMA Council on Long Range Planning and Development.

Meeting of January 19, 2014 - Jefferson City

All physicians of all medical specialties are affected by Missouri's Tort Reform climate. We invite the entire House of Medicine to the White Coat Rally Day at the Missouri Capitol on Wednesday, March 5. Visit www.ShowMeTortReform.com for the schedule and to RSVP for the event. Tort Reform bills in the General Assembly are HB 1173 and SB 589. Hearings are being conducted now.

During the MSMA's January Council Meeting in Jefferson City, members heard that the Missouri Nurses Association has introduced two bills – one for the expansion of APRN scope of practice and licensure, and another eliminating the proximity rule and joint rule promulgation between the Board of Nursing and Board of Healing Arts. The Council received an update on the status of the MO HealthNet expansion, including statewide Medicaid managed care, legislation regarding firearm, dense breast tissue, drug monitoring, and indoor tanning. Members are highly encouraged to watch the weekly Legislative Report and respond to any "call to action!"

Rep. Jeannie Riddle, who represents Callaway County and is chair of the House Rules Committee, has been selected to receive the 2014 Legislative Award during MSMA's Annual Convention.

Your MSMA is contacting the Missouri Congressional Delegation to support the repeal of Section 1311 of the Affordable Care Act, which would unfairly penalize physicians for some of their actions taken in regard to quality of care for their patients.

The Council discussed multiple bills pending in Congress that attempt to fix the unsustainable SGR formula. Without a fix, physician service rates will decrease 23.7% in 2014. The AMA's Physician-Led Team Initiative, which stresses the importance of physicians as the lead in the health care team model, was also discussed.

President's Activities

Since the last Council meeting, MSMA President James Wolfe, MD, attended the meetings held by the Audrain County Medical Society, Pettis County Medical Society, St. Louis Metropolitan Medical Society, and the AMA Interim Meeting.

The Council was provided with a list of the Commissions and Committees that will have vacancies in 2014 so members can forward names of any physicians who would be interested in serving.

A copy of an article on tort reform authored by Lancer Gates, DO, published in the Kansas City Star was shared. Mr. Nathaniel Nolan, medical student, is the recipient of the Art Gale Freedom of Expression Award for the best non-scientific personal commentary article published in Missouri Medicine in 2013.

MSMA will be conducting educational conference calls on the new ICD 10. MSMA is offering a new member benefit – a program for payment acceptance services for members called TSYS Merchant Services.

Resolutions

Resolution #10 - MSMA Resolution on Medical Ethics

The Council approval for a direct link on MSMA's website to the AMA Medical Ethics Group website for resources on medical ethics.

Resolution #11 - Electronic Medical Records/Prior Authorization of Procedures

The Council approved the following substitute resolution be adopted in lieu of Resolution #11 from the 2013 Annual Meeting: "Resolved, that MSMA support legislation to streamline electronic prior authorization and a universal prior authorization form for all insurance companies."

Continuing Education

Commission Chair, Sandra Ahlum, MD, reported the following topics would be presented at the Annual Convention General Sessions: Physicians Collaboration+Evidence=Quality; Update on MO Health Net-Missouri's Medicaid; FDA's Risk evaluation & Mitigation Strategies; Update of Women's Health Issues (Complete Care for Every Woman); ICD-10 Update; and Chronic Pain Management for Primary Care.

MSMA and the Kansas Medical Society conducted a joint CME Provider/Surveyor training last fall, and MSMA was represented at the ACCME state's meeting in December in Chicago.

Insurance Agency

Mr. Ronnie Staggs was announced as the new Agency Manager of the MSMA Insurance Agency. He encouraged Council members and their colleagues to contact the Agency for their insurance needs.

Publications Committee and Editorial Board

The Council approved a list of suggested appointments to the Publications Committee and Editorial Board for 2014.

Membership

Dr. Gates reported MSMA is still in the 2014 billing cycle. Ninety-three physicians who had half-year membership in 2013 have become full dues-paying members in 2014. Thirty-four physicians who were not members in 2013 have renewed their membership in 2014.

The Membership Committee discussed the possibility of obtaining emails for non-renewing and non-member physicians and using email to contact these physicians to encourage their membership. The Committee will continue to reach out to employed physicians.

Physicians Health

Bob Bondurant, Executive Director of the Missouri Physicians Health Program, reported that their presentations on the work of the program before hospitals and medical staffs encourage their financial participation and support. There is now a treatment program at the Freeman System in Joplin. Previously, program participants were referred to treatment programs across the country. Charles Sincox, MD, the MPH Medical Director, stated the program receives referrals for various issues such as drug abuse, alcoholism, boundary issues, and disruptive behavior.

Quality Measurement Update

Alex Hover, MD, gave an update on the activities of the Physician Consortium for Performance Improvement. This is an AMA-convened body that is intended to improve quality measures for health care. It consists of 190 member organizations.

AMA Report

Edmond Cabbabe, MD, stated Missouri is well represented at the AMA. David Barbe, MD, is Chair of the AMA Board of Trustees; Dr. Cabbabe is Chair of the AMA Foundation Board; Jerry Kennett, MD, is on the Council on Legislation; MSMA has six Delegates and Alternates, and MSMA has a Regional Student Delegate and Alternate Delegate. For the next two years Missouri will be managing the Heart of America Caucus, consisting of Missouri, Arkansas, Kansas, and Oklahoma. Some of the issues discussed at the November AMA Interim meeting included SGR, RAC, ICD-10, and stronger medical staffs. The AMA has virtual Reference Committees prior to the each AMA Meeting and all members can participate. Dr. Cabbabe reported the Missouri Honor fund currently raised $167,000 with a goal of $250,000. This fund will work provide support to physician-led free clinics in Missouri.

Councilor District Reports (selected)

The St. Louis Metropolitan Medical Society installed Joseph Craft, MD, as its 2014 President. David Pohl, MD, stated the SLMMS had recently completed a three-year planning initiative for the society. One of the issues the Society will concentrate on is membership. SLMMS plans to provide a bus to the MSMA White Coat Rally on March 5.

Kevin Weikart, MD, indicated the physicians from District 4 will join the physicians from St. Louis on the bus for the White Coat Rally. Dr. Hover introduced Ellen Nichols, MD, Joplin, as the 8th District Vice Councilor. The Greene County Medical Society recently held a program on tort reform.

James Conant, MD, with the Organized Medical Staff Section, reported the major issues discussed at the OMSS meeting in November were ICD-10, repeal of SGR, physicians leading changes for better outcomes, maintenance of certification, and improving the quality of care and burden to physicians. Ramona Behshad, MD, reported the Young Physician Section is working on membership and coordinating with the Alliance special events for young physicians and their spouses.

Alliance

Alliance President Barbara Hover reported that the successful Holiday Sharing Card campaign raised $2,500 for the MSMA Foundation. The "Pills are NOT a Party!" distribution of the DVD packets was made possible by a grant the Greene County Medical Society Alliance received from the AMA Foundation. Alliance Advocates for Health Care Annual Day at the Legislature will be on March 4-5 in conjunction with the MSMA White Coat Rally at the State Capitol. The Alliance Annual Meeting will feature guest speakers and an art tour of the St. Louis Art Museum on Friday. The Foundation Fundraiser Dinner/Auction will be a mystery dinner theatre called "Who Stole Zeus' Thunderbolt?" **MM**

Reports of the Delegate Handbook: 2013-2014

Secretary

The Missouri State Medical Association had 4,934 members as of the December 2013 audit. This was a net loss of 87 members from our membership of 5,021 as of the December 2012 audit. Following is a breakdown according to classification.

Year	Students	Residents	Active	Honor	Total
2012	976	79	3,488	478	5,021
2013	993	70	3,379	484	4,934
	+17	-7	-109	+6	-87

Number of member deaths reported during 2013 totaled 23.

The Committee on Nominations, which is appointed by the President, from the House of Delegates, must submit nominations for the following offices:

President Elect to fill the expired term of Jeffrey Copeland, MD, St. Peters.

Three Vice Presidents to fill the expired terms of John Rollo, MD, Des Peres, Robert P. Wankum, MD, Jefferson City, and William H. Poggemeier, St. Charles.

A Speaker and Vice Speaker to fill the expired terms of David Chalk, MD, Washington, Speaker and Lancer Gates, DO, Kansas City, Vice Speaker. Both are eligible for re-election to their current position.

Three Delegates and Four Alternate Delegates to the AMA to fill the vacancies created by the expiration at the conclusion of the 2014 Annual Convention of the terms of Delegates Edmond Cabbabe, MD, St. Louis; Ted Groshong, MD, Columbia; Lent Johnson, MD, Hannibal and Alternate Delegates: Elie Azrak, MD, St. Louis; Vacant position due to resignation of previous Alternate; Nathaniel Murdock, MD, St. Louis; Charles W. Van Way, III, MD, Kansas City. The new two year-terms will begin at the conclusion of the 2014 MSMA Annual Convention and end at the conclusion of the 2016 MSMA Annual Convention.

The terms of the following Councilors will expire in 2013: 1st District – Rob Schaaf, MD, St. Joseph; 5th District - Joseph Corrado, MD, Mexico and George Hubbell, MD, Osage Beach; 7th District – Lancer Gates, DO, Kansas City and Ann Romaker, MD, Kansas City; 8th District – Brian Biggers, Springfield; 9th District – Currently Vacant; Organized Medical Staff Section – Peggy Barjenbruch, MD, Mexico; International Medical Graduate Section – Sri Devi Kolli, MD, St. Louis; Resident & Fellow Section – Jane M. Jones, MD, Mission Hills, KS; Medical Student Section – Ms. Caroline Doo, Kansas City.

The terms of the following Vice Councilors will expire in 2014: 1st District – Robert Corder, MD, St. Joseph; 3rd District – Michael J. Stadnyk, MD, Chesterfield; 5th District – Lisa Thomas, MD, Columbia; 7th District – James A. DiRenna, Jr., DO, Gladstone; 9th District – David Barbe, MD, Mountain Grove; Organized Medical Staff Section – James Conant, MD, St. Joseph; International Medical Graduate Section – Ramona Aitken, MD, St. Louis; Resident & Fellow Section – Brad Harr, MD – Kansas City; Medical Student Section – Mr. Avik Som, St. Louis.

Delegates shall meet during the Annual Convention to elect the Councilors and Vice-Councilors for their respective districts and sections. The election shall be certified to the House of Delegates on the prescribed form which will be furnished.

The entire session will be held at the Renaissance St. Louis Airport Hotel, St. Louis, MO. The House of Delegates will hold its First Session on Friday, April 4, 2014, at 8:00 am and the Second Session is on Sunday, April 6, 2014, at 8:15 am.

Registration facilities will be open on Thursday, April 3 at 3:30 pm; Friday, April 4 at 6:30 am and Saturday, April 5 at 6:30 am. Registration will be in the Concourse Foyer.

Treasurer

The report of the Treasurer is covered in the Financial Statement which is published in the March/April issue of *Missouri Medicine.*

Executive Vice President

The report of the Executive Vice President is covered in President's State of the MSMA speech on page 248.

Alliance

I wish to thank the membership of the Missouri State Medical Association Alliance for their volunteer and charitable activities to improve the health and quality of life for all people. This is the mission of the MSMAA and it has been an honor and a privilege to serve as their president.

Nine members of the Missouri State Medical Association Alliance, including myself and Kathy Weigand, President-Elect, attended the AMA Alliance Annual Meeting June 16-19 in Chicago. Greene County Medical Society Alliance was honored to receive a first place HAP award for their project Pills are NOT a Party! which educates middle

school youth on the dangers of abusing prescription drugs and over-the-counter medication. MSMAA also was pleased to receive a second place Leap Award for its "Advocacy Day." We thank Kathy Weigand for her hard work and dedication to this project. It was a rewarding meeting and we all came away with a renewed motivation to make a difference in our state and local communities.

At the July MSMA Council meeting I was allowed to show excerpts from both of GCMSA's educational DVDs Smoking Makes Me Ugly! and Pills are NOT a Party! MSMAA appreciates the opportunity to demonstrate to Council an example of the community service of one of our county Alliances.

Missouri Summer Leadership Conference was held July 16-17 in Cape Girardeau. It was a fun and highly informative two days. Workshops included topics ranging from "Teen Dating Violence Prevention" to "Juicing to a Healthier You." We also were pleased to have "Building a Vibrant Medical Alliance" presented by the Cape Girardeau County Area Medical Society Alliance. They shared their successes so that other Alliances could benefit from their ideas. We wish to thank Nicole Nguyen and Julie Ogles for organizing this meeting. They did a fabulous job.

The MSMAA voted to launch a new health initiative aimed at increasing physical fitness and quality family time. It is called Move Across Missouri (MAM). This was inspired by the fitness platform of the U.S. Surgeon General Regina Benjamin who we met in Chicago at the AMA Annual Convention, but also complements Governor Jay Nixon's 100 Missouri Miles. We encourage medical families, and families in general, to Move Across Missouri, whether it is biking, hiking, swimming walking, or running; just be active with your family or individually. Each local Alliance is encouraged to incorporate the initiative into their health projects and enter either as a group or individually. We plan a celebration of our new health program at the annual meeting in St. Louis, April 4-6. Prizes will be awarded and entry forms are available on our website. Shirley Collison and Marsha Conant are doing a great job as Health VPs.

The Fall Conference was held in Branson, October 1-2, and was a great success. We had a total of 28 attend and had very positive reviews on our three social activities and five workshops. We give special thanks to MSMA members Dr. David Barbe and Dr. Alex Hover for their presentations and Greene County Medical Society Alliance for hosting our event.

In September Greene County Medical Society Alliance was awarded an $8000 AMA grant to develop and mail 10 packets of prescription drug abuse educational materials including our DVD Pills are NOT a Party! to all state Alliances in the country. If no Alliance exists it will be sent to an appropriate state agency.

I presented a workshop about Pills are NOT a Party! at the North Central States meeting in Omaha, Nebraska, in October. I also was the featured speaker this at the Southern Medical Association Meeting in Destin, Florida, on November 1. The DVD was well received and there was much excitement about the distribution of the DVD packets to each state. GCMSA is presently at work preparing the packets and they hope to have them ready to send the end of February.

There was also a nice article about the project in the last issue of *Alliance In Motion,* a publication of the AMA Alliance and in *Link*, their online publication. The AMA Alliance has agreed to help compile the contact name in each state to be responsible for the distribution of the educational materials.

The MSMA Alliance ended the year with a successful Holiday Sharing Card campaign with 31 families or households participating. Over $2,500 was raised for the MSMA Foundation with the money being used for student scholarships. We would like to thank all who participated and Sue Ann Greco for her hard work in organizing the event. The participants were listed in the winter issue of *Missouri Medicine* and in the MSMAA's February newsletter.

The MSMAA held their contest Smoking Is Not for Me. Entries were received from all County Alliances and the awards will be made at our Annual Meeting April 4-6.

The Alliance Legislative Meeting will be held this year March 4 and 5 to coincide with the MSMA White Coat Rally on March 5 at the Capital. We encourage Alliance members to wear white that day in support of our physicians. VP Legislation Lissa Young has planned our activities to incorporate legislative training and active participation at the Capitol with the physicians.

The MSMA Alliance plans something new at this year's annual meeting. The business portion of our meeting will be conducted Friday morning and conclude before our awards luncheon. We will offer a docent guided tour of the St. Louis Art Museum on Friday afternoon thanks to the generosity of the MSMA's donation of the shuttle. We hope all will attend our Foundation Dinner that evening. Sue Ann Greco has been hard at work making this an event not to be missed. It will be a mystery dinner theatre entitled "Who Stole Zeus's Thunderbolt" and it promises to be a lot of fun. We will have informative workshops on Saturday morning and we encourage spouses to register for our meeting.

I have had the privilege this year of installing the Alliance officers for Boone, Cape Girardeau, St. Louis

Metropolitan, Metropolitan Greater Kansas City, and Greene Counties. I was appointed a State Councilor and member of the Health Education Committee for Southern Medical Association Alliance. I have also been asked to serve on the national judging committee for the AMA Alliance HAP Award. It has been a very busy year and I thank my officers and board for their invaluable hard work and support. I would also like to thank Liz Fleenor and the staff at MSMA.

I would also like to highlight some of the activism around the state. Boone County Medical Society alliance is focusing their volunteer efforts to help the community while honoring physicians with their first-ever "Doctors' Day Blood Drive". Cape Girardeau Alliance is again involved in "Be the Match Bone Marrow registration". Sixty people registered and to date five people have been matched. Greene County Medical Society Alliance is focusing on promotion of their Health Education DVDs. Greater Kansas City Metropolitan Alliance has partnered with "Dress a Girl Around the World" to make pillowcase dresses to clothe the needy in large port cities where human trafficking is a problem. St. Louis Metropolitan Medical Society Alliance has been raising funds in support of Loyola Academy, St. Martha's Hall, St. Louis Area Food Bank, and Medical Scholarships. These are just a few of the activities of the Missouri State Alliances. Alliance members have been involved in many aspects of improving the well-being of the communities around them and continue to find innovative ways to do this.

We are Today's Alliance and we do have the "Power to Make a Difference."

Commission on Continuing Education

The Commission reviewed and approved the following accreditation actions:

Reaccreditations for Organization: SSM Health Care St. Louis-St. Louis; Kansas City Southwest Clinical Society-Kansas City; Capital Region Medical Center-Jefferson City; Bothwell Regional Health Center-Sedalia; Saint Francis Medical Center-Cape Girardeau; Institute for International Medicine-Kansas City.

Progress Reports: St. Anthony's Medical Center-St. Louis; St. Mary's Health Center-Jefferson City.

The Commission planned and approved the 2013 Annual Convention CME Program approved for 18.75 hours of AMA PRA Category 1 creditsTM.

Providers Relinquishing Accreditation Status: Primaris-Columbia, MO; Kneibert Clinic-Poplar Bluff, MO; Skaggs Community Health Center-Branson, MO.

The Missouri State Medical Association currently accredits thirty-two entities statewide.

The Missouri State Medical Association and Kansas Medical Society co-sponsored CME Provider training on October 4, 2013 in Blue Springs, Missouri. Staff from the Accreditation Council for Continuing Medical Education (ACCME) and the American Medical Association (AMA) presented at the seminar. Additionally, surveyor training was conducted for the CME Committee members.

MSMA staff attended the state medical society meeting sponsored by the ACCME and reported back to the Commission on issues and trends relevant to CME. Additionally, staff participated in the ACCME's monthly noon conference calls.

The MSMA submitted its self-study report for re-accreditation. The MSMA will receive notification of the type and term of accreditation in March of 2014.

The Commission continues to work with Oakstone Publishing as the vendor to provide online CME for MSMA members.

Membership

MSMA closed out the 2013 membership year with 3,379 active members. Of those, 376 were new members; and of the new members, 101 joined at half price after June. We had 72 members renew after having skipped a year in 2012. Our demographics reveal that 834 members are age 44 and under, with 28 young physicians who have paid $300 dues in their third year of practice; 53 who paid $200 dues in their second year of practice; and 29 who paid $100 dues in their first year of practice.

MSMA staff sent printed issues of the *Missouri Medicine* to non-members, using themes to entice specialties, and made the issues available online through a secure link. These efforts have helped yield new members. Also, online payments are steadily increasing through the MSMA website.

Partnerships with new vendors for member benefits this year included Resolve Physician Agency, Oakstone Online CME, DocbookMD and TSYS. Members were invited to participate in a DocbookMD webinar, and to submit their photos to MSMA for inclusion in their profiles. While this is a free feature to members only, a sponsor is still needed for offering DocbookMD to members.

Contacts with our vendors for updates to the Annual Membership Directory provided the following information: The MO Drug Card is now being accepted by 56,000 pharmacies, up from 54,000 the year prior, and Epocrates has been acquired by athenahealth. Their member benefits have not changed and neither has their platform and the

discount is still 25% for Epocrates subscriptions.

Resolve Physician Agency has been busy presenting to resident programs, and they've been well received. They offer 30% discounts to members for their services, including contract reviews and an al a carte package menu of services. Also, Resolve and the Moneta Group are both contributing educational modules featured on the MSMA website and aimed at helping residents and young physicians. Our newest partner, TSYS, offers state of the art payment acceptance services to help you get paid.

There is a need right now for leadership in the Northwest Medical Society. MSMA staff is also working diligently to collect the email addresses of non-members as another way to reach out to them. If you are able to assist with these efforts, your help is greatly appreciated as always. Thank you for your support as a proactive member of MSMA.

Missouri Physicians Health Program

This has been a busy year as indicated by the number of referrals and the 115 Missouri physicians that were assisted. The MPHP provides a variety of services. This includes consultation, intervention, referral for treatment, monitoring and advocacy. The consultive service is especially active. Hospital administrators, physicians, colleagues and family members call the Program Coordinator or Clinical Coordinator to make a referral, discuss a potential referral or brainstorm about the necessity of making a referral. Information is often requested about how to identify problems, what services are available and how to handle issues of impairment should they occur. Many hours are required to meet their needs. The MPHP provides a safe and knowledgeable venue for any question or concern about physician health.

Missouri State Medical Association Insurance Agency

Your MSMA Insurance Agency is an independent insurance agency that offers insurance consultation to all Missouri physicians. The Agency offers policies primarily for professional liability and health, but also covers workers compensation, business office coverage, disability, and life.

The board of the Insurance Agency reviews budget and financial statements at each quarterly meeting. Agency financial statements are audited and consolidated into the MSMA financials.

The board is supportive of the Agency and encourages all MSMA members to contact the Agency for a competitive health insurance or professional liability insurance bid.

Missouri State Medical Foundation

Your Missouri State Medical Foundation loaned $72,000 to Missouri medical school students in 2013. The Foundation has loaned more than $11 million to Missouri medical students over the last fifty years.

In addition to continuing to make student loans, the Foundation is annually funding five $2500 MSMA Scholarships at each of the six Missouri medical schools.

The Foundation has also assisted with the creation of scholarship funds by providing $5000 matching grants to:

St Charles / Lincoln County Medical Society, Boone County Medical Society, Northeast Missouri Medical Society, Northwest Missouri Medical Society, Cole County Medical Society, Quad County Medical Society, Metropolitan Medical Society of Greater Kansas City, MSMA Alliance.

The annual financial statement audit received an unqualified (clean) opinion from the auditor. The current financial strength of the Foundation is due to the strong support received from the MSMA and the MSMA Alliance.

Public Affairs Commission

MSMA held its annual Advocacy Training at the January Council Meeting. More than 30 participants from component and medical specialty societies completed leadership and grassroots advocacy training.

MSMA and the Show Me Tort Reform Coalition organized the 2013 White Coat Rally Day where more than 100 physicians turned out to support Tort Reform.

The MSMA website received a facelift and modernizing with a launch in October which featured new areas for employed and/or young physicians and a Health Insurance Marketplace Toolkit.

Publications Committee

Volume Number 110 of *Missouri Medicine* showcased national authors and featured ground-breaking scientific articles. This volume published four issues featuring "theme" articles and two issues featuring a variety of scientific topics and micro-series. It contained 532 pages and 53 scientific articles, including one Feature Review. The Journal received a record number of scientific manuscripts for peer-review and continued regular departments: Editor's Desk, President's Page, Perspective, Opinions, Health Care Finance, Insurance, Managed Care, Medical-Legal, and Advocacy.

Your current *Missouri Medicine* is peer-reviewed, indexed by MEDLINE, The National Library of Medicine, and and linked to PubMed Central. We are included in EBSCOhost

databases, the largest premium online information resource for researchers.

Critical peer-review for *Missouri Medicine* means that a minimum of two, and often three, highly qualified physicians vet each paper to determine suitability for publication; if the paper is to be published reviewers also submit recommendations to improve the manuscript construct, presentation, and content. Acceptance standards equal or exceed many national journals and free circulation newspapers/magazines. For example in 2013, there were 33 non-request manuscripts submitted for peer-review, only 80% were accepted for publication.

Missouri Medicine gives acceptance and publication preference to MSMA members in good standing. If at all possible, the editorial staff will extend themselves to help with re-drafting a MSMA member's paper to publication standards.

In 2013, we were proud to partner with the following medical schools and organizations: Simulation in Medical and Surgical Education - University of Missouri - Kansas City; One Medicine: Collaborative Research on Human and Animal Disease - Missouri University/College of Veterinary Medicine; 90 Year of Biochemistry - Saint Louis University; Alzheimer Disease: Current Concepts & Future Directions by the Knight Alzheimer's Disease research Center / Washington University.

Mini-Series were offered in the areas of Death/Near Death Experiences, Preventive Cardiology, Statin Therapy, Pain Management, Technology, PRO/CON - Should Ophthalmologists Test Hearing and Sell Hearing Aids?

In 2013, our Journal announced The Arthur Gale Freedom of Expression Award to be presented annually to the author of the best commentary article published in Missouri Medicine, in honor of Arthur Gale, MD, one of the Journal's Contributing Editors and MSMA member since 1976. This prestigious and monetary award will be offered to encourage MSMA physicians to submit personal perspective essays on issues that are topical and provocative. All MSMA members shall be eligible to submit articles, and a special, independent MSMA committee shall be appointed in December of every year to judge the submissions published during that calendar year. Our first award will be presented to Nathaniel Nolan, a medical student from MU at our 2014 Annual Convention.

Being on the *Missouri Medicine* editorial board is a great honor and recognition of high regard by physician peers and the leadership of MSMA. All members are asked to participate in peer-review, contribute articles, and solicitation of highly qualified authors on issues we wish to publish. Special thanks for their good work year after year: Drs. Milamari Cunningham, David Fleming, Art Gale, William Reynolds, and Charles Van Way, III. Justin Albani, MD, Urologist, will replace Dr. Cunningham in 2014 on the Publications Committee.

On behalf of *Missouri Medicine* we wish to thank Douglas B. Bogart, MD, a longtime friend and colleague for his exemplary service to our Editorial Board in Cardiology. Jerry Kennett, MD, a former MSMA President, has joined *Missouri Medicine* as our new cardiology editor. We also welcome John A. Pardalos, MD, who is the Neonatology Board Member, replacing Elizabeth James, MD, and Ann M. Romaker, MD, who is the Sleep Medicine Board Member, a new position for our board.

Missouri Medicine has an informal agreement to provide reprinted papers selected by the Editors of *General Surgery News, Anesthesia News, Clinical Oncology News, and Pain Management News*. Articles based on *Missouri Medicine* content have appeared in the *St. Louis Post-Dispatch, the Kansas City Star, the Wall Street Journal, Runner's World, NBC, Outside Magazine, EyeNet, the Journal of the American Medical Athletic Association, the Journal of Cataract & Refractive Surgery Today, Ophthalmology Times*, and *Ocular Surgical News*, to name a few. *Missouri Medicine* selectively reprints articles from *St. Louis Metropolitan Medicine, the Journal of the Greene County Medical Society* and *the Medical Bulletin of the Metropolitan Medical Society of Greater Kansas City*. Select national articles appropriate to medicine in Missouri are also occasionally reprinted.

The Publication Committee, Editor, John C. Hagan, III, MD, and Managing Editor, Lizabeth Fleenor, appreciate the many contributions of the MSMA, Alliance members, and others who have contributed to *Missouri Medicine*. The Committee appreciates the Association's continued support of the Journal.

Resident Fellow Section

The 2013-2014 year was a building year for the resident and fellow section of MSMA. As dynamic as our schedules are throughout our training, networking and recruiting members can pose some difficulty throughout the state. Due to this, we have discussed methods to build alliance through our medical schools in Missouri to use our resources as efficiently as possible to bring medical students, residents, fellows, and young physicians together. We hope this will drive our membership in the future years and educate more medical professionals on all the benefits of MSMA as a pivotal part of organized medicine and political activism in Missouri. There continues to be a solid base of

support from established MSMA members, and there are many leadership roles available in the MSMA-RFS.

Medical Student Sections

A.T. Still University – KCOM

This year ATSU-KCOM MSMA/AMA-MSS is happy to welcome 15 new members to our organization from the first- and second-year class. We have also recruited a handful of third- and fourth-year students as well. This year we have had the pleasure of hosting Dr. Christopher Ngo, DO, who spoke about stress-reducing techniques. We partnered with fellow club members of American Medical Student Association and the American Red Cross to raise donations for blood products and collected over 50 pints, 26 of which came from our members! We will be hosting an additional blood drive in May with the American Red Cross. For the upcoming year, we have many exciting programs planned for our members. The first of these will be with different physicians at our school, advising us on how to decide on future career paths in medicine, by telling us their stories. We will also be having a rotation and residency meeting with residents from our local hospital, where they will advise us on how to best succeed in our future preceptorships/rotations, as crucial stages in our careers. A panel will take place for our first-year students, advising them on what to expect with their summer preceptorships, which will be facilitated by two of our members. Rounding out the year, we are hosting the movie "Money and Medicine," along with an Ice Cream Social.

All of us are looking forward to White Coat Rally Day and the Annual MSMA Convention, as well as upcoming elections for the students, which will continue our success and productivity into the next year.

Saint Louis University School of Medicine

The SLU MSMA/AMA-MSS dedicated 2013-14 as the "Year of Giving Back" to our local community and has been focused on recruitment, community service and health advocacy. We welcomed the incoming class with an MSMA/AMA introductory lunch talk, attended by 178 first-year students, and a meet and greet with the MSMA/AMA officers and MSMA representative Haley Wansing during orientation week. Our Snow Cone Extravaganza on campus attracted 190 students and staff who came by to grab a sweet, refreshing snow cone and learn more about the benefits of joining MSMA/AMA. We also held a social outing to the City Museum with 26 MS1 and MS2 students who got a chance to learn about the goals and future events in store for our chapter. Finally, we held a "Success in Medical School" Panel, featuring our past officers, Albert Zheng, Michael Kim and Elyse Shaw, which drew more than 150 students. Overall, we were able to recruit a total of 50 new MSMA/AMA members from the incoming class, adding to 70 MS2 members.

By mobilizing our membership, we were able to create sustainable community service partnerships with important organizations working to bridge the inequality gap in St. Louis. In June and July, we visited the Matthew Dickeys Boys and Girls Club in North St. Louis to do interactive medical presentations for young boys and girls in summer camp. We partnered with Diane Berry at Health Protection & Education Services Clinic on Delmar to have medical student volunteers help provide free health screenings every month to more than 60 patients. Our members also partnered with Linda Smith and Pastor Rodney Francis at Washington Tabernacle Baptist, a predominantly African-American local church, to start a diabetes support group. We hosted two sessions every month - an education session with a local physician and a cooking demonstration by SLU dietetic students. Our diabetes initiative was awarded the 2013 October "Event of the Month" award from the AMA Section Involvement Grant program. In total, our volunteers contributed over 100 hours of community service this year.

In order to provide an opportunity to learn about health advocacy and develop effective leaders at SLU, we hosted many amazing guest speakers. In October, we had the privilege of working with the MSMA/AMA chapter at Washington University in St. Louis to host a joint Fall Symposium.

We featured innovative programs covering parliamentary procedure, a mock House of Delegates, community service training on the new marketplace insurance exchange and a dinner lecture by David Barbe, MD, current chairman of the AMA Board of Trustees. During Primary Care Week, we invited Stephen G. Slocum, MD, an immediate past president of MSMA, ophthalmologist and SLU alumni to speak about the Affordable Care Act and its impact on Primary Care physicians. Finally, to highlight issues in our local community, we partnered up with the Pediatric Interest Group to host an advocacy workshop on the Missouri anti-bullying initiative, which includes the Missouri Safe Schools Act and Medicaid expansion to LGBT and minority groups. Invited guest speakers were MO State Representative and Minority Leader Jake Hummel, former MO Representative Tracy McCreery, AJ Bockleman (PROMO) and SLU Associate of Pediatrics, Kenneth Haller, MD.

This month, we have teamed up with Washington University again for a Trivia Night fundraiser benefiting

the Children's Miracle Network, which supports both the Cardinal Glennon Medical Center and St. Louis Children's Hospital. We look forward to participating in the 2014 White Coat Lobby Day, MSMA Annual Convention and the AMA Annual Conference in Chicago.

Kansas City University of Medicine and Biosciences

The KCUMB MSMA/AMA-MSS chapter has capitalized on a membership resurgence occurring a year ago to become one of the largest, most active organizations on our campus. After earning recognition as one of the nation's Top 10 AMA chapters in the area of recruitment last year, we were able to increase membership by over 40 students this year. By continuing to inform our peers of the importance and benefits of joining the MSMA and AMA, our chapter membership is now more than 215 students.

Our chapter began the school year with a focus on welcoming first-year students and building relationships with them during their orientation week. We interacted with many students through our informational booth during the KCUMB Student Organization Fair that was attended by MSMA's Director of Membership Haley Wansing. To conclude orientation week, our chapter organized an overwhelmingly popular meet-and-greet that brought together more than half of the University student body.

In late August we hosted a Succeed in Medical School with the AMA (SIMS) event. The SIMS program included an overview presentation of the AMA from an AMA student leader, followed by a panel discussion with upperclassmen students from KCUMB. The event was extremely successful as it increased our chapter membership and gave first-year students helpful advice about good studying habits, time management, and how to succeed in their upcoming medical school year.

In early October, the chapter hosted a recruitment event that featured guest speaker and MSMA Councilor Lancer Gates, DO. The event focused on the benefits of being involved with state and national medical societies. Dr. Gates urged us all to become informed and engaged in promoting legislation and clinical standards that ensure the best for physicians, patients and the public health.

As has been tradition, our chapter's executive board strives to not only help educate students professionally, but also in the classroom. As winter break neared, so did the first-year final exams that included the hardest pharmacology section of the year. The executive board held a pharmacology review for all first-year students. This event was successful and very popular as more than 100 students attended.

In the early fall, our chapter partnered with the family medicine club at KCUMB to host a community service opportunity through Heart to Heart International, where volunteers helped package care kits to donate as relief to much needed areas. These care kits included necessary personal hygiene materials such as blankets, soap and toothbrushes.

As we embark on the second semester of this school year, the chapter will focus on fundraising, community service and academic and professional enrichment. In March, we will conduct a microbiology review for the first-year class before their final exams.

To cap off an exciting school year, in spring, our chapter will partner with UMKC's MSS to organize and host a Dash for Diabetes, a 5K run/walk event with all proceeds going to the American Diabetes Association. Last year, this event raised over $5,000 and we expect an even greater turnout this year.

We look forward to finishing the school year strong as a chapter and electing new officers who will continue to pass along the importance and traditions of MSMA.

University of Missouri – Columbia

Our MSMA/AMA-MSS at University of Missouri – Columbia started off the year with a successful recruitment event led by our Recruitment Chair Nathan Nolan and sponsored by our Boone County Medical Society (BCMS). We had more than 50 percent of our incoming first-year medical students join MSMA. BCMS graciously supplied membership incentives, including Maxwell Medical Reference Guides, reflex hammers and a Littmann Cardiology III stethoscope that was raffled off to new members. This supplemented those incentives provided by MSMA, which was also a huge draw to new members and included MSMA bags and stationary supplies. David Barbe, MD, our esteemed AMA Board of Trustees Chair attended our recruitment fair and was integral to building excitement and bringing in new members.

We also had a very successful fall fundraiser organized by our Chapter's Vice President Dan Lovinger. Our annual Halloween party, Terrortoma, brought in $1,200 which was donated to MedZou, our local free clinic run entirely by medical students with support from our medical school and attending physicians who volunteer their time for patients. Our spring fundraiser was a Trivia Night benefitting Children's Hospital, organized by Community Service Chair Jennifer Haslag-Minoff.

Mizzou had a very successful year in the form of representation at the regional and national level. Chapter

President Inna Hadass served as State Alternate Delegate to the AMA House of Delegates and also as Vice Chair of the AMA-MSS Standing Committee on Medical Education. Chapter President-elect Lauren Stephenson served as an MSS Regional Alternate Delegate, a position she will continue to hold for the following year. Nathan Nolan served on the Committee on Medical Education as well, and was also elected to serve as a Regional Delegate for the coming year. Additionally, Nathan was nationally recognized on the "AMA Wire" for a column he published on the national physician shortage and the threats to funding for Graduate Medical Education (GME). Both Nathan and our Legislative Chair, Lucas Blount, were essential to our chapter's efforts in a national Save GME campaign, which called members of Congress to preserve GME funding to ensure the patients of America will have access to the physician care they need. Lucas arranged meetings with staff of Senator Claire McCaskill and Congresswoman Vicky Hartzler so members of our chapter could visit their offices to discuss this vital issue.

University of Missouri – Kansas City

The UMKC Chapter of the MSMA/AMA-MSS has had a brilliant year thus far. Our year started in July, when the MSMA and the Asian Pacific American Medical Student Association collaborated to create the first University of Missouri – Kansas City, School of Medicine Leadership Summit. The idea came about when the students voiced interest in learning valuable lessons that were beyond the scope of the classroom. Physicians are inadvertently leaders in their community and it was important to teach this lesson on a broader scale. Our chapter was able to put together a successful event with speakers such as the Dean of the medical school and Children's Mercy Pediatrics Department Chair who spoke about their path to becoming leaders and the value of such powerful positions. We are incredibly proud of all we accomplished that day.

With that positive energy we continued our year with our first recruitment event, where we were able to welcome more than 40 new members from the incoming first year class alone. The event was held on a beautiful Fall day in the courtyard of the Oak Street Dorms where food was provided by medical students' favorite, The Gyro Truck. We appreciated the physician viewpoint provided by Lancer Gates, DO, a significant contributor to MSMA and AMA. The event was full of more excitement with guest visitor Stacy DeMeyer from MetroMed, who gave scrubs to our new members.

In November, we sent four students to 2013 AMA Interim meeting in Gaylord National Harbor, Maryland. Our attendees learned about the AMA on a national and regional level. The students brought back their experiences and shared them with our Chapter members.

Our top priority this year has been to give back to the community. We started this goal by setting up entertaining exercise activities at "KC Fun and Fitness Day", a community-wide health fair. We had multiple games, competitive races and prizes, which the kids enjoyed. Coming up soon is arts and crafts at "Wednesday Night Live" at Children's Mercy Hospital, as well as helping put together a UMKC-sponsored Health and Wellness Fair.

Finally, we are very excited to be participating in MSMA White Coat Rally Day and AMA-MSS Region 2 Conference. It has been a great year thus far, and we are excited for better things to come.

Washington University School of Medicine

Our Chapter has had another great year, building off the foundation set by previous years and forging new traditions to improve the Washington University Chapter of the MSMA/AMA-MSS. Since the last MSMA Annual Convention, we have had great success involving more students in the organization, working with other school chapters, and reaching out to the St. Louis community.

Our Chapter Board has focused on creating new programs to extend our impact past our campus, as well as maintaining strong recruitment. This year we welcomed 43 new members from the Class of 2017. These new students have immediately made an impact on our chapter. One of our biggest challenges so far has been working with the St. Louis University MSMA-MSS Chapter to plan a trivia night for the Children's Miracle Network with local St. Louis businesses. The Class of 2017 has done an outstanding job working with these local businesses to ensure this event will attract students from both schools and outside St. Louisans to support this worthwhile cause. The fundraiser is scheduled to take place in February 2014.

This October WUSM hosted the first ever Missouri medical student interim conference. Students working together from Mizzou, SLU and WUSM made this event possible, and it became a real source of pride for our Chapter. Events throughout the day included an advocacy workshop hosted by the St. Louis Chapter of PROMO, a LGBT advocacy group, an informational session on Medicaid expansion in MO and a screening of Escape Fire. At the end of the night, David Barbe, MD, presented his recent updates on the AMA's initiative to accelerate change in medical education. Over 80 people attended this event,

and next year we hope to build on our success to involve more schools across MO. We would also like to again thank Dr. Barbe, Haley Wansing and the rest of the MSMA and AMA staffs for taking time to make this event so successful.

In November, WUSM sent 6 students to the 2013 AMA Interim meeting in Washington, DC. Two of our members won in separate categories for their research presentations. Our members have also taken leadership roles in writing and discussing resolutions presented to the AMA-MSS with two students serving as national committee members. Finally, since this was the first national interim meeting for most of the attendees, they were able to bring back their experiences to help guide the rest of the chapter toward taking advantage of the opportunities presented and help develop the chapter. This resulted in five interested students returning to DC for the AMA Advocacy Day in February 2014.

The WUSM-MSS chapter has organized the blood drives on campus for many years with the American Red Cross. This year was no exception, and we added a very moving presentation and Q&A with the Red Cross. We were able to bring in a mother who had lost both her sons to rare blood conditions to express her gratitude to those who have donated blood in the past and to stress the importance of continuing to give. Seeing the impact of our work reaffirms our commitment that service be a main goal of our chapter.

Finally, our board has throughout the year hosted other talks with members of the Washington University and St. Louis community in order to educate the entire student body on the basics of health policy and the matching process. We believe as an MSS chapter it is our duty to make sure the next generation of physician leaders is well informed and motivated to make a difference at all levels of medicine. As a chapter, we want members to become involved in policy discussions as early as possible and use their insight now. Early this year, in conjunction with the AMA-MSS SaveGME week, we were able to organize meetings with our national lawmaker's St. Louis office to discuss GME in order to protect our future residency spots.

All things considered, this past year has been one of the strongest yet for our chapter. We look forward to continuing to be active as a local chapter and increasing our activity with the state, regional, and national MSMA and AMA. and National Committee on Legislation and Advocacy (COLA) was founded and has been particularly active this year, with multiple group discussion activities regarding resolution writing, as well as discussing various hot topics debated in the news and at the AMA Interim conference. In October, we sent two members from the committee, one first year and one second year, as delegates to the Interim AMA Convention in Honolulu, HA. Since one member had attended the previous convention, they were able to use their experience to help guide the first-year student toward taking advantage of the opportunities that were presented and gain valuable insight in developing the chapter.

Each attendee returned emboldened and inspired. For instance, at the Interim conference, with our fellow other Missouri Chapters, we tackled the question of how to boost cooperation among Missouri's medical schools and provide training for first year students prior to the first interim national conference.

As a result, Washington University has been planning a State Interim Medical Conference to be held in the fall of 2013. For AMA Advocacy day, we are sending 3 first year medical students who have been active in the committee to Washington, DC. Finally, one exciting avenue that our school's COLA is attempting to take, is to become an advocacy avenue for researchers at Washington University in order to make their latest findings heard, particularly when the scientific findings have implications on health care policy and medical care.

For service, our chapter currently fields two community service committees. The blood drive committee has since August organized and held multiple blood drives in conjunction with the American Red Cross on campus with great success. Before the end of the year, we plan on having more and continuing that momentum. Our second community service committee is beginning to ramp up work for our marquee event, Dash for Diabetes, which is hosted, in collaboration with Saint Louis University School of Medicine, and in previous years has helped to raise over $2,000 for the American Diabetes Association. As part of the AMA Wellness initiative, in conjunction with the Washington University in St. Louis SOM Yoga Club, we are hosting more than 15 free Yoga classes for students throughout this semester taught by professional yoga masters. The classes are provided in order to allow relief from stress, as well as provide an opportunity for exercise during the school year.

Our board, in conjunction with our recruitment committee, has throughout the year hosted lunch and dinner talks with members of the Washington University and Private practice community in order to educate the entire student body over the basics of health policy, and the matching process. Finally, this year, our chapter was awarded a community service grant in order to continue to host a first-fourth year dinner, which has been very well received and attended in past years. We look forward to continuing to be active and increasing our activity within our state, regional and national MSMA/AMA. **MM**

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David Chalk, MD, Washington
Vice Speaker
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Resident Fellow Section
Brad Harr, DO, Fairview, Il.
Medical Student Section
Nathan Nolan, Columbia

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Young Physician Section
Sarah Florio, MD, Lee's Summit
Resident Fellow Section
Michael Puricelli, MD, Columbia
Medical Student Section
Josephine Doo, Kansas City



Keith Ratchliffe, MD, testifies before a reference committee.

AMA Delegates & *Alternate Delgates

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James Conant, MD, St. Joseph
Ted Groshong, MD, Columbia
Rebecca Hierholzer, MD, Leawood, KS
William Huffaker, MD, St. Louis
Lent Johnson, MD, Hannibal

*Elie Azrak, MD, Chesterfield
*Charles Van Way, MD, Kansas City
*Warren Lovinger, MD, Nevada
*Nathaniel Murdock, MD, St. Louis
*Michael O'Dell, MD, Kansas City
*Avik Som, Student, St. Louis

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AMA Regional Student Section Delegate
Nathan Nolan, Columbia

AMA Regional Student Section Delegate
Lauren Stephenson, Columbia

Alliance

President Kathy Weigand, St. Joseph
President-Elect Sue Ann Greco, St. Louis

2014 Annual Convention Attendance

Delegates	109
Members	156
Exhibitors	58
Staff	24
Guests	165
Officers	9
Councilors/Vice	31
Alliance	60
Total	612

(Actual numbers will not balance due to overlaps in positions served.)

Officers
Chalk, David, MD
Copeland, Jeffrey, MD
Gates, Lancer, DO
Hruza, George, MD
Redfern, David, MD
Rollo, John, MD
Slocum, Stephen, MD
Wankum, Robert, MD
Wolfe, James, MD

Councilors
Ahlum, Sandra, MD
Azrak, Elie, MD
Barjenbruch, Peggy, MD
Biggers, Brian, MD
Brennan, Jr., Robert, MD
Corrado, Joseph, MD
Doo, Caroline
Gates, Lancer, DO
Hover, Alexander, MD
Hubbell, George, MD
Johar, Ravi, MD
Kolli, Sri Devi, MD
Lovinger, Jr., Warren, MD
Pohl, David, MD
Schaaf, Rob, MD
Stanley, John, MD
Turner, Kirby, MD
Weikart, Kevin, MD

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Barbe, David, MD
Conant, James, MD
Corder, Robert, MD
DiRenna, Jr., James, DO
Florio, Sarah, MD
Harr, Brad, DO
Kuhlmann, David, MD
Nichols, Margaret Ellen, MD
Som, Avik
Stadnyk, Michael, MD
Talbert, Jr., Clifford, MD
Thomas, Lisa, MD
Willman, Martin, MD

Delegates
First District
Buchanan County Medical Society
Corder, Robert, MD

Second District
Northeast Missouri Medical Society
Bukstein, Michael, J., MD
Halpin, Stephen, E.,MD
Johnson, Lent, MD
Memken, John, A., MD

Third District
St. Louis Metropolitan Medical Society
Applewhite, Thomas, MD
Arnold, Donald, MD
Bohigian, George, MD
Butler, David, MD
Cabbabe, Edmond, MD
Craft, Joseph, MD
Craver, Jeffrey, MD
Dehner, Jonathan, MD
Druck, Norman, MD
Eggleston, Harry, MD
Gale, Arthur, MD
Gelhot, Helen, MD
Gibbons, James, MD
Goldman, Gordon, MD
Goodhope, Karen, MD
Greco, Thomas, MD
Handler, Michael, MD
Horenstein, Simon, MD
Huffaker, William, MD
Kinsella, Laurence, MD
Laird, John, MD
Lombardo, Joseph, MD
Lund, Jr., Herluf, MD
Meyer, Jay, MD
Murdock, Nathaniel, MD
O'Connell, Timothy, MD
Page, Sam, MD
Ryall, Jo-Ellyn, MD
Shuter, Eli, MD
Slocum, Stephen, MD
Stadnyk, Michael, MD
Stith, John, MD
Swingle, Christopher, DO
Vickar, Garry, MD
Walz, Bruce, MD
Wild, Alan, MD
Williams, Carol, MD
Wittry, Mark, MD

Fourth District
St. Charles-Lincoln Medical Society
Agee, Carson, MD
Andrews, Brian, MD
Copeland, Jeffrey, MD
Glaser, Jeffrey, MD
Meier, Matthew, DO
Sill, William, DO
Willman, Martin, MD

Tri-County Medical Society
Chalk, David, MD
Moore, John, MD
Raney, Michael, MD
Ratcliff, Keith, MD

Fifth District
Audrain County Medical Society
Wilbers, Raymond, MD

Boone County Medical Society
Clapper, Adam, MD
Cunningham, Milamari, MD
Groshong, Ted, MD
Heimburger, Richard, MD
Kennett, Jerry, MD
Murrell, H. Jerry, MD
Thomas, Lisa, MD

Cole County Medical Society
Wankum, Robert, MD

Sixth District
Pettis County Medical Society
Kuhlmann, David, MD

West Central Medical Society
Torontow, John, MD
Turner, William, MD

Seventh District
Metropolitan Medical of Greater Kansas City
Allen, Thomas, MD
DiRenna, Jr., James, DO
Gianino, John, MD
Gibbons, Robert, MD
Glenski, James, MD
Granger, Nathan, MD
Hagan, John, MD
Hahn, Jr., Frederick, MD
Hierholzer, Rebecca, MD
Kelly, James, MD
Laughlin, Thomas, MD
O'Dell, Michael, MD
Potts, Donald, MD
Silvers, L. Michael, MD
Van Way, III, Charles, MD
Youmans, Ronald, MD

Eighth District
Greene County Medical Society
Blaine, James, MD
Clarke, Michael, MD
Knowlton, III, Norman, MD
Redfern, David, MD
Reynolds, William, MD
Soni, Chetan, MD
Wright, Andy, MD

Southwest Medical Society
Sherrod, Duane, MD

Ninth District
South Central Counties Medical Society
Barbe, David, MD

Tenth District
Cape Girardeau County Area Medical Society
Jung, John Marshall, MD
Sparkman, Thomas, MD
Talbert, Jr., Clifford, MD

Quad County Medical Society
Lawson, Charles, MD

Medical Student Section
University of Missouri-Columbia
Blount, Lucas
Crase, Douglas

University of Missouri-Kansas City
Doo, Josephine
Monfared, Sara

Washington University
Ekman, Steven
Khan, Taleef

Kirksville College of Osteopathic Medicine
Pavelko, Christina
Vidinha, Chauntelle

Organized Medical Staff Section
Conant, James, MD

Young Physician Section
Florio, Sarah, MD

Resident & Fellow Section
Clark, Megan, MD
Govindarajan, Raghav, MD
Harr, Brad, DO
Mull, Jamie, MD

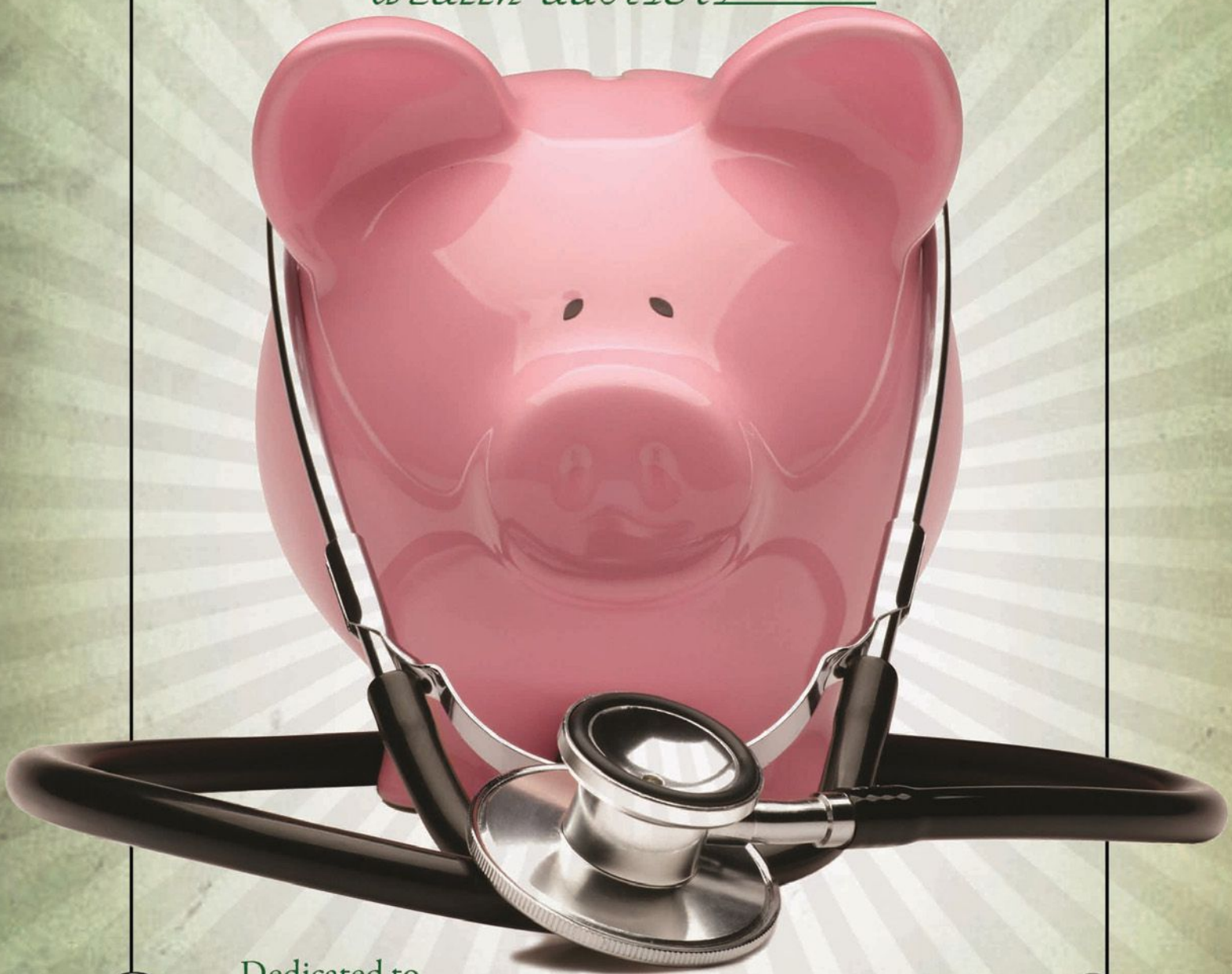
Delegates-At-Large
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Hahn, Jr., Frederick, MD
Johnson, Lent, MD
Kennett, Jerry, MD
Knowlton, III, Norman, MD
Murrell, H. Jerry, MD
Slocum, Stephen, MD
Sparkman, Thomas, MD
Van Way, III, Charles, MD
Williams, Carol, MD
Youmans, Ronald, MD

Speaker
Chalk, David, MD

Vice Speaker
Gates, Lancer, DO

Members
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Ahmad, Bashir, MD
Ajans, Zach, MD
Allphin, Allan, MD
Amarakone, Aloka, MD
Ayata, Sedat, MD
Azrak, Elie, MD
Banton, Milagros, MD
Banton, II, William, MD
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Bautista, Rogelio, MD
Beal, Catherine, MD
Berwald, Bruce, MD
Biggers, Brian, MD
Birnbaum, Elisa, MD
Blair, Jerry, MD
Bowen, Charles, MD
Brennan, Jr., Robert, MD
Brigden, Robert, MD
Bucol, Kevin, MD
Cabral, Galileu, MD
Casey, Matthew, MD
Caughron, Michael, MD
Cayce, Kimberly, MD
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Char, Douglas, MD
Chirino, Octavio, MD
Colbert, Stephen, MD
Cole, Sherman, MD
Conway, Bob, MD
Corrado, Joseph, MD
Corrigan, Gilbert, MD
Costa, Dary, MD
Craig, Stefan, MD
Daus, Arthur, MD
Dawson, Patrick, DO
DeBoard, James, MD
Doo, Caroline
Easterwood, Jonathan, DO
Ettelson, Charles, MD
Fischer, Keith, MD
Flores, Jhonson, MD
Forand, Joseph, MD
Friedman, Michael, MD
Gardner, Joe, MD
Gardner, Laura, MD
Gates, Lancer, DO
George, Paula, MD
Grumke, Adam
Gulley, Pamela, MD
Gupta, Nila, MD
Hadass, Inna
Hagen, Duane, MD
Hagen, John, MD
Hampel, Kevin, MD
Hardy, David, MD
Hedgepeth, Bruce, MD
Heidt, Jonathan, MD
Higginson, Sean, MD
Hollocher, Richard, MD
Hover, Alexander, MD
Howard, Barbara, MD
Hruza, George, MD
Hubbell, George, MD
Husain, Nena
Johans, Thomas, MD
Johar, Ravi, MD
Johnson, Quinn, MD
Jung, Christopher, MD
Kayser, Jason, MD
Kim, Chul, MD
Kimball, Richard, MD
Kiyanclar, Mehmet, MD
Koboldt, Timothy, MD
Kofkoff, Richard, MD
Kolli, Sri Devi, MD
Krenning, Judyann, MD
Lima, Jose', MD
Loden, Amy, MD
Lodhi, Shafi
Lovinger, Jr., Warren, MD
Maitz, Carlos, MD
Manalaysay, Alvin, MD
Margenthaler, Julie, MD
Massey, Vickie, MD
McClain, Brenda, MD
McMurray, Ted, MD
Metlis, Schuyler, MD
Middleton, Jerry, MD
Mills, Paul, MD
Minchin, Susan, MD
Mirza, Rubina, MD
Montes, Arturo, MD
Morris, John, MD
Mujadad, Huma
Musco, Jonathan, MD
Nichols, Margaret Ellen, MD
Nolan, Nathan
O'Brien, Edward, MD
Oetjen, Landon Kyle
Omurtag, Marissa, MD
Owens, William, MD
Pamaong, Arturo, MD
Parks, Joe, MD
Patnana, Vijay, MD
Perryman, John Christopher, MD
Perryman, Kathy, MD
Petersen, James, MD
Petersen, Larry, MD
Poggemeier, David, MD
Pohl, David, MD
Poirier, Rob, MD
Pugh, Jennifer, MD
Pulley, Debra, MD
Puricelli, Mike, MD
Qalbani, Mahmood, MD
Quinlan, Michael, MD
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Rao, P. Kumar, MD
Renner, Gregory, MD
Reusch, James, MD
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Riggs, Kyle
Rollo, John, MD
Roof, Curtis, DO
Saak, Thomas, MD
Schaaf, Rob, MD
Schaefer, Robert, MD
Schell, James, MD
Scheu, James, MD
Schulman, Jeffrey, MD
Schwarz, Evan, MD
Shariff, Anjum, MD
Simmons, Nicholas, MD
Simowitz, Fredric, MD
Smith, Stephen, MD
Som, Avik
Southwick, Christopher, MD
Stamos, Thomas, MD
Stanley, John, MD
Stewart, Larry, MD
Suthar, Manish, MD
Szewczyk, Michael, MD
Taylor, Steve, MD
Terpstra, Gregory, DO
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Turner, Kirby, MD
Vaughan, Aislinn, MD
Vinson, Daniel, MD
Weikart, Kevin, MD
Welch, Mary Katherine, MD
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