# Maryland Medical Journal Volume 16, Issue 4















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## I N



This issue of Maryland Medicine looks at The New Reality (TNR) of medicine.

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### Forgiveness and First Tracks: Cutting-Edge Medicine

#### PRESIDENT'S MESSAGE

My dad's uncle died several winters ago. The mixed blessings of his funeral included a rare gathering in upstate New York of three geographically scattered generations on New Year's Eve, and a sermon message that still comes to my mind

daily. In the small church still decorated for Christmas, the pastor described the holiday phenomenon of sitting in darkness and acknowledging the smallest lights—a bulb, a candle, a star. He offered that all year, bathed in light,

we focus on the dark—the sad, the evil. But something happens in the dead of winter; we come together in dimly lit spaces memorized by brightness—hope, community, and opportunity.

Winter is the perfect time of year to consider the theme of change. Aside from each of us calorically annihilating a year's worth of work on diets, blood sugars, and cholesterol, this is a season for putting aside differences and coming together, no matter our challenges. It is a time for growth, resolutions, and the occasional date with a new fallen snow.

Hierarchy defines physician communities. We are trained to categorize (e.g., specialist versus primary care, private versus employed, practicing versus administrator, proceduralist versus thinker, researcher versus clinician). We search for evidence of greater personal sacrificemore devotion, greater caring, longer nights on call, a more rigorous training system—all leading to a more "valuable" physician. The categories become superlatives from which our hierarchical value is derived. The hierarchical structure has offered stability to our community of fiercely competitive individuals. Publicly, we know where we belong. Secretly, we know we've given the most.

The physician administrator is woefully low on the bedside clinician scale of superlatives. How often do clinicians speak of physician administrators with disdain (e.g., "they aren't one of us," "if he were any good he'd still be practicing medicine," "she hasn't practiced in years, she has no idea what it's like to practice today," "he's turned to the dark side"). In physician

"What if we get really honest and admit we need a team? We cannot succeed alone."

culture, departure from the bedside clearly evidences of a lack of fortitude.

What if we are wrong? Maybe physician administrators think best in the context of populations rather than in the struggle of a single patient. Maybe they are policy people, or number crunchers by nature. Maybe they can no longer bear the emotional toll of years of people dying in their care. Maybe they were just in the "right place at the right time," a dubious distinction for sure. Maybe they are caring for the patients *and* for the doctors...a different sort of fortitude.

What would it take to change the conversation? What if we acknowledge that cutting-edge medicine requires understanding populations and resource management in unfamiliar ways? What if we get really honest and admit we need a team? We cannot succeed alone. What if we embrace the administrator physicians and thank them for leaving the bedside to learn this "new" practice of medicine? What if, instead of stripping naked and shaming their aging bedside experience, we nourish them with current clinical details? What if we practice the compassionate medicine we save for our patients on ourselves?

This winter brings a deep fresh snow of regulatory reform—Meaningful Use, Value Based Payments, ACA, MACRA, PQRS, ACO, MIPS, CIN. Bedside physicians Brooke Buckley, MD @medchipresident

need the administrators, the politicians, the MBA and MHA physicians to carve the first tracks. We cannot all walk away from the bedside to meaningfully interact with these laws. We need colleagues who can interpret and troubleshoot as this ava-

lanche falls, physicians to care for the doctors.

Physicians carry a seemingly small light in a very dark space. Truly, though, we are surrounded by the light of caring hearts and skills that would have been thought magical only a genera-

tion ago. There is enormous opportunity before us if we can come together before we push apart. Let us support the physicians who care for populations in boardrooms and political hearings. Let us help them do their work so that we can ski the tracks they've carved on our behalf.

As the physicians of Maryland, are we ready for a real New Year's resolution? Are we ready to lay down our egos and acknowledge all that each of us has to offer? Can we sit shoulder-to-shoulder in this darkness and forge toward the light?



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### How Will a Physician's Services Be Paid for In the Future?

How a physician gets paid is changing and will affect your career, regardless of your practice type or setting.

The federal government has clearly signaled, and CMS (Centers for Medicare & Medicaid Services) has come out and stated, that they want the majority of physician payments to be in value-based models by 2019. Maryland will move faster toward new payment models because of our unique Medicare waiver. As CMS said when approving the Maryland waiver last year, "the Maryland system may serve as a model for other

states interested in developing all-payer payment systems."

MedChi has made the Medicare Waiver a top priority since 2011 when negotiations on the new hospital rate setting system began. In Maryland's allpayer rate setting system for hospital services, Maryland hospitals and CMS have agreed to test whether an allpayer system for hospital payment that is accountable for the total hospital cost of care on a per capita basis is an effective model for advancing better care, better health, and reduced costs.

Under the new model, Maryland hospitals committed to achieving significant quality improvements, including reductions in Maryland hospitals' thirty-day hospital readmissions and hospital acquired conditions rates. Maryland has limited all-payer per capita hospital growth, including inpatient and outpatient care, to 3.58 percent. Maryland also will limit annual Medicare per capita hospital cost growth to a rate lower than the national annual per capita growth rate per year for 2015–18.

The changes to hospitals are affecting physicians. Maryland hospitals and rate regulators are pushing new payment models and gain sharing at a faster rate than the rest of the nation. (To learn more about the Maryland Medicare Waiver and MedChi's work on it go to www.medchi.org.)

<u>CEO'S MESSAGE</u>

Work on the waiver falls right in line with what MedChi is doing with the AMA on legislation that repealed the SGR

"Maryland will move faster toward new payment models because of our unique Medicare waiver."

(Sustainable Growth Rate), the Medicare Access and CHIP Reauthorization Act (MACRA), and has created major new opportunities to advance alternative payment models (APMs).

According to the AMA, MACRA provides a 5 percent annual bonus payment for services provided from 2019 through 2024 to physicians who participate in APMs, and it exempts them from participating in the Merit-Based Incentive Payment System (MIPS). In addition to accountable care organizations (ACOs), medical homes, and bundled payments for hospital-based episodes, MACRA also provides for the development of "physician-focused" APMs.

The AMA worked with Harold Miller at the Center for Healthcare Quality & Payment Reform to develop the *Guide to Physician-Focused Alternative Payment Models* (available at http:// www.chqpr.org/downloads/Physician-FocusedAlternativePaymentModels. pdf), describing seven different APMs that can help physicians in every specialty redesign the way they deliver care to improve patient care, manage health care spending, and qualify for APM annual bonus payments. The guide also provides examples of how APMs are being used

Gene Ransom, III, Esq. @GeneRansom

by different specialties and how they could be applied to diverse patient populations, including cancer care, cardiovascular care, chronic disease management, emergency medicine, gastroenterology, maternity care, and surgery.

New payment models are being test-

ed and developed right here in Maryland, and MedChi is on top of the issue for you. We have fought for numerous physician friendly changes to these programs and will continue to do so for Maryland physicians. Please consider joining our efforts with regard to the Maryland Medicare Waiver, APMs, gain sharing, and

new payment models. For more information, contact me at gransom@medchi.org.

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- Physicians, licensed health providers, care coordinators, and support staff can have access to query patients they are treating, or have a care coordination relationship with and view clinical data.
- Access patient demographics, lab results, radiology reports, Maryland Prescription Drug Monitoring (PDMP), discharge summaries, history and physicals, operative notes, and consults.
- For more information visit the CRISP website at **www.crisphealth.org**.





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email info@medchiservices.org.



### **Time After Time**

EDITOR'S CORNER

The passing of time, a changing world, and feelings of dislocation are themes that resonate with every generation as it ages. Couplets of decay and growth, senescence and youth, the new and the old, the pertinent and the obsolete compete for primacy until one or the other wins the battle. It is a dipolar world, and we move in and out of its currents until we permanently exit. The hope that what we have learned, built, amassed, and invented may actually be useful to the next generation, be appreciated by them and treasured by them as truly valuable, is in part what drives us to be successful, relevant, and remembered.

Frank Sinatra's 100th birthday was celebrated last December. Generally considered the greatest song stylist ever, Frank and his arrangers from Axel Stordahl through Nelson Riddle, Billy May, and Quincy Jones gave us thousands of songs and many hundreds of standards by which all other singers will be judged. His phrasing and parsing, his legendary connection with his audience, and his impeccable timing are generally considered great additions to the body of musical interpretation. His talent was the driving force in recording well over 1,200 different songs and more than 1,600 tracks, but he always gave credit to his extraordinarily talented arrangers, composers, and musicians, who were always attuned to Sinatra's interpretations. The formula, especially during his Capitol Records era, was good composers,

good musicians, good singers, and good arrangers. That may seem obvious, but after the war, gimmicky and hastily written music with technology supplying the pizazz instead of the good basics became the norm. Does that sound in the least familiar? What Sinatra was in a position to do was, for a time, anyway, record the best music in the best way possible with great musicians and arrangers and reduce the gimmicky technology to background accents. Would that we could take a lesson and do the same.

Sinatra was the expert at delivery. He had the luxury of choosing the best support possible, and it was his strength that after he chose the best arrangers musicians and composers for his style and musical interpretation, he considered them indispensable to his final delivery. The partnerships that he forged at all three of his record companies (Columbia, Capitol, and Reprise, in sequence) allowed his expertise to flourish; established or cemented the careers of many masterful musicians, composers, and arrangers (think Nelson Riddle, Jimmy Van Heusen, to name just two); and gave the public wonderful reinterpreted standards to enjoy. In no small measure, he reinvigorated popular music, and his influence continues that trend today for those who love jazz, swing, and the wonderful vocabulary of the great American Songbook.

Bruce M. Smoller, MD

Technology had its place, of course. Les Paul's innovations in multiple tracking, improvement in recording gear, and fidelity were indispensable as time moved on. Technology, though, began to overshadow talent, and the era of great music morphed into something else. Inevitable, but perhaps not the best outcome for a great industry

I recently read a piece in the newspapers, coupled with additions from the AMA weekly blast, and on-line blogs from "civilians," about how frustrated doctors are with EHR, competing and overarching CMS regulations, and the general menagerie of competing rules, regulations, tasks, "quality measures," and burdens imposed by so many people and state and federal agencies that most of us have lost count. More technology, they cry. More "quality" we are exhorted to produce, more codes to confound the most adept memory. Technology, gimmickry, false quality, and loss of control are ascendant. Do we have the will to say no? Do we have the sense to combine good medicine, with a good team and the physician as its leader, interpreting the standards of treatment in the best way we know how, and say no to gimmickry, false technology? Can we reinterpret the basics of medicine in our own confident way? We could do worse than take a lesson from Sinatra. He did it his way. Do we have the fortitude to do it ours?

#### EDITORIAL STATEMENT

Editorial Offices Montgomery County Medical Society 15855 Crabbs Branch Way Rockville. MD 20855-0689 Phone 301.921.4300, ext. 202 Fax 301.921.4368 sdantoni@montgomerymedicine.org

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Classified and Display Advertising Rates Veena Sarin 301.921.4300, vsarin@montgomerymedicine.org All opinions and statements of supposed fact expressed by authors are their own, and not necessarily those of *Maryland Medicine* or MedChi. The Editorial Board reserves the right to edit all contributions, as well as to reject any material or advertisements submitted.

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#### Editorial Board

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### Introduction

Tyler Cymet, DO

For the past fifty years medicine has accepted the top of the class into the profession. Becoming a physician is a clear road to success. Every member of the profession could look forward to financial independence, while finding emotional satisfaction in day-to-day activities.

If a child showed a proclivity for science, or an academic ability, parents were quick to plant the seeds that the child should think about medicine as a chosen career. Most careers in America allow any applicant to enter who meets the accepted criteria. Medicine is different. There are checkpoints along the way, points at which candidates must meet requirements to be selected.

Enter technology, and concepts of one world, and there being one health that doesn't belong to physicians alone. Physician migration has brought elite candidates from other countries. Mid-level providers—healthcare professionals with the same base knowledge, but without the same level of oversight and assessment at each level of training—are now being granted practice rights at equal levels to physicians even without any graduate medical education.

The entire medical landscape is different. It's "The New Reality" (TNR).

Technology and the immediate availability of medical knowledge have altered the rules of patient care. A patient with Internet access can challenge a physician on medication choices, diagnostic testing, and diagnoses. The first step for a physician has been to develop a differential diagnosis, and then commit to a workup and treatment plan. Only after a diagnosis was made would a physician consider a patient's input (likes and dislikes). Now a patient's input is a significant factor in making a diagnosis and developing a treatment plan. Treatment plans are expected immediately—"Sure I'll do the imaging study, but only if there are no IVs or contrast" and "Yes to the medicine but only the generic, or only the brand name that I saw in that commercial." Information systems have mechanized many procedures that previously required years of training and experience.

To facilitate the conversation, this issue of *Maryland Medicine* looks at how physicians are dealing with The New Reality, a changed landscape in healthcare that isn't about medicine. To successfully navigate TNR, we need to plug the skill gaps for physicians, improve processes, harness the power of new tools, and change our mindset. This issue looks at the change brought about by new tools and ways of organizing medicine. Between the "we" and "me" generations is a new paradigm, in which the roles and relationship of the physician and patient are drastically different from the past.

Steve Davis describes a relatively new practice of remote teaching. Today, classes can be taught in person and remotely at the same time. Interactions need to be different for those present in the classroom, those who attend remotely, and those watching a recorded lecture at a later time or date. The note service that served as a lifeline for medical students in the past has been supplanted by technology. In many medical schools, all of the lectures are recorded and then are available for all students, all the time—at real speed, 1.5, 2 times speed, or even faster. Often, previous years' lectures and guest lectures on the same topic are available.

In "Testing Before Trusting," I discuss EPAs (Entrustable Professional Activity) and what the new guidelines mean for the direction of medicine.

Joseph Moser, MD, senior vice president at Anne Arundel Medical Center, shares how he worked to maximize patient benefit by integrating nurse practitioners into the care model. Dr. Moser looks at issues raised when there are healthcare providers with core knowledge very similar to a physician's who lack graduate medical education.

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Director of Publications Susan G. D'Antoni Managing Editor Susanna M. Carey Production Nicole Legum Orders

MedChi, The Maryland State Medical Society

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### Introduction ...

#### continued from page 11

I share a short piece on the thought process of physicians and how it both helps and hurts the profession in the new healthcare system. Differential diagnosis helps prevent physicians from missing a major issue; it can delay treatment of the most likely diagnosis. The better the training and the broader the experience, the more complete the thinking can be

Michele Manahan, MD, shares her thoughts on the role of stupidity in the system that we know about but rarely voice. From quality to EMRs, addressing these questions honestly is the role of the physician, and one we should accept and fight for as leaders in our profession.

As Maryland legislators put final touches on an introduction to legislation improbably called "medical marijuana" (although the medical part is unclear, and physicians will be called on to explain), George Kolodner, MD, addiction psychiatrist, brings us up to speed on this issue and other issues in lifestyle drugs that are popular with our patient populations.

Carol Garvey, MD, examines the disparity in pregnancy outcomes for African American women in the Maryland Public Health Perspective column, introduced with this issue.

Also in this issue, we present the MedChi Legislative Agenda for this session of the Maryland General Assembly, along with commentary by Stephen Rockower, MD.

To bridge the generation gap, we need organization and planning. The healthcare system needs much work, clear leadership and precise vision. *Maryland Medicine* is working to do its part to share the knowledge needed to help the conversation along.

Thank you for reading.

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### MedChi 2016 Legislative and Regulatory Agenda for Maryland Physicians and Their Patients

The mission of MedChi, The Maryland State Medical Society, is to serve as Maryland's foremost advocate and resource for physicians, their patients, and the public health. To that end, during the 2016 General Assembly Session, MedChi will strive for success on the following issues.

### **MedChi Advocates for Patients**

### Defend the scope of medical practice so patients are seen by a physician.

MedChi will fight to ensure that all patients have access to physicians and that physician extenders have appropriate training and physician oversight. Individuals newly insured through ACA implementation have placed unprecedented demands on the health care system as they seek medical care. It is critical that patients have access to physicians and that non-physicians do not use increased demand to inappropriately increase their scope of practice.

#### Protect Medicaid and the uninsured.

MedChi will work to incentivize physician participation and to protect the integrity of the Medicaid program, including advocating for full restoration of E&M payment to Medicare rates for all physicians who serve Medicaid enrollees.

#### Address Network Adequacy.

MedChi will support efforts to enhance the requirements and accountability of insurers with respect to adequate provider networks, the accuracy of provider directories, and fair formulary practices.

### **MedChi Advocates for Physicians**

#### **Defend Physician Rights.**

MedChi will work to protect Maryland's physicians through the following:

- Addressing laws that direct physician license fees to other programs;
- Monitoring the regulatory and disciplinary actions of the Board of Physicians;
- Addressing delays in obtaining CDS licenses from the Department of Health & Mental Hygiene; and
- Protecting and enhancing the integrity of the Prescription Drug Monitoring Program and its use by physicians.

#### Strengthen Medical Liability Reform.

MedChi will continue to strongly oppose trial lawyer attempts to increase the "cap" on damages in medical malpractice cases and to abolish the defense of contributory negligence. MedChi will continue to support efforts to establish a pilot project for specialized health courts, limit repeated continuances in medical malpractice cases, and otherwise work to protect and strengthen the legal liability environment for physicians.

#### **Enhance Physician Payment and Insurance Reform.**

MedChi will continue its efforts to improve Maryland's payment climate and reform insurance policies with these initiatives:

- Work to assure that gain-sharing and other payment mechanisms for incentivizing broad system reform are developed through a stakeholder process that includes physician participation and results in a positive impact on physicians;
- Prevent insurance carriers from effectively reducing payment via credit cards; and
- Prevent workers compensation insurers from limiting a physician's right to dispense medications to an injured worker.

### MedChi Advocates for Public Health

#### Protecting Maryland's Children.

MedChi will support the following initiatives to protect children:

- Initiatives to increase HPV immunization rates for children as recommended by the CDC;
- Childhood obesity initiatives that propose to reduce the consumption of sugary beverages and other unhealthy food choices;
- Continued efforts to ban minors' use of commercial tanning beds; and
- Measures to strengthen child safety seat and young driver laws.

#### Ending Health Disparities and Addressing Homelessness.

MedChi will continue support of legislative and regulatory initiatives to reduce health disparities as well as initiatives to address homelessness, affordable housing and their impact on public health.

#### Making Maryland a tobacco-free state.

MedChi will advocate for continued increases in the Tobacco Tax in order to discourage smoking and to help fund Medicaid and restore enhanced E&M payment for all physicians serving Medicaid enrollees. MedChi will also support legislation prohibiting the sale of tobacco products by businesses that provide health care or dispense medications.

#### Climate Change.

MedChi will support the reauthorization of Maryland's Greenhouse Gas Reduction Act consistent with the consensus recommendations of the Governor's Climate Change Commission regarding new goals and program structure. MedChi's advocacy will remain in accordance with AMA policy on Climate Change.

### MedChi's 2016 Legislative Goals for Maryland Physicians and Our Patients

#### Stephen J. Rockower, MD

The Legislative Council of MedChi was hard at work last summer crafting the Agenda for the 2016 Maryland General Assembly Session. We have included the Agenda in this issue of *Maryland Medicine*, and we present here the highlights and key legislative issues.

### Protect Medicaid Payments

MedChi worked tirelessly in 2012 to persuade the State to raise the payment rate for Medicaid Evaluation & Management (E & M) services to 100 percent of Medicare rates. We were able to maintain that in the 2013 and 2014 sessions. At the end of 2014, Governor O'Malley reduced the payment levels to 87 percent. MedChi's advocacy efforts were able to bring that back up to 92 percent during the 2015 session, but we aim to restore that to the full 100 percent. Providing adequate payment for services ensures that sufficient numbers of physicians are available to provide the vital services for all the citizens of Maryland.

### Limitation of the Use of Board of Physicians License Fees

For more than twenty years, 12 percent of your license fee, paid to the Board of Physicians, has been diverted to fund other programs. One of these, the Loan Assistance Repayment Program (LARP), helps provide loan repayment assistance for physicians who practice in underserved areas of the state. The other, the Health Personnel Shortage Incentive Grant (HPSIG), was originally designed for assistance to health related entities. However, in recent years, these monies have been used for purposes unrelated to medical care. It is MedChi's position that these funds should either be used as they were designed, returned to the Board for its own administrative purposes (the Board could use a new computer system for licensing), or returned to the physicians, as the Governor has pledged to reduce fees.

### Responding to the Administration's Opioids Report Recommendations

In December 2015, the Lieutenant Governor, Boyd Rutherford, released his task force report on opioids. There were thirty-three recommendations concerning access to treatment, quality of care, overdose prevention, law enforcement, education, and status of state services. Overall, we are in agreement. We do not object to the use of the Prescription Drug Monitoring Program (PDMP). However, the recommendation was for PDMP to be mandatory for all physicians to use for every controlled drug prescription. Our feeling is that the computer systems and EHRs are not sufficiently sophisticated to allow the complete integration of drug data. We are working to modify the implementation of PDMP to delay or prevent implementation until the infrastructure is really ready for it. As always, we are in need of physicians to serve as Physician of the Day in Annapolis. MedChi is the only organization with access to all elected officials right in the State House, where we staff the first aid room. As Physician of the Day, you have privileges to the legislative chamber floors and a great opportunity to interact with legislators up close for one day during the session. It is a special treat to be recognized on the floor of the House or Senate, and helps promote our message and our agenda. If you are interested, please contact Stephanie Wisniewski at 410.539.0972, or email her at swisniewski@medchi.org.

Look for your County's "Day in Annapolis." Showing up in force in our white coats is always a good way for us to make our concerns and opinions known to the legislators.

It has been said, "If you are in medicine, you are in politics." We

### Physicians to Make House Calls on Annapolis State House in 2016

During the 2016 legislative session, MedChi's component medical societies will assemble at MedChi's Annapolis office to hold their annual legislative meetings, and then visit with their county legislative delegations. Please join your component society in Annapolis to visit with legislators to discuss issues important to MedChi physicians. For more information, contact your component society or MedChi in Annapolis at 410.539.0872, ex. 6001.

Baltimore City	March 2, 8:00 am
Baltimore County	March 2, 8:00 am
Harford County	March 2, 8:00 am
Anne Arundel County	March 7, 5:00 pm
Prince George's County	March 7, 5:00 pm
Howard County	March 7, 5:00 pm
Montgomery County	March 9, 8:00 am
Students and Residents	March 14, 5:00 pm
MedChi Alliance	TBD
<b>Rural Component Societies</b>	TBD

all need to be involved with our politicians to help promote our goals to advocate for patients, for physicians, and for public health. Please do your part. Be involved. Come to Legislative Council meetings. Befriend a legislator. Attend a fundraiser. Email your legislator to tell them what you think. You'd be amazed at how much they want to hear from us. With your help, we can continue to fight for the patients and physicians of Maryland.

Stephen J. Rockower, MD, is an orthopaedist practicing in Rockville, MD. He is president-elect of the Maryland State Medical Society and immediate past president of the Montgomery County Medical Society. He also is a member of the Council on Legislation for MedChi. He can be reached at drrockower@cordocs.com and on Twitter @DrBonesMD and @MedChiPresident.

### MARYLAND GENERAL ASSEMBLY: REFERENCE LIST

Consider pulling this section out and posting in your practice for easy access.

### MARYLAND SENATORS

Last Name	First Name	District	County	Party	Phone	Email	Committee Assignment
Edwards	George C.	I	Allegany, Garrett & Washington	R	410-841-3565	george.edwards@senate.state.md.us	Budget & Taxation
Serafini	Andrew	2	Washington	R	410-841-3903	andrew.serafini@senate.state.md.us	Budget & Taxation
Young	Ronald N.	3	Frederick	D	410-841-3575	ronald.young@senate.state.md.us	Educ, Health & Envir Affairs
Hough	Michael	4	Frederick & Carroll	R	410-841-3704	michael.hough@senate.state.md.us	Judicial Proceedings
Ready	Justin	5	Carroll	R	410-841-3683	justin.ready@senate.state.md.us	Judicial Proceedings
Salling	Johnny	6	Baltimore County	R	410-841-3587	johnnyray.salling@senate.state.md.us	Educ, Health & Envir Affairs
Jennings	J.B.	7	Baltimore County & Harford	R	410-841-3706	jb.jennings@senate.state.md.us	Financeance
Klausmeier	Katherine A.	8	Baltimore County	D	410-841-3620	katherine.klausmeier@senate.state.md.us	Finance
Bates	Gail H.	9	Carroll & Howard	R	410-841-3671	gail.bates@senate.state.md.us	Educ, Health & Envir Affairs
Kelley	Delores G.	10	Baltimore County	D	410-841-3606	delores.kelley@senate.state.md.us	Finance
Zirkin	Bobby A.	П	Baltimore County	D	410-841-3131	bobby.zirkin@senate.state.md.us	Judicial Proceedings, Chair
Kasemeyer	Edward J.	12	Baltimore & Howard	D	410-841-3653	edward.kasemeyer@senate.state.md.us	Budget & Taxation, Chair
Guzzone	Guy	13	Howard	D	410-841-3572	guy.guzzone@senate.state.md.us	Budget & Taxation
Zucker	, Craig	14	Montgomery	D	410-841-3625	craig.zucker@senate.state.md.us	Educ, Health & Envir Affairs
Feldman	Brian J.	15	Montgomery	D	410-841-3169	brian.feldman@senate.state.md.us	Finance
Lee	Susan C.	15	Montgomery	D	410-841-3124	susan.lee@senate.state.md.us	Judicial Proceedings
Kagan	Cheryl C.	17	Montgomery	D	410-841-3124	cheryl.kagan@senate.state.md.us	Educ, Health & Envir Affairs
Kagan Madaleno	Richard S.	17		D	410-841-3134		Budget & Taxation, Vice-Chair
			Montgomery			richard.madaleno@senate.state.md.us	•
Manno	Roger P.	19	Montgomery	D	410-841-3151	roger.manno@senate.state.md.us	Budget & Taxation
Raskin	Jamie	20	Montgomery	D	410-841-3634	jamie.raskin@senate.state.md.us	Judicial Proceedings
Rosapepe	Jim	21	Anne Arundel & Prince George's	D	410-841-3141	jim.rosapepe@senate.state.md.us	Educ, Health & Envir Affairs
Pinsky	Paul G.	22	Prince George's	D	410-841-3155	paul.pinsky@senate.state.md.us	Educ, Health & Envir Affairs, Vice-Chair
Peters	Douglas J.J.	23	Prince George's	D	410-841-3631	douglas.peters@senate.state.md.us	Budget & Taxation
Benson	Joanne C.	24	Prince George's	D	410-841-3148	joanne.benson@senate.state.md.us	Finance
Currie	Ulysses	25	Prince George's	D	410-841-3127	ulysses.currie@senate.state.md.us	Budget & Taxation
Muse	C.Anthony	26	Prince George's	D	410-841-3092	anthony.muse@senate.state.md.us	Judicial Proceedings
Miller	Thomas V.	27	Calvert, Charles & Prince George's	D	410-841-3700	thomas.v.mike.miller@senate.state.md.us	Senate President
Middleton	Thomas McLain	28	Charles	D	410-841-3616	thomas.mclain.middleton@senate.state.md.us	Finance, Chair
Waugh	Steve	29	Calvert & St. Mary's	R	410-841-3673	Steve.Waugh@senate.state.md.us	Educ, Health & Envir Affairs
Astle	John C.	30	Anne Arundel	D	410-841-3578	john.astle@senate.state.md.us	Finance,Vice-Chair
Simonaire	Bryan W.	31	Anne Arundel	R	410-841-3658	bryan.simonaire@senate.state.md.us	Educ, Health & Envir Affairs
DeGrange	James E.	32	Anne Arundel	D	410-841-3593	james.degrange@senate.state.md.us	Budget & Taxation
Reilly	Edward	33	Anne Arundel	R	410-841-3568	edward.reilly@senate.state.md.us	Finance
Cassilly	Bob	34	Harford	R	410-841-3158	Bob.Cassilly@senate.state.md.us	Judicial Proceedings
Norman	H.Wayne	35	Harford and Cecil	R	410-841-3603	wayne.norman@senate.state.md.us	Judicial Proceedings
Hershey, Jr.	Stephen S.	36	Caroline, Cecil, Kent & Queen Anne's	R	410-841-3639	steve.hershey@senate.state.md.us	Finance
Eckardt	Adelaide C.	37	Caroline, Dorchester, Talbot & Wicomico	R	410-841-3590	adelaide.eckardt@senate.state.md.us	Budget & Taxation
Mathias	Jim	38	Somerset, Wicomico & Worcester	D	410-841-3645	james.mathias@senate.state.md.us	Finance
King	Nancy J.	39	Montgomery	D	410-841-3686	nancy.king@senate.state.md.us	Budget & Taxation
Pugh	Catherine E.	40	Baltimore City	D	410-841-3656	catherine.pugh@senate.state.md.us	Finance
Gladden	Lisa A.	41	Baltimore City	D	410-841-3697	lisa.gladden@senate.state.md.us	Judicial Proceedings, Vice-Chair
Brochin	Jim	42	Baltimore County	D	410-841-3648	jim.brochin@senate.state.md.us	Judicial Proceedings
Conway	Joan Carter	43	Baltimore City	D	410-841-3145	joan.carter.conway@senate.state.md.us	Educ, Health & Envir Affairs, Chair
Nathan- Pulliam	Shirley	44	Baltimore City & Baltimore County	D	410-841-3612	shirley.nathan.pulliam@senate.state.md.us	Educ, Health & Envir Affairs
McFadden	Nathaniel J.	45	Baltimore City	D	410-841-3165	nathaniel.mcfadden@senate.state.md.us	Budget & Taxation
Ferguson	Bill	46	, Baltimore City	D	410-841-3600	bill.ferguson@senate.state.md.us	Budget & Taxation
		-				• •	

### MARYLAND DELEGATES

Last Name	First Name	District	County	Party	Phone	Email	Committee Assignment
Beitzel	Wendell R.	IA	Allegany & Garrett	R	410-841-3435	wendell.beitzel@house.state.md.us	Appropriations
Buckel	Jason	IB	Allegany	R	410-841-3404	jason.buckel@house.state.md.us	Ways & Means
McKay	Mike	IC	Allegany & Washington	R	410-841-3321	mike.mckay@house.state.md.us	Appropriations
Parrott	Neil	2A	Washington	R	410-841-3636	neil.parrott@house.state.md.us	Judiciary
Wivell	William J.	2A	Washington	R	410-841-3447	william.wivell@house.state.md.us	Appropriations
Wilson	Brett	2B	Washington	R	410-841-3125	brett.wilson@house.state.md.us	Judiciary
Krimm	Carol L.	3A	Frederick	D	410-841-3472	carol.krimm@house.state.md.us	Appropriations
Young	Karen	3A	Frederick	D	410-841-3436	karen.young@house.state.md.us	Health & Govt Oper
Folden	William	3B	Frederick	R	410-841-3240	William.folden@house.state.md.us	Envir & Transp
Afzali	Kathy	4	Carroll & Frederick	R	410-841-3288	kathy.afzali@house.state.md.us	Ways & Means
Ciliberti	Barrie S.	4	Frederick & Carroll	R	410-841-3080	barrie.ciliberti@house.state.md.us	Appropriations
Vogt, III.	David	4	Carroll & Frederick	R	410-841-3118	david.vogt@house.state.md.us	Appropriations
Krebs	Susan W.	5	Carroll	R	410-841-3200	susan.krebs@house.state.md.us	Health & Govt Oper
Rose	April	5	Carroll	R	410-841-3070	april.rose@house.state.md.us	Health & Govt Oper
Shoemaker	Haven	5	Carroll	R	410-841-3359	haven.shoemaker@house.state.md.us	Ways & Means
Grammer	Robin L.	6	Baltimore County	R	410-841-3298	robin.grammer@house.state.md.us	Appropriations
Long	Bob	6	Baltimore County	R	410-841-3458	bob.long@house.state.md.us	Ways & Means
Metzgar	Ric	6	Baltimore County	R	410-841-3332	Ric.Metzgar@house.state.md.us	Ways & Means
Impallaria	Rick	7	Baltimore & Harford	R	410-841-3289	rick.impallaria@house.state.md.us	Economic Matters
McDonough	Pat	7	Baltimore & Harford	R	410-841-3334	pat.mcdonough@house.state.md.us	Health & Govt Oper
Szeliga	Kathy	7	Baltimore & Harford	R	410-841-3698	kathy.szeliga@house.state.md.us	Envir & Transp
Bromwell	Eric	8	Baltimore County	D	410-841-3766	eric.bromwell@house.state.md.us	Health & Govt Oper
Cluster	John W. E.	8	Baltimore County	R	410-841-3526	john.cluster@house.state.md.us	Judiciary
Miele	Christian	8	Baltimore County	R	410-841-3365	christian.miele@house.state.md.us	Health & Govt Oper
Kittleman	Trent	9A	Carroll & Howard	R	410-841-3556	trent.kittleman@house.state.md.us	Judiciary
Miller	Warren E.	9A	Carroll & Howard	R	410-841-3582	warren.miller@house.state.md.us	Economic Matters
Flanagan	Robert L.	9B	Howard	R	410-841-3077	Bob.Flanagan@house.state.md.us	Envir & Transp
Brooks	Benjamin	10	Baltimore County	D	410-841-3352	benjamin.brooks@house.state.md.us	Economic Matters
Jalisi	Jay	10	Baltimore County	D	410-841-3358	jay.jalisi@house.state.md.us	Envir & Transp
Jones	Adrienne A.	10	Baltimore County	D	410-841-3391	adrienne.jones@house.state.md.us	Appropriations
Hettleman	Shelly	П	Baltimore County	D	410-841-3833	shelly.hettleman@house.state.md.us	Appropriations
Morhaim	Dan K.	П	Baltimore County	D	410-841-3054	dan.morhaim@house.state.md.us	Health & Govt Oper
Stein	Dana	П	Baltimore County	D	410-841-3527	dana.stein@house.state.md.us	Envir & Transp, Vice-Chair
Ebersole	Eric	12	Baltimore & Howard	D	410-841-3328	eric.ebersole@house.state.md.us	Ways & Means
Hill	Terri L.	12	Baltimore & Howard	D	410-841-3378	terri.hill@house.state.md.us	Health & Govt Oper
Lam	Clarence K.	12	Baltimore & Howard	D	410-841-3205	clarence.lam@house.state.md.us	Envir & Transp
Atterbeary	Vanessa	13	Howard	D	410-841-3471	vanessa.atterbeary@house.state.md.us	Judiciary
Pendergrass	Shane	13	Howard	D	410-841-3139	shane.pendergrass@house.state.md.us	Health & Govt Oper,Vice-Chair
Turner	Frank S.	13	Howard	D	410-841-3246	frank.turner@house.state.md.us	Ways & Means, Vice-Chair
Kaiser	Anne	14	Montgomery	D	410-841-3036	anne.kaiser@house.state.md.us	Ways & Means
Luedtke	Eric	14	Montgomery	D	410-841-3110	eric.luedtke@house.state.md.us	Ways & Means
Vacant		14					
Dumais	Kathleen M.	15	Montgomery	D	410-841-3052	kathleen.dumais@house.state.md.us	Judiciary, Vice-Chair
Fraser-Hidalgo	David	15	Montgomery	D	410-841-3186	david.fraser.hidalgo@house.state.md.us	Envir & Transp
Miller	Aruna	15	Montgomery	D	410-841-3090	aruna.miller@house.state.md.us	Appropriations
Frick	C.William	16	Montgomery	D	410-841-3454	bill.frick@house.state.md.us	Economic Matters
Kelly	Ariana	16	Montgomery	D	410-841-3642	ariana.kelly@house.state.md.us	Health & Govt Oper
Korman	Marc	16	Montgomery	D	410-841-3649	marc.korman@house.state.md.us	Appropriations
Barve	Kumar P.	17	Montgomery	D	410-841-3990	kumar.barve@house.state.md.us	Envir & Transp, Chair
Gilchrist	Jim	17	Montgomery	D	410-841-3744	jim.gilchrist@house.state.md.us	Envir & Transp
Platt	Andrew	17	Montgomery	D	410-841-3037	andrew.platt@house.state.md.us	Ways & Means

### MARYLAND DELEGATES

Last Name	First Name	District	County	Party	Phone	Email	Committee Assignment
Gutierrez	Ana Sol	18	Montgomery	D	410-841-3181	ana.gutierrez@house.state.md.us	Appropriations
Waldstreicher	Jeff	18	Montgomery	D	410-841-3130	jeff.waldstreicher@house.state.md.us	Economic Matters
Cullison	Bonnie	19	Montgomery	D	410-841-3883	bonnie.cullison@house.state.md.us	Health & Govt Oper
Kramer	Benjamin K	19	Montgomery	D	410-841-3485	benjamin.kramer@house.state.md.us	Economic Matters
Morales	Maricé I.	19	Montgomery	D	410-841-3528	marice.morales@house.state.md.us	Judiciary
Hixson	Sheila Ellis	20	Montgomery	D	410-841-3469	sheila.hixson@house.state.md.us	Ways & Means, Chair
Moon	David	20	Montgomery	D	410-841-3474	david.moon@house.state.md.us	Judiciary
Smith, Jr.	Will C.	20	Montgomery	D	410-841-3493	will.smith@house.state.md.us	Judiciary
Barnes	Ben	21	Anne Arundel & Prince George's	D	410-841-3046	ben.barnes@house.state.md.us	Appropriations
Frush	Barbara	21	Anne Arundel & Prince George's	D	410-841-3114	barbara.frush@house.state.md.us	Envir & Transp
Pena-Melnyk	Joseline	21	Anne Arundel & Prince George's	D	410-841-3502	joseline.pena.melnyk@house.state. md.us	Health & Govt Oper
Gaines	Tawanna P.	22	Prince George's	D	410-841-3058	tawanna.gaines@house.state.md.us	Appropriations
Healey	Anne	22	Prince George's	D	410-841-3961	anne.healey@house.state.md.us	Envir & Transp
Washington	Alonzo T.	22	Prince George's	D	410-841-3652	alonzo.washington@house.state.md.us	Ways & Means
Valentino-Smith	Geraldine	23A	Prince George's	D	410-841-3101	geraldine.valentino.smith@house. state.md.us	Judiciaryiciary
Holmes, Jr.	Marvin E.	23B	Prince George's	D	410-841-3310	marvin.holmes@house.state.md.us	Envir & Transp
Vallario, Jr.	Joseph F.	23B	Prince George's	D	410-841-3488	joseph.vallario@house.state.md.us	Judiciary, Chair
Barron	Erek	24	Prince George's	D	410-841-3692	Erek.Barron@house.state.md.us	Health & Govt Oper
Howard	Carolyn J.B.	24	Prince George's	D	410-841-3919	carolyn.howard@house.state.md.us	Ways & Means
√aughn	Michael L.	24	Prince George's	D	410-841-3691	michael.vaughn@house.state.md.us	Economic Matters
Angel	Angela	25	Prince George's	D	410-841-3707	angela.angel@house.state.md.us	Health & Govt Oper
Barnes	Darryl	25	Prince George's	D	410-841-3557	darryl.barnes@house.state.md.us	Ways & Means
Davis	Dereck	25	Prince George's	D	410-841-3519	dereck.davis@house.state.md.us	Economic Matters, Chair
Knotts	Tony	26	Prince George's	D	410-841-3212	tony.knotts@house.state.md.us	Envir & Transp
Valderrama	Kris	26	Prince George's	D	410-841-3210	kris.valderrama@house.state.md.us	Economic Matters
Walker	Jay	26	Prince George's	D	410-841-3581	jay.walker@house.state.md.us	Ways & Means
Proctor	Susie	27A	Charles & Prince George's	D	410-841-3083	susie.proctor@house.state.md.us	Judiciary
ackson	Michael A.	27B	Calvert & Prince George's	D	410-841-3103	michael.jackson@house.state.md.us	Appropriations
Fisher	Mark N.	27C	Calvert	R	410-841-3231	mark.fisher@house.state.md.us	Economic Matters
lameson	Sally	28	Charles	D	410-841-3337	sally.jameson@house.state.md.us	Economic Matters, Vice-Chair
Patterson	Edith J.	28	Charles	D	410-841-3247	edith.patterson@house.state.md.us	Ways & Means
Wilson	C.T.	28	Charles	D	410-841-3325	ct.wilson@house.state.md.us	Economic Matters
Morgan	Matt	20 29A	St. Mary's	R	410-841-3170	matt.morgan@house.state.md.us	Health & Govt Oper
	Deborah C.	29B		R	410-841-3227	deborah.rey@house.state.md.us	
Rey			St. Mary's			7-	Judiciary
O'Donnell	Anthony J.	29C	Calvert & St. Mary's	R	410-841-3314	anthony.odonnell@house.state.md.us	Envir & Transp
Busch	Michael E.	30A	Anne Arundel	D	410-841-3800	michael.busch@house.state.md.us	"Speaker of the House"
McMillan	Herb	30A	Anne Arundel	R	410-841-3439	herb.mcmillan@house.state.md.us	Health & Govt Oper
Howard	Seth	30B	Anne Arundel	R	410-841-3047	seth.howard@house.state.md.us	Economic Matters
Carey	Ned	31A	Anne Arundel	D	410-841-3421	ned.carey@house.state.md.us	Economic Matters
Kipke	Nicholaus	31B	Anne Arundel	R	410-841-3206	nicholaus.kipke@house.state.md.us	Health & Govt Oper
imonaire	Meagan C.	31B	Anne Arundel	R	410-841-3370	Meagan.Simonaire@house.state.md.us	Ways & Means
Beidle	Pamela	32	Anne Arundel	D	410-841-3511	pamela.beidle@house.state.md.us	Envir & Transp
Chang	Mark S.	32	Anne Arundel	D	410-841-3372	mark.chang@house.state.md.us	Appropriations
Sophocleus	Theodore	32	Anne Arundel	D	410-841-3510	ted.sophocleus@house.state.md.us	Appropriations
Malone	Michael E.	33	Anne Arundel	R	410-841-3406	michael.malone@house.state.md.us	Judiciary
McConkey	Tony	33	Anne Arundel	R	410-841-3551	tony.mcconkey@house.state.md.us	Appropriations
Saab	Sid	33	Anne Arundel	R	410-841-3280	sid.saab@house.state.md.us	Health & Govt Oper
Glass	Glen	34A	Harford	R	410-841-3280	glen.glass@house.state.md.us	Judiciary
Lisanti	Mary Ann	34A	Harford	D	410-841-3331	MaryAnn.Lisanti@house.state.md.us	Economic Matters
McComas	Susan K.	34B	Harford	R	410-841-3272	susan.mccomas@house.state.md.us	Judiciary

### MARYLAND DELEGATES

Last Name	First Name	District	County	Party	Phone	Email	Committee Assignment
Hornberger	Kevin	35A	Cecil	R	410-841-3284	kevin.hornberger@house.state.md.us	Ways & Means
Cassilly	Andrew	35B	Cecil & Harford	R	410-841-3444	andrew.cassilly@house.state.md.us	Envir & Transp
Reilly	Teresa	35B	Cecil & Harford	R	410-841-3278	teresa.reilly@house.state.md.us	Ways & Means
Arentz	Steven J.	36	Caroline, Cecil, Kent & Queen Anne's	R	410-841-3543	steven.arentz@house.state.md.us	Economic Matters
Ghrist	Jeff	36	Caroline, Cecil, Kent & Queen Anne's	R	410-841-3555	jeff.ghrist@house.state.md.us	Appropriations
Jacobs	Jay A.	36	Caroline, Cecil, Kent & Queen Anne's	R	410-841-3449	jay.jacobs@house.state.md.us	Envir & Transp
Sample-Hughes	Sheree	37A	Dorchester & Wicomico	D	410-841-3427	Sheree.Sample.Hughes@house.state. md.us	Health & Govt Oper
Adams	Christopher T.	37B	Caroline, Dorchester, Talbot & Wicomico	R	410-841-3343	christopher.adams@house.state.md.us	Economic Matters
Mautz	Johnny	37B	Caroline, Dorchester, Talbot & Wicomico	R	410-841-3429	johnny.mautz@house.state.md.us	Economic Matters
Otto	Charles James	38A	Somerset & Worcester	R	410-841-3433	charles.otto@house.state.md.us	Envir & Transp
Anderton	Carl	38B	Wicomico	R	410-841-3431	carl.anderton@house.state.md.us	Envir & Transp
Carozza	Mary Beth	38C	Wicomico & Worcester	R	410-841-3356	marybeth.carozza@house.state.md.us	Appropriations
Barkley	Charles	39	Montgomery	D	410-841-3001	charles.barkley@house.state.md.us	Economic Matters
Reznik	Kirill	39	Montgomery	D	410-841-3039	kirill.reznik@house.state.md.us	Health & Govt Oper
Robinson	Shane	39	Montgomery	D	410-841-3021	shane.robinson@house.state.md.us	Envir & Transp
Conaway	Frank M.	40	Baltimore City	D	410-841-3189	frank.conaway@house.state.md.us	Judiciary
Hayes	Antonio	40	Baltimore City	D	410-841-3545	antonio.hayes@house.state.md.us	Health & Govt Oper
Robinson	Barbara	40	Baltimore City	D	410-841-3520	barbara.robinson@house.state.md.us	Appropriations
Carter	Jill P.	41	Baltimore City	D	410-841-3268	jill.carter@house.state.md.us	Judiciary
Oaks	Nathaniel T.	41	Baltimore City	D	410-841-3283	nathaniel.oaks@house.state.md.us	Health & Govt Oper
Rosenberg	Samuel I.	41	Baltimore City	D	410-841-3297	samuel.rosenberg@house.state.md.us	Judiciary
Lafferty	Stephen W.	42A	Baltimore County	D	410-841-3487	stephen.lafferty@house.state.md.us	Envir & Transp
Aumann	Susan L.M.	42B	Baltimore County	R	410-841-3258	susan.aumann@house.state.md.us	Economic Matters
West	Chris	42B	Baltimore County	R	410-841-3793	chris.west@house.state.md.us	Health & Govt Oper
Anderson	Curt	43	Baltimore City	D	410-841-3291	curt.anderson@house.state.md.us	Judiciary
McIntosh	Maggie	43	Baltimore City	D	410-841-3407	maggie.mcintosh@house.state.md.us	Appropriations, Chair
Washington	Mary	43	Baltimore City	D	410-841-3476	mary.washington@house.state.md.us	Ways & Means
Haynes	Keith E.	44A	Baltimore City	D	410-841-3801	keith.haynes@house.state.md.us	Appropriations
Sydnor, III	Charles E.	44B	Baltimore County	D	410-841-3802	charles.sydnor@house.state.md.us	Judiciary
Young	Pat	44B	Baltimore County	D	410-841-3544	pat.young@house.state.md.us	Appropriations
Branch	Talmadge	45	Baltimore City	D	410-841-3398	talmadge.branch@house.state.md.us	Economic Matters
Glenn	Cheryl	45	Baltimore City	D	410-841-3257	cheryl.glenn@house.state.md.us	Economic Matters
McCray	Cory V.	45	Baltimore City	D	410-841-3486	cory.mccray@house.state.md.us	Envir & Transp
Clippinger	Luke	46	Baltimore City	D	410-841-3303	luke.clippinger@house.state.md.us	Economic Matters
Hammen	Peter A.	46	Baltimore City	D	410-841-3772	peter.hammen@house.state.md.us	Health & Govt Oper, Chair
Lierman	Brooke	46	Baltimore City	D	410-841-3319	brooke.lierman@house.state.md.us	Appropriations
Fennell	Diana	47A	Prince George's	D	410-841-3478	diana.fennell@house.state.md.us	Ways & Means
Tarlau	Jimmy	47A	Prince George's	D	410-841-3326	jimmy.tarlau@house.state.md.us	Ways & Means
Sanchez	Carlo	47B	Prince George's	D	410-841-3340	carlo.sanchez@house.state.md.us	Judiciary

### MedChi's Legislative Council: Monitoring State Legislation That Impacts Physicians, Practices & Patients

The function of the Council on Legislation is to study and make recommendations regarding policy on state legislation and regulations; to serve as a reference council through which legislative issues are channeled prior to decisions concerning MedChi legislative and regulatory policy; and to recommend changes to the House of Delegates in MedChi's legislative policy when necessary to achieve MedChi's goals.

The following are physician and medical student members of MedChi's Legislative Council. If you have questions about any of the current legislative initiatives or the Council's process, contact a physician member of the Council and/or MedChi staff.

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Maryland Medicine

### **Challenges of Educating Future Physicians:** Teaching Live and Distance Audiences Simultaneously

Stephen Davis, PhD

We are up against "The New Reality" (TNR) of teaching. Teaching to a live and distant audience synchronously and simultaneously is occurring in our institutions of higher education-for reasons of economy, not pedagogy. Distance learning has been with us for decades, but its use in conjunction with a live audience is a relatively new twist. Therefore, we (educational leaders, administrators, practitioners) are now challenged to work within TNR to identify best practices for student learning. It falls on us to identify the assets and the liabilities, with the goal of maximizing the assets and minimizing the liabilities.

While the technology accommodates TNR and allows for a greater number of students per class, it has yet to be validated with educational research—it's just "here." TNR brings with it profound implications for educators and students. Using available literature and drawing on my observations, there are four interrelated challenges for simultaneous live and distant teaching:

- 1. Class Attendance,
- 2. Learner-Centered Education,
- 3. Video Conference Teaching, and
- 4. Effective Faculty Development.

These issues are certainly not new, but it seems they are inextricably interrelated and exacerbated in TNR. (*Please note*: I'm mostly referring to medical education via classroom lectures/didactics—still the crux of the first two years of medical school for the most part.)

### **Class Attendance**

Ohio University Heritage College of Osteopathic Medicine (OUHCOM) recently added two "extension" campuses using TNR. To ensure access to the classroom teaching we now produce an audio and video. Therefore, each recording is now available 24-7 and can be repeated or rewound, slowed down or sped up, transcribed, volume adjusted, and watched whenever and where ever. As a result, lecture attendance, which is not mandatory, has severely declined and is often embarrassingly low with guest lecturers.

### Learner-Centered Education

Low lecture attendance creates a pedagogical dilemma. Based on current educational and cognitive science understanding of how humans learn best,<sup>1, 2, 3</sup> we've been pursuing more learner-centered education<sup>4</sup>-more "guide on the side" versus "sage on stage." With fewer students actually attending (at both the live and the distant sites), many faculty revert to the more traditional lecture format because (1) the students who aren't there can't benefit from in-class activities or get much out of watching them, (2) in-class activities require students to be present, and (3) orchestrating and engaging learning across three sites requires carefully scripted lessons. The low attendance at lectures leads faculty to take "a step back" from more learner-centered teaching and adopt a more lecture-centric style to accommodate TNR.

### Video Conference Teaching

Teaching distant audiences presents multi-tasking challenges for both faculty and students.<sup>5</sup> Faculty must learn to include eye contact with the live AND remote site (especially tricky since the confidence monitor and camera are not close), use a "batter's box" to stay in



view of remote sites, identify participants at remote sites (packed into the confidence monitor display), work with millisecond speaking delays, use microphones, attend to presentation control, and juggle interaction with the live and distant site. Many of the same adaptations apply equally to students. The skills can be mastered with training and practice, but the road to mastery is slow, and many of our faculty are guests and present only on occasion.

### Effective Faculty Development

At OUHCOM we've worked hard to orient our faculty to TNR. While our efforts were useful, they weren't "just in time" and were simulated and therefore did not have the fidelity of the actual experience. We acknowledge that to successfully teach a class of 140 students live is a science and art. We further acknowledge teaching one or more distance audiences takes great skill to do well. We are currently learning from our experiences what it takes to successfully do both, simultaneously.

Some of the strategies we're exploring at OUHCOM are remote site classroom faculty or monitors to coordinate with the primary instructor and help with any activities, handouts, collections, and unique instructions. We've developed some FAQ sheets and checklists for our faculty and are discussing the use of mentors and just-in-time faculty development. We've found three outstanding resources to help faculty with engaging activities: Anne Arundel Medical Center

proudly recognizes the work of AAMC medical staff member **Brooke Buckley, MD.** 

We celebrate her many achievements.

LIVING HEALTHIER TOGETHER.

### Anne Arundel Medical Center

### **Testing Before Trusting:** EPAs and the Direction of Medicine

Tyler Cymet, DO

"What *matters gets measured*, and what we *measure* is what ends up mattering."

#### — John Hendra

Medical students are tested, observed, retested, and then tested again. The process starts with the MCAT, followed by quizzes and exams throughout medical school, including a national board exam, and monthly reviews of performance during clinical clerkships.

The constant evaluations, which help colleges ensure that their graduates have the necessary abilities and have learned the material of medicine, make up a level of review that brings value to the profession. The evaluations should not be confused with a license to perform any specific treatment or procedure or to make a diagnosis.

Those who traverse the course to become a physician and are granted diplomas and certificates should be proud of their proof of accomplishment. A medical school diploma, however, does not guarantee hospital privileges or participation in an insurance company network, or even provide certification for certain procedures.

Medical schools have long argued that it is not their role to certify physicians to do specific procedures.<sup>1</sup> Longer-term oversight is the responsibility of the state in which the physician practices.

Healthcare businesses disagreed. Most vocally, Paul Grundy from IBM has pushed for medical schools to certify which procedures their graduates are trained to perform.<sup>2</sup> Healthcare businesses will look to other types of providers with more targeted training to perform the treatments that are covered by insurance companies,<sup>3</sup> if there is the potential that a hospital can charge for something done, they will want to. Hospitals providing graduate medical education also want documentation on newly graduated physicians' abilities, when supervision is required and have when a provider will need backup to perform a procedure.

How can a healthcare business "trust" physicians to self-evaluate and declare themselves ready to perform? Once licensed, the trust is given to a physician. While a physician is in training, there is a desire for external validation that the physician can be trusted. The trust may be in little pieces called competencies or bigger pieces now called entrustable professional activities.

Since 1999, medical schools have broken down the information taught into educational competencies, the smallest observable and assessible medical process. Each clinical area has 150 to 200 competencies that students must demonstrate proficiency in for successful clinical clerkship completion. While the competency assessment worked for medical education, hospitals and healthcare businesses wanted something broader and directly related to activities that physicians perform, a more specific and relevant form of assessment.

In 2014, the Association of American Medical Colleges released the Core Entrustable Professional Activities

### Definitions

1. **Competency**: An observable ability of a health professional, integrating multiple components such as knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition.

2. Entrustable Professional Activity (EPA): EPAs are units of professional practice, defined as tasks or responsibilities that trainees are entrusted to perform unsupervised once they have attained sufficient specific competence. EPAs are independently executable, observable, and measurable in their process and outcome, and, therefore, suitable for entrustment decisions.

### Entrustable Professional Activities (EPAs) Expected for Every Allopathic and Osteopathic Medical School Graduate:

- I. Gather a history and perform a physical examination.
- 2. Prioritize a differential diagnosis following a clinical encounter.
- 3. Recommend and interpret common diagnostic and screening tests.
- 4. Enter and discuss orders and prescriptions.
- 5. Document a clinical encounter in the patient record.
- 6. Provide an oral presentation of a clinical encounter.
- 7. Form clinical questions and retrieve evidence to advance patient care.
- 8. Give or receive a patient handover to transition care responsibility.
- 9. Collaborate as a member of an interprofessional team.
- 10. Recognize a patient requiring urgent or emergent care and initiate evaluation and management.
- 11. Obtain informed consent for tests and/or procedures.
- 12. Perform general procedures of a physician.
- 13. Identify system failures and contribute to a culture of safety and improvement.

(EPAs) for Entering Residency, a new method of assessing physicians developed in response to feedback from residency program directors and from literature recording the gap between medical school and day one of residency training. EPAs are more complicated and require a higher-level evaluation than a competency. EPAs are directly related to Current Procedural Terminology (CPT) codes. EPAs are the bridge to connect educational competencies to the real world. They can be a roadmap for students by helping them to understand what is expected by graduation. EPAs delineate the expectations, while the developmental progression laid out from pre-entrustable to entrustable behaviors can serve as a manual.

Hospitals and healthcare systems are using EPAs as a badge system to confirm that a student can be trusted to perform a set of activities upon entering residency. EPAs serve as documentation that a graduate of an American medical school, osteopathic or allopathic, is able to perform the thirteen activities independently, as students have been reviewed and assessed by the school on each EPA individually.

As medicine morphs into a single system with standards and transparent oversight, developing EPAs for each specialty, each care area, and even each individual who provides care to patients becomes increasingly important.

Tyler Cymet, DO, FACP, is a member of the Maryland Medicine Editorial Board. Currently he works for the University of Maryland Emergency Medicine Physician group seeing patients at Prince George's Hospital Emergency Department, and is the Chief of Clinical Medical Education for the American Association of Colleges of Osteopathic Medicine. He can be reached at tcymet@gmail.com and on Twitter @tcymet.

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### Integrating Nurse Practitioners Into a Hospital Medical Staff

#### Joseph D. Moser, MD

The role of nurse practitioners is evolving rapidly. The American Association of Nurse Practitioners recognizes more than 200,000 nurse practitioners in the United States.<sup>1</sup> Certification is available in acute care, family practice, adult medicine, pediatrics, and an expanding number of specialties. The functions of NPs within hospitals often include primary responsibility for patient care, along with refinement of their practice relationship with physicians.<sup>2,3,4</sup>

In 2015, Maryland joined twenty other states in granting nurse practitioners the right to practice without a collaborative agreement with a physician.<sup>5</sup> While many physicians and nurse practitioners have enjoyed collaborative working relationships and will undoubtedly continue to do so of their free will, the new law is welcomed by many nurse practitioners who want the option to practice on their own.

Granting privileges to nurse practitioners on a medical staff presents dilemmas for its leadership. The issues include the following:

- 1. Ensuring that nurse practitioners who are new to the practice or specialty can gain clinical experience in a safe manner,
- 2. Defining and requiring an appropriate level of supervision during the learning curve,
- 3. Deciding when independent privileges (not requiring supervision) are deserved and desirable, and
- 4. Evaluating current competence.

The medical staff at Anne Arundel Medical Center has developed a process to address these issues, which has become the basis for a revised approach to integrating the practices of these professionals into our medical staff.

### Gaining Clinical Experience

Nurse practitioners receive hundreds of hours of clinical training to qualify for certification. However, they do not follow this up with years of formalized and supervised clinical practice experience in specialties, analogous to residencies. Maryland recognizes the lack of formal clinical experience and requires eighteen months of mentored practice after graduation. Significant clinical experience is therefore gained on the job, with an attendant learning curve. Nurse practitioners also may take on roles for which they have not received specialty training, relying on mentoring in the specialty and acquiring experience to develop competence.



A medical staff can require that nurse practitioners must always have a supervising physician, the assumption being that the supervising physician is overseeing all of the nurse practitioner's activity, since the two will always be linked in their accountability for the care they give.

The disadvantages are several. Leadership takes no role in ensuring that new nurse practitioners gain meaningful clinical experience. Nurse practitioners may be underused and have no chance to exercise the level of expertise they have acquired. In addition, as the supervisor's confidence in the nurse practitioner grows, the physician may tend to work with her or him as an autonomous clinician, despite the requirement for supervision. Such a practice can potentially put the nurse practitioner in the position of exceeding her or his privileges.

We believe the better approach is to create a list of skills and performance measures to accompany the privileges granted. These are set out in progressive tiers, advancing as a level of experience is completed and evaluated. Such an approach helps both the new nurse practitioner and the supervisor to set goals for clinical experience, to document progress, and to advance when ready.

Each department may also offer an independent tier. Collaboration and appropriate consultation is expected, as it is for physicians. The nurse practitioner is the attending practitioner, and her or his care is evaluated on that basis. When a physician and nurse practitioner are ready to work without mandatory supervision, this tier allows them to do so in compliance with policy and privileges.

We use the same set of clinical privileges throughout and set up the tiers as levels of Focused Professional Practice Evaluation. The differences in levels are in the intensity of supervision, the expectations, and performance review, rather than the scope of practice.

A nurse practitioner applicant with extensive experience in the specialty may be granted privileges at one of the higher tiers, including an independent level of privileges.

### **Know Your Doctor**

	Length of graduate-level education	Years of residency/ fellowship training	Total patient care hrs req'd through training
Medical Doctor*	4 years (90 credit hours)	3–7 years	12,000–16,000 hrs
Doctor of Osteopathic Medicine <sup>*</sup>	4 years (90 credit hours)	3–7 years	12,000-16,000 hrs
Nurse Anesthetist	2–3 years (45–75 credit hours)	N/A	450–550 cases
Anesthesiologist	4 years	3–8 years	12,000–16,000 hrs
Nurse Practitioner	2-4 years	N/A	500–720 hrs
Naturopath	4 years	Not required	720–1,200 hrs
Direct-entry Midwife	None. 3–5 year apprenticeship	N/A	300 cases
Podiatrist	4 years	2–3 years	40 weeks
Psychologist	4-6 years	l year	l year
Psychiatrist	4 years	3–7 years	12,000–16,000 hrs
Audiologist	75 credit hours	l year	1,820 hrs
Otolaryngologist	4 years	5–7 years	12,000–16,000 hrs
Optometrist	4 years	Not required	I year clinical rotations
Ophthalmologist	4 years + 1 year internship	3–5 years	12,000–16,000 hrs + internship of 6 months

Source: American Medical Association, 2010.

\*Physician specialists include: anesthesiologists, dermatologists, family physicians, internal medicine specialists, neurosurgeons, obstetrician-gynecologists, oncologists, ophthalmologists, otolaryngologists, orthopedic surgeons, pathologists, plastic surgeons, psychiatrists, radiologists, and other medical doctors and doctors of osteopathic medicine.

### Appropriate Level of Supervision

We have dropped our bylaw requirement for a collaborating physician in keeping with the new law. Supervision is intended as a combination of mentoring and evaluation appropriate to the level of demonstrated competence. Absent residency training for nurse practitioners, supervision in early practice experience plays an analogous role.

In addition, we allow supervision to be conducted by experienced nurse practitioners as well as by physicians.

### Deciding When Nonsupervised Practice Is Appropriate

The first tier begins with close oversight of care given on each case and verification of diagnostic and management capabilities. The goal is to evaluate the nurse practitioner's knowledge in the specialty and his or her ability to assess the patient, to observe how she or he relates to patients and staff, to guide improvement where needed, and to provide an environment in which experience can be gained in a safe and supported manner. The next level requires less supervision and is focused on development of clinical judgment, identification of subtle findings and prioritization of needs by urgency or clinical importance. The final supervised tier requires periodic case discussion with the supervising practitioner, but relies on the nurse practitioner's judgment as to when to consult for specific issues.

When the supervising practitioner has determined that the nurse practitioner has the clinical skills and judgment to practice without required consultation or discussion, she or he recommends to the Department Chair approval of modification to independent privileges. Approval goes through the standard credentialing process.

### Evaluating Quality and Current Competence

With supervised privileges, the supervising practitioner is officially co-responsible for the patient care given by the nurse practitioner. Evaluation relies on the supervisor's assessment at each tier according to the judgment and skills observed. There is no specified timeline for the nurse practitioner to advance to the next level. However, a progress report is requested at least every six months.

Once a nurse practitioner is granted non-supervised privileges, she or he has full responsibility for decisions and actions, and is evaluated the same way physicians are, through ongoing professional practice evaluation (OPPE) and the peer review program, which includes a specialty-specific set of clinical indicators and case reviews.

### The Mentoring Requirement

The state law now requires the newly licensed nurse practitioner to have a mentor for the first eighteen months of her or his practice. It is possible for the nurse practitioner to continue by choice in a supervised capacity to meet that requirement, but it is not mandatory. A nurse practitioner who progresses well and is qualified may be granted independent privileges and continue to work with a physician or experienced nurse practitioner as mentor.

### Summary

Under the new law, nurse practitioners expect that medical staffs will offer privileges without a requirement for supervision. Medical staffs have a responsibility to ensure quality of care and verify every member's competence, even as she or he acquires clinical experience. We believe that a model using progressive tiers of supervision, culminating in a level that allows practice directly accountable to OPPE and peer review, will meet nurse practitioners' expectations and medical staff responsibilities. Medical staff organizations and nurse practitioners have much to offer one another and need to develop processes that allow them to work together for the optimum benefit of their patients.

The author wishes to thank Helen Brown, CRNP, for her assistance in the preparation of this article.

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Joseph D. Moser, MD, recently retired from Anne Arundel Medical Center after eighteen years as Senior Vice President for Medical Affairs. Dr. Moser can be reached at jdmoser234@gmail.com.

### Challenges of Educating Future Physicians ...

continued from page 23

- 1. Classroom Assessment Techniques, by Thomas Angelo and Patricia Cross;<sup>6</sup>
- 2. Student Engagement Techniques, by Elizabeth Barkley;<sup>7</sup> and
- 3. *McKeachie's Teaching Tips*, by Marilla Svinicki and Wilbert McKaechie.<sup>8</sup>

Keeping pace with technology is not going away. Technology, new delivery models, and the philosophy of teaching and learning will continue to evolve. As we learn and share we can help each other through publications like *Maryland Medicine*, which facilitate this important and ongoing conversation.

Stephen Davis, PhD, is Director of Faculty Development at Heritage College of Osteopathic Medicine, Ohio University, and Assistant Professor, Department of Family Medicine. He can be reached at daviss2@ohio.edu.

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### **Thinking About Thinking:** Why Do We Make the Decisions We Make?

Tyler Cymet, DO

We make decisions every day without thinking about it. Thinking about thinking starts to make our mental windows fog up. Present knowledge is constructed from past knowledge, and how we make

thinking visible and deliberate is the challenge we face today.

All people don't think in the same way. Yet, when a person presents for medical care, there is an expectation that all physicians go through

the same thought process, which is not possible. Physicians are expected to consider the same issues, and test for the same diseases, but not to do so in the same exact process. At least not until we understand those processes better.

Typically, the focus for physicians has been on knowledge. What facts does the physician know and have readily available. In the age of technology, information is available to all with just a click, and the challenge of forgetting can be overcome with a simple search. Learning, retrieval, and understanding are concepts that are being acted on differently. With knowledge covered in a couple of different ways, the focus shifts to the skills and roles in healthcare. The skill is eliciting the data needed to come to a correct conclusion, and the roles are advisor, supporter, educator, communicator, and advocate for our patients.

Eliciting data that will lead to a diag-

"When a person presents for medical care, there is an expectation that all physicians go through the same thought process, which is not possible."

> nosis is critical to completing the picture—but can information be elicited and shared and have the same value? Does how we obtain the data affect clinical reasoning? And is there a better way to traverse the diagnosis phase of healthcare?

Active learning and giving people space to come to conclusions on their own is effective for knowledge recall.<sup>1</sup> Providing care elevates the complexity and has to be looked at differently from knowledge recall.

One training technique used in the health professions is clinical conditioning—give physicians enough exposure that they adopt the "thinking" patterns of the system in which they train. If we see enough cases, the reasoning becomes second nature. The teach and practice paradigm is a process system more than reasoning, but covers the majority of what we do in healthcare.

When it comes to clinical thinking, teaching has to require direct guid-

> ance. When patients are involved, the risk of minimal guidance and freedom to think can be difficult and lead to bigger problems. Guiding and oversight is necessary at this point in training.<sup>2</sup>

When a path is unclear

and a decision uncertain, physicians will elicit data and then use the preponderance of information to create a fact clumping decision. Once we have enough data to justify a conclusion, we go with it.

In understanding the way the mind works, there are a number of competing sciences: cognitive psychology and educational science look at thinking differently. Cognitive psychology looks at people as thinking creatures constantly making decisions. Educational theories tend to put people into systems in which a choice architecture exists and people "decide" to go down one path or another. Once a path is chosen, a person continues on that path until new data or a competing thought process require us to rethink what is going on.



Physicians work fervently to come up with a diagnosis. The bulk of our thinking is when we are uncomfortable and don't have a clear diagnosis. For patients, the push is for symptom control; they want physicians to think about alleviating symptoms and making them more comfortable. For many patients, the diagnosis is not a priority and not part of their thinking, and not what they seek from a physician.

Oftentimes the context of care matters as much as the content of care requested. A symptom seen in the emergency room can prompt thinking in a different direction than the same symptom presented in a chiropractic physician's office. Physicians in a travel clinic will perform differently than a primary care physician.

The thinking in every environment includes guarding against too simple of a pattern recognition practice with too few pieces of information. Single step decisions cannot be seen as thinking. When a patient presents with a request—"I need antibiotics or pain medications or even a vaccine"—providing without elucidating is separate from healthcare; it is service provision.

Thinking also can be derailed when an answer appears obvious. This satisfaction of search is very common in radiology, where finding one abnormality stops the search for any other abnormalities. As is the best practice for students when they find the correct test answer, thinking physicians need to continue to read all of the other choices before settling on the first and obvious answer.

A challenge for educators is to broaden the thinking of students entering the health professions. Differential diagnosis is a critical skill that is different from the thinking we see in other professions or areas of work and study. Differential Diagnosis is a worst case scenario type of thinking (Defining Differential Diagnosis: How Doctors Need to Think, available at https:// www.youtube.com/watch?v=q1t2AOpH-mg). Physicians' questioning should involve multiple steps and include reasoning and thinking. Asking what my thought is and what is an ingrained pathway can help. Pausing before starting down a pathway will help. And thinking about thinking is needed to set up a practice structure in which the individual receives the best care possible.

Tyler Cymet, DO, FACP, is a member of the Maryland Medicine Editorial Board. Dr. Cymet currently works for the University of Maryland Emergency Medicine Physician group seeing patients at Prince George's Hospital Emergency Department, and is the Chief of Clinical Medical Education for the American Association of Colleges of Osteopathic Medicine. He can be reached at tcymet@gmail.com and on Twitter @tcymet.

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### Undressing the Emperor: Guarding Against the Illusion of Safety and Quality

Michele Manahan, MD

Looming drastic changes to the healthcare landscape reveal themselves to all who afford the terrain even the briefest of glances. Prognosticators may label these good, bad, or neutral, but most agree they are inevitable. As we move into this changed environment, physicians may profit from attention to the cautionary messages in a popular fairy tale, adapted somewhat for modern relevance.

As a reminder, Hans Christian Andersen's The Emperor's New Clothes tells of a vainglorious but gullible ruler who hired tailors to create a wonderful new outfit of clothes suitable for his elevated position and august being. The tailors craftily convinced the Emperor that his robes of the richest hues and finest materials would be visible only to worthy individuals, while they actually left him wearing nothing at all. In a rush to demonstrate his royal presence and new duds, he paraded before his subjects, all of whom remained silent to the perfidy. All, that is, except for a youngster, who loudly proclaims the Emperor's bareness, highlighting the hoax.

This tale highlights "stupidity" of the crowd rather than its much-touted "wisdom." As the audience, we observe intellectual vanity. No one believes, but everyone believes that everyone else believes. We note pluralistic ignorance. Everyone is ignorant but believes that everyone else is not ignorant. We see logical fallacies and collective denial. We celebrate the courage of one's convictions.

As physicians, we must guard against allowing the illusion of safety and quality (a nude emperor) to interfere with true safety and quality (the youngster's proclamation). How might we be at risk? Let me count the ways...

Take, for example, the Social Security Administration's Hospital Readmission Reduction Program, part of the Affordable Care Act. This initiative decreases the Centers for Medicare and Medicaid Services' (CMS) payments for readmissions within thirty days of a discharge for certain conditions, such as acute myocardial infarction. CMS uses a National Quality Forum (NQF) endorsed risk assessment methodology to account for suboptimal demographics, comorbidities, and frailty. Since 2013, changes and expansion have occurred in the program.

Consider our nude emperor: Punishment for failure can improve effectiveness of initial care and decrease disease recidivism. Why might this miss the mark? Hear the youngster's cry, "Logical fallacies and pluralistic ignorance! Incentives for refusal of care! Tacit acceptance of a"bigotry of low expectations!"<sup>2</sup>

Data demonstrate statistically significant increased odds ratios of penalties for large hospitals (greater than 400 beds), teaching hospitals, and safety net hospitals providing care for the poor. Will these findings prompt care refusal? Will those who most need treatment receive less because of the perceived risk? The logical implication of punishment as an instrument for change implies an absence of adequate motives for improvement. Any physician easily sees the fallacy inherent in this assumption, since our core mission is to treat illness and improve health. By our very nature physicians are programmed to seek ways to decrease treatment failure.

Is NQF risk adjustment for socioeconomic status beneficial? It is expected that patients of lower socioeconomic status are high risk because of access barriers, treatment resource paucities, and social support weaknesses. Without forethought, we may believe that allowing for these risk factors will protect against healthcare discrimination. We may accept the accuracy of the plurality's assumptions. Challenge to the pluralistic ignorance highlights the true potential of this strategy to decrease the accountability of those caring for high risk patients, and thereby worsen healthcare disparities in the name of quality improvement.

Let's examine the Electronic Medical Record (EMR), potentially considered to provide electronic protections for physicians and patients. Many platforms exist for clinical decision support (CDS), elec-



tronic technology designed to enhance clinical decision-making. One such support is the concept of drug-drug interaction (DDI) alerts.

Consider again our nude emperor: Computer algorithms can rapidly, consistently, and accurately screen information in the EMR and alert a physician to potentially unintended pharmacological interactions. How could this fall short of expectations? One author (our youngster proclaiming the emperor's state of undress) states, "CDS represents...a perverse equilibrium...in which patients, physicians, institutions, and the government are all made worse off..."<sup>3,4</sup>

How could this be? Consider the phenomenon of "alert fatigue" and "alert override" leading to failures to act or respond to an alert. Authors have reported overrides of drug-drug interaction alerts up to 96 percent of the time. The override percentage may increase with a physician's familiarity with the system because of the perception that alerts are too frequent, repetitive, incorrect, minor, irrelevant, wordy, or insignificant. These actions highlight Hans Christian Andersen's morals of intellectual vanity and collective denial.

A study by independent investigators reviewing overrides demonstrated a 96 percent rate of override appropriateness. Preventable harm rates associated with overrides may be as low as 0.8 percent. However, the ability to audit override his-

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Vol. 16, Issue 4

### What's New In Addiction Medicine?

George Kolodner, MD

### Understanding Addiction Disorders

*Biological.* The field of addiction medicine is benefiting enormously from information provided by neuroimaging techniques, such as PET scans and functional MRIs. Clinical experiences are now informed by neurobiological discoveries that elucidate the underlying neurobiology, such as the following:

- The central role of dopamine and its elevation in response to unexpected stress as well as pleasure allow a more sophisticated understanding of the role that it plays in perpetuating addictive behaviors.
- The commonality of reduced D2 dopamine receptor activity in all addictions sheds light on the importance of abstaining from all addictive substances—not just currently problematic ones.
- Evidence of enhanced limbic and reduced prefrontal cortical activity as a result of the addictive use of substances help us to understand how otherwise psychological healthy people can behave in such destructive ways.

*Psychosocial.* To reduce our conception of an addiction, from a complex biopsychosocial disorder to a "brain disease" would be a mistake. The latest findings of a landmark seventy-five year prospective study of alcoholism were recently summarized by George Vaillant<sup>1</sup> and revealed the following:

**Predictors:** The best predictors of alcoholism were (a) the ability to tolerate large amounts of alcohol without intoxication, vomiting, or hangovers, and (b) growing up in an environment that tolerated adult drunkenness and discouraged youth from learning safe drinking practices.

Non-predictors were an unhappy childhood, psychological instability, and psychological stability in college.

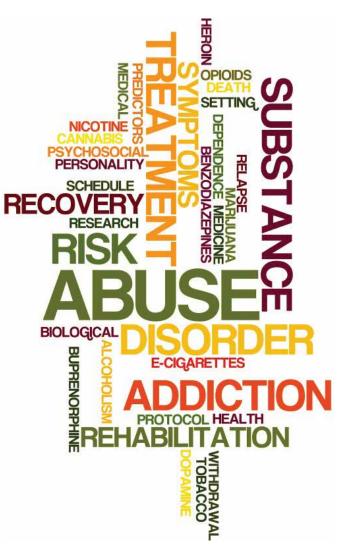
**Personality**: There was an absence of premorbid personality features. Dependent, depressed, and sociopathy, if present, came later and were the *result* not the cause.

**Course**: Course was not inexorably progressive. It progressed for the first ten years, then stayed bad. Although it did not necessarily progress, it did not get better.

Symptoms come and go: In any given month, most alcoholics were abstinent or asymptomatic, highlighting the problem with cross-sectional or short-term prospective studies.

**Recovery**: Return to non-problem drinking was possible but very rare and only for those who barely met the criteria for diagnosis. Even for them, drinking was not carefree

Sustained abstinence was strongly associated with regular AA attendance. Variables associated with AA attendance were severity of alcoholism, Irish ethnicity, absence of maternal neglect, and a warm childhood environment.



Only after five years of abstinence could remission from alcoholism be regarded as stable.

Alcoholics died earlier than social drinkers, even if abstinent from alcohol, because of their tobacco use.

### Addiction Terminology

Diagnostic terminology was changed in the Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-5). The terms *abuse* and *dependence* were replaced with the language "Alcohol (Cocaine, etc.) Use Disorder" and graded as mild, moderate, or severe, depending on how many of the eleven diagnostic criteria are met. This change was made because the word *dependence* was being used clinically for both the disease of addiction and the withdrawal syndrome that can result from the use of therapeutic doses of opioid and minor tranquilizer medications.

### Medical Cannabis

Much controversy has surrounded the issue of medical marijuana. Debates are marked by the expression of strong opinions and a tendency to distort data in a direction to support those opinions.

A complicating factor is that access to marijuana in the United States is the most restricted, as compared with all Schedule I substances, creating a significant barrier to legitimate research. This restriction appears to be driven largely by political forces rather than the degree of dangerousness of the substance itself. As a result, many of the answers to important questions raised about the use of this substance cannot be answered. Fortunately, we do have access to research results from other countries.<sup>2</sup>

Another consequence of the restriction is to deter development of cannabis products by pharmaceutical companies. Oral synthetic THC (tetrahydrocannabinol) is the only medication available. Unavailable in the United States are ingredients of the plant, such as cannabidiol (CBD), which has shown promise as an anticonvulsant for Dravet Syndrome as well as other uses. Unlike other countries, the U.S. DEA (Drug Enforcement Administration) treats CBD as a Schedule 1 substance, despite the fact that it is not psychoactive. Interesting formulations using combinations of cannabinoids, such as THC and CBD, have not been made available in this country, although they are being legitimately prescribed in countries as close as Canada.

Impatience with the disproportionate restrictions on medical cannabis has led many states to create an entirely separate system of artisanal growers and distribution centers—outside of the usual channels of pharmaceutical grade products and licensed pharmacies. The movement to establish medical marijuana has come largely from outside the medical profession, leaving physicians unprepared to deal confidently with this issue.

The use of cannabis for medical purposes has been well documented for thousands of years, and it was, for many years, part of mainstream medicine in the United States. As a liquid extract, it was manufactured by the major pharmaceutical companies and included in the U.S. Pharmacopeia from 1850 to 1942. Cannabis was prescribed for pain to Queen Victoria, and William Osler referred to it in all editions of his famous textbook as "probably the most satisfactory remedy" for migraine headaches. In 1937 Congress, under pressure from the Federal Bureau of Narcotics, acted to begin the prohibition of "marijuana." The AMA testified unsuccessfully against this decision.

Cannabis is clearly addictive and produces a physical withdrawal syndrome. Patients with a Cannabis Use Disorder have their lives severely damaged. Furthermore, horticultural techniques have been applied to increase the THC concentration of plants to as high as 20 percent as opposed to the 3 percent prevalent during the 1960s and 1970s. Its addictive potential, however, is significantly less than alcohol. Recent large-scale prospective studies document that heavy, regular use before the age of eighteen can cause multiple significant cognitive deficits, some of which appear to be irreversible.

### Synthetic Cannabinoids

Scientists seeking to study the newly discovered endocannabinoid system developed synthetic cannabinoids for research purposes. When research articles were published online, however, the compounds were diverted by drug seekers for street use and are now known by such names as "Spice" and "K2." Because these compounds act as full cannabinoid receptor agonists (THC is a partial agonist), their impact on users is different than that of THC. Users can experience intense autonomic symptoms and hallucinations, for which effective medications have not yet been developed.

### Treatment

Settings. Treatment for addictions was historically based in hospital and residential settings. In the 1970s, equally effective outpatient alternatives began to appear. Withdrawal management protocols improved to the point that most medical withdrawal from alcohol, benzodiazepines, and opioids could be safely accomplished on an ambulatory basis. The creation of a new three-hour level of care—Intensive Outpatient, or "IOP"—allowed the rehabilitation phase of alcohol and drug treatment to be routinely done outside of residential settings, enabling patients to receive treatment without leaving their jobs and family responsibilities.

*Tobacco.* Although most smokers want to quit, and effective medications exist, people tend to avoid the medications or use them in too low doses. Varenicline was inappropriately burdened with a black box for psychiatric concerns, which persists despite studies demonstrating lack of evidence to support this level of warning.

The upsurge in the use of E-cigarettes has raised controversy about whether their use should be supported as a safer alternative to tobacco, or discouraged as an agent that introduces young nonsmokers to nicotine and will lead to increased addiction.

*Alcohol.* Benzodiazepines have been the mainstay of alcohol withdrawal treatment since the 1960s. New protocols, however, that reduce or eliminate benzodiazepines are being introduced based on an understanding of the neurobiology of the withdrawal syndrome:

- The addictive use of alcohol causes a down-regulation of the CNS GABA system and a hyper-glutamatergic state.
- The cessation of alcohol sets off an "adrenergic storm" of excessive norepinephrine activity in the locus coeruleus.

The treatment strategy that follows from this understanding is to avoid the use of the gabanergic benzodiazepines and substitute glutamatergic agents, such as gabapentin and valproate, along with alpha 2 agonists, such as guanfacine and clonidine. The parenteral 2 agonist, dexmedetomidine, is beginning to be used for the treatment of delirium tremens, which is often refractory to benzodiazepines.<sup>4</sup>

The advantages of the new protocol include (1) avoidance of the potential for cross addiction to benzodiazepines, and (2) less sedation, which allows for safer use for outpatient withdrawal management and more rapid transition into addiction rehabilitation programs.

*Opioids.* Treatment outcomes for patients with opioid use disorders have improved significantly since buprenorphine became available in 2003. Withdrawal management is dramatically smoother. As with any substance use disorder, however, restricting treatment to this phase alone is unwise. Relapse rates are more than 90 percent without continued treatment. Thus, the most important benefit from buprenorphine is that when patients continue taking it—some for months and others for years—they are physically stabilized in a way that allows them to do the difficult psychological work of recovery. An analogy would be the use of a local anesthetic to facilitate surgery.

Controversy has arisen around medical practices that promote the use of buprenorphine alone, without additional treatment. Some traditional addiction groups, especially Narcotics Anonymous, regard buprenorphine as being little different from

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### Improving Pregnancy Outcomes in African American Women

Carol W. Garvey, MD, MPH

### MARYLAND PUBLIC HEALTH PERSPECTIVE

### Asking Questions

Why is an African American infant nearly two and a half times more likely to die in the first year of life than a White infant, from a variety of causes (Table 1)?

Why are socioeconomic factors such as educational attainment, which appear to improve pregnancy outcomes in White women, less protective in African American women?

Why is early prenatal care not more protective? Is there a way to improve pregnancy outcomes—not only to reduce infant mortality but also to reduce prematurity and low birth weight (Figure 1) and their lifelong consequences for health?<sup>1</sup>

### Seeking Answers

Without good answers to these questions, it has proved challenging to make progress in improving pregnancy outcomes, especially among African American women.

### The Role of Pre-Existing and Intrapartum Medical Problems

African Americans are known to have higher rates of diabetes and hypertension than other racial and ethnic groups, and such illnesses are associated with higher rates of fetal loss. Marked prematurity is more common in African American women and may be caused by a number of physiologic factors. Identifying and vigorously treating medical problems before and during pregnancy is essential to improve pregnancy outcomes.

### The Role of Stress

In recent years stress has been seen as a major factor in poor pregnancy outcomes.

Sources of stress may be interpersonal, economic, caused by the perception or experience of racism, or caused by other factors.<sup>2</sup>

### The Role of Prenatal Care

Among some African Americans, the legacy of the Tuskegee experiment is a mistrust of medical care providers, which may undermine the effectiveness of prenatal care. Some experts have called into question the value of prenatal care in reducing infant mortality.3 Latinas have the lowest rate of prenatal care use in Maryland (47 percent first trimester care), but their outcomes are similar to those of White women, who use prenatal care most often (74 percent first trimester care). Fiftyeight percent of African Americans enter care in the first trimester.<sup>4</sup> Clearly, though, recognizing and aggressively working to reduce risk factors is an important function of prenatal care. What is important to recognize, however, is that being African American may itself be among the most important risk factors for a poor pregnancy outcome.

### The Role of Pregnancy Mentoring

While socioeconomic factors do not fully account for the racial disparities in outcomes, attention to sources of stress in the life of a pregnant woman helps reduce the risk of a poor outcome. Alma Roberts in Baltimore has had excellent results with her Healthy Start program, and the smaller African American Health Program's S.M.I.L.E. program in Montgomery County has also seen improvement in outcomes. These programs provide women with nurse mentors, who provide support with whatever problems they may encounter-physical issues such as high blood pressure or diabetes, emotional issues such as depression, or domestic issues such as homelessness or abuse. The nurses reinforce the recommendations of the obstetricians and make referrals to appropriate agencies for non-medical problems. They establish therapeutic relationships with their patients and serve as wise friends.

### Surviving the First Year

Although most infant deaths occur in the neonatal period, the rate of postneonatal death is also disproportionately high in the African American population. Nurse mentors in Baltimore and Montgomery County and in other nurse mentoring programs follow each family through pregnancy and for the entire first year of an infant's life, advising on safe sleep, car seats, and immunizations. The nurses vigorously promote breast-feeding, assuring access to breast pumps when needed and encouraging women to continue breast-feeding well beyond the neonatal period. The breast-feeding support has been very successful, with the majority of African American women in Montgomery County's S.M.I.L.E. program still breastfeeding at six months postpartum.5

### Eliminating the Disparity

Research must continue on factors that make being African American a major risk factor for low birth weight, prematurity, and infant mortality. Clinical practice should vigorously address medical problems before as well as during pregnancy, and obstetric care should use available technologies such as cervical ultrasound to monitor and manage pregnancy status.

Where nurse mentoring programs are available, African American women should be offered access. Although physicians and other care providers are not able to eliminate many of the causes of stress in the environments of their patients, whether caused by racism, poverty, social isolation, or other factors, mentoring programs have proven effective in improving pregnancy outcomes.

#### Table I: Top Five Causes of Infant Mortality in Maryland 2013

Rate per 100,000 live born infants in specified gro							
Rank	Total	White	African American				
Disorders relating to short gestation and unspecified low birth weight	142.0	89.3	279.1				
Congenital anomalies	93.3	61.6	120.2				
Sudden infant death syndrome	68.2	40.1	133.1				
Newborn affected by maternal complications of pregnancy	55.7	40.1	90.2				
Newborn affected by complications of placenta, cord, and membranes	40.4	37.0	42.9				

Our goal should be to eradicate the disparity in pregnancy outcomes, enabling more African American children to be born at term and not only to survive their first year but also to enjoy good health and a life span comparable to those of other groups in Maryland and the United States.

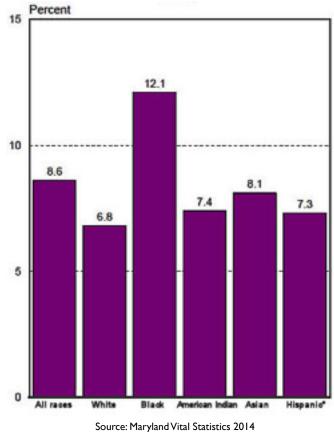
Carol W. Garvey, MD, MPH, is on the Montgomery County Fetal and Infant Mortality Review Board's Community Action Team and the African American Health Program's Infant Mortality Collaborative. She practiced family medicine in Montgomery County for more than twenty years and served as the Montgomery County Health Officer from 1995–2003. Dr. Garvey is a past president of the Montgomery County Medical Society and a past Secretary and Treasurer of MedChi. She can be reached at cgarvey@garveyassociates.com.

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Table | Source: Maryland Vital Statistics Report, 2013.

#### Figure 1. Percentage of Low Birth Weight Infants by Race and Hispanic Origin



Preliminary Report September, 2014.



### Old and Abandoned on an Alien Planet

### REFLECTIONS

Barton J. Gershen, MD Editor Emeritus

It is axiomatic that to live a long life one must grow older. The "longer life" part is gratifying, but it's the "growing older" aspect that is distasteful. Unfortunately, aging comes with an abundance of maladies and infirmities. From simple arthralgias to complex diseases, senescence is definitely not child's play.

Having myself journeyed around the sun over eighty-two times, I have effectively learned this fact. I find it necessary to place my hands on both knees in order to rise from a sitting position. I use a cane when walking. I routinely put my hand on the banister when going downstairs, and we now have safety bars in the bathtub and shower. Lying down, rolling over, and sitting up is each accompanied by its own species of grunts and groans. These displeasures, while irritating, are obviously not as grave as other disorders of old age, which may be life threatening.

However, it is not the difficulties that I wish to examine. There is another ominous feature of old age, which has not garnered much attention, but which haunts the lives of many old people: they have become strangers to their own world. I learned this many years ago as I was examining an elderly patient with calcific aortic stenosis. I had finished my evaluation, and we were sitting in my office as I reviewed my findings and recommendations with him.

The patient, a ninety-two year-old retired English professor named Saul, seemed almost uninterested in what I was saying. He stared morosely out the window and said nothing. Finally, recognizing his obvious despair, I said: "Saul, what's wrong? Have I upset you?" He turned and said, "It's not you, doctor. It's not my valve problem. It's not my heart. Death doesn't bother me—it's life that is intolerable."

I was puzzled, and asked him to explain. "Doctor, I am the only one left in my family. My siblings have all died, my wife died last year, and my two children are gone. I live alone in a three room rented apartment, and do not know a soul in that building. All the movie and television actors who I remember are dead-Jimmy Stewart, John Wayne, Humphrey Bogart, Jimmy Cagney, Katherine Hepburn, Bette Davis, Ed Sullivan, Walter Cronkite, Lucille Ball-and on and on. When I turn on my television, I cannot recognize a single name. When I turn on my radio, I'm met with a cacophony of dissonant sounds, masquerading as music. Where are Glen Miller, Nat King Cole, Dinah Shore, Benny Goodman, Duke Ellington, Crosby, Sinatra, Como, and all the rest? All I hear now are rap, hip-hop, and heavy metal. Their racket is non-melodic, and the lyrics are incoherent and unrecognizable. The cultural environment that had always defined me and given substance and meaning to my life—has disappeared. I no longer recognize my world. It has vanished."

He went on: "Are you familiar with the science fiction author Robert Heinlein? He wrote a novel titled *Stranger in a Strange Land.* It's the story of a Martian who is brought to Earth and finds himself completely estranged from his new world. And do you remember "The Shawshank Redemption?" In that movie there was an inmate named Brooks Hatlen, played by James Whitmore. He is released from prison after four decades behind bars, and tries to acclimatize himself to the world he finds outside of prison. He fails to adjust and desperately wishes to reenter Shawshank, where everything is familiar, and where he feels comfortable. Failing that, he commits suicide. I know these two men—I *am* these two men."

"Think about this, doctor: most people do not live to be one hundred years of age. Therefore, every one hundred years or so, an *entirely new* population of humans inhabits the Earth. I figure that approximately 1 percent of earth's inhabitants die each year. I am ninety-two, therefore from the time of my birth, only 8 percent of the people I started out with are still living."

He looked away, adjusted his glasses with a tremulous hand, and took a deep breath. "I think about Brooks Hatlen's solution every day," he paused and sighed, "but I am a spineless coward. So I remain a terrestrial refugee—old and abandoned on an alien planet."

I often think of Saul's torment, especially as I age and the world appears increasingly foreign to me as well. When we interact with older patients, it is worthwhile to remember Saul's description of his unfamiliar, lonely, and desolate world. The irrational behavior we occasionally observe in elderly folks might not always be senile dementia, Alzheimer's Disease, or Lewy Body Dementia.

It might simply be one person's bitter, depressing, and inhospitable "Twilight Zone."



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### What's New in Addiction Medicine? ...

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heroin and advise avoiding it altogether. It is hoped that as evidence mounts in favor of a more middle ground approach, the two extremes will diminish.

George Kolodner, MD, is the Medical Director, Kolmac Clinic, and Clinical Professor of Psychiatry, Georgetown University and University of Maryland Schools of Medicine. He can be reached at gkolodner@kolmac.com.

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### Undressing the Emperor ...

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tories likely increases physician liability.<sup>3,4</sup> These data highlight our celebration of courage in conviction. As physicians remain true to their convictions and appropriately override incorrect alerts, we may look toward protection that provides safe harbors for EMR use in these ways.

It is easy for almost everyone to agree that safety and quality in healthcare are of utmost importance. We must however guard against allowing the emperor to believe, and believing ourselves, that he is wearing sumptuous new finery.

Michele Manahan, MD, is the Department Director of Patient Safety, Department of Plastic and Reconstructive Strategy, and an Assistant Professor of Plastic and Reconstructive Surgery at Johns Hopkins Hospital. She can be reached at mmanahan@jhmi.edu.

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#### CLASSIC WORD ROUNDS

#### Barton J. Gershen, MD Editor Emeritus

The majority of medical eponyms are easily identifiable, for example, Bright's Disease, or Raynaud's Syndrome. Bright's Disease is also known as glomerulonephritis. It usually occurs in children and results from an infection with certain streptococcal bacteria. Richard Bright was a colleague of Thomas Addison and Thomas Hodgkin, at Guy's Hospital in London. In 1836, he described the renal disorder that bears his name. Ironically, of the three preserved kidney specimens from his original index cases, two were recently shown to have been due to membrano-proliferative glomerulonephritis, and the third was a result of amyloidosis of the kidneys, rather than acute glomerulonephritis.

**Raynaud's Syndrome** describes the remarkable color changes that occur in the fingers of certain patients, on exposure to cold temperature or chilly objects. The digits become white, then blue (and painful), and finally bright red. This disorder was first described by **Maurice Raynaud** in 1862.

However, there are numerous eponymic syndromes that are not so easily identified: for instance Brownian motion, which describes the incessant, random microscopic movement of particles in suspension. This phenomenon was first noticed in 1827 by Robert Brown, a botanist and physician, while observing pollen grains floating in water. It was so fascinating that it ultimately engaged the attention of Albert Einstein. In a 1905 paper, he demonstrated that it was the infinitesimal pressure exerted by surrounding water molecules bumping into the pollen grains, which caused them to wobble. Incidentally, Robert Brown was the first scientist to publish a work on the flora of Australia, the first to distinguish between gymnosperms and angiosperms in botany, and the first to describe and name the nucleus of the cell.

[Gymnosperms are plants—such as conifers—whose seeds are naked, that is, not enclosed within an ovary. The term is from Greek gumnos, "naked," and sperma, "seed." The word gymnasium derives from Greek gumnos through gumnazein, "to exercise naked," a common practice in ancient Greece. Indeed, Greek wrestling was performed in the nude, a behavior that seems quite curious to us today. Angiosperms are plants whose seeds are contained within an ovary. From Greek angos: "a vessel." Angiograms are radiographic images of blood vessels (Greek graphein: "to write"), and angioplasty is the technique by which stenotic arteries are enlarged through inflation of a tiny balloon on the tip of a catheter (Greek plassein: "to mold"). The word **plastic** derives from the same Greek source.]

The **Golgi** complex or apparatus is a cytoplasmic organelle, which lies near the cell nucleus, manufactures lysosome, and stores hormones within its secretory granules. It is named for **Camillo Golgi**, an Italian histologist. Golgi also developed the silver nitrate method of staining nerve cells (now called Golgi cells), which ultimately led to the birth of a new medical specialty: neurology.

Milkman's Syndrome, spontaneous, symmetrical pseudofractures, was reported in 1930 by Louis Arthur Milkman, a radiologist from Scranton, Pennsylvania. The syndrome was first described by a Swiss physician, Emil Looser. Therefore, the lesions are occasionally referred to as Looser Zones.

**Baker's Cyst**—like Milkman's Syndrome—is totally unrelated to the food industry. The disorder is named for **William Morrant Baker**, an English surgeon who operated at St. Bartholomew's Hospital, and for many years was **Sir James Paget's** assistant. Baker described the syndrome of herniated popliteal bursa in 1877. (Paget is familiar to us because of the bone disorder—osteitis deformans which he described in 1877. He also described an eczematoid lesion of the nipples, occasionally seen in ductal carcinoma.) St. Bartholomew's Hospital is named for Saint Bartholomew, one of the Twelve Apostles. The name means "son of Tolmai," deriving from Hebrew *bar*, "son of." Those who work there affectionately know the hospital as "St. Bart's." (Incidentally, **Bart's Hemoglobin**, an abnormal hemoglobin having four gamma chains, is named for St. Bartholomew's Hospital where it was first detected.)

Negri bodies are not black. They are spherical or ovoid eosinophilic inclusions, which are located within the cytoplasm of nerve cells. These inclusion bodies are pathognomonic of rabies, and were first observed in 1903 by Adelchi Negri, an Italian physician. Negri had been Golgi's assistant, but quickly rose to full professor of bacteriology at the University of Pavi. His research material consisted of dogs, rabbits, and cats, which had been infected with a rabies street virus; a few lab-infected animals; and one human, a sixty-four-yearold woman who had died of a rabid dog bite. Unfortunately, science did not have this gifted investigator for very long. Six years after marrying his colleague Lina Luzzani, Negri died of pulmonary tuberculosis at age thirty-six.

Bacteria are characterized by gram positive or gram-negative staining. This technique was discovered by Hans Christian Joachim Gram, a postgraduate student working with Carl Friedlander. One morning, Gram accidentally spilled Lugol's iodine solution over a bacterial slide. In attempting to wash it off with alcohol, Gram made his momentous discovery. Lugol's Solution, a mixture of 5 percent iodine plus 10 percent potassium iodide, was initially used to treat pulmonary tuberculosis by Jean Guillaume Auguste Lugol. It was not effective, but was thereafter successfully applied to the treatment of thyrotoxicosis by Henry Stanley Plummer, a physician at the Mayo Clinic. Plummer, of course, had nothing to do with Watergate.

He was half the team of the **Plummer—Vinson Syndrome**, which consists of dysphagia and glossitis and is found in iron deficient, middle-aged women.

In 1951, Dr. George Gey of Johns Hopkins University established a cell culture from a patient with cervical carcinoma. Today, descendants of that cell line may be found in laboratories all over the world. They are used as a viral culture medium, and are known as **hela cells**—an acronym for the patient from whom they were initially derived—<u>Henrietta Lacks</u>.

In 1943, a young girl named **Margaret Tracy** fractured her leg. It was a severe compound fracture, which understandably became infected. Cultures taken from the wound grew a gram positive, spore-forming rod. A polypeptide was isolated from that organism and discovered to be, curiously and almost improbably, an antimicrobial substance. The organism which had produced this biological paradox, was *Bacillus subtilis*. It became known as the Tracy I strain in honor of its immediate host (or hostess), and the antibiotic, which was derived from that culture, was logically named **Bacitracin**.

Other patients have contributed their names to eponymic history. In 1952, Dr. Rosemary Biggs and her associates from Oxford, England, reported a new hemorrhagic disorder. It resembled classic hemophilia, and was also an autosomal, sexlinked recessive illness. The description was published in *The British Medical Journal* under the title, "Christmas Disease: A Condition Previously Mistaken for Haemophilia." The etiology of this genetic illness is currently understood to be a deficiency of factor IX. The disease itself was named for the youngest patient in Dr. Biggs' series of seven cases: **Stephen Christmas**.

In the same way, factor XII was named **Hageman** Factor and factor X **Stuart-Prower** Factor—each for patients with those specific deficiencies. **Friedlander**, mentioned above, deserves some recognition for the bacterium he described in 1882, **Friedlander's bacillus**. Today we refer to it as *Klebsiella pneumoniae*. Its genus name is derived from another outstanding bacteriologist, **Theodor Albrecht Edwin Klebs**, who is also remembered for his discovery (with **Friederich Loeffler**) of the **Klebs-Loeffler** bacillus, *Corynebacterium diphtheriae* (Greek *koryne*, "club," + *bakterion*, "little rod" [i.e., club-shaped rods], and Greek *dipthera*, "membrane," referring to the pseudomembranous web that is found in the pharynx of diphtheria patients.).

The term **bacillus** derives from Latin *baculus*—"a small staff or rod"—and is synonymous with the Greek *bakterion*. The genus *Spirillum* also comes from Latin *spira*—"a coil"—as in the word **spiral**. The cocci originate from *kokkus*, which is Greek for "grain or kernel" (a name given to these unique organisms in 1874 by **Theodore Billroth**, the father of modern abdominal surgery). (Billroth was a very close friend of **Johannes Brahms**—who frequently invited Billroth to appear as guest conductor for the Zurich Symphony Orchestra.)

The **Staphylococcus** descends from Greek *staphyle*, "a bunch of grapes." The **Streptococcus** is obtained from the Greek *streptos*, "twisted, as in a necklace or chain." However, the **gonococcus** exposes an error in medical lexicography. *Gone* is the Greek word for "seed" (e.g., **gonad**). Originally, it was mistakenly presumed that the urethral discharge in **gonorrhea** was due to the efflux of semen. We now know that it is a muco-purulent inflammatory discharge.

(*Rheos* is Greek for "flow." Thus gonorrhea was a "flowing of seed, or semen." The **gonococcus** was therefore as mistakenly named as the disease that it causes.) *Rheos*, of course, may be found in countless words, such as **leukorrhea** (Greek *leukos*: "white"), **seborrhea** (Latin *sebum*: "tallow or fat"), and **galactorrhea** (Greek *galaktos*: "milk." This is also the root of the term **galaxy**, which originally referred to our collection of local stars, the "Milky Way"). *Rheos* may also be found in **dysmenorrhea** (Greek *dys*, "abnormal, difficult, or painful," + *mensis*, Latin meaning "month"), **pyorrhea** (Greek *pyon*: "pus"), **rhinorrhea** (Greek *keras*: "horny," as in **keratin**. Therefore, one might call this disagreeable animal a "horny nose."), and **logorrhea** (Greek *logos*: "word," as in a "diarrhea of words," something with which a constipation of ideas is occasionally associated).

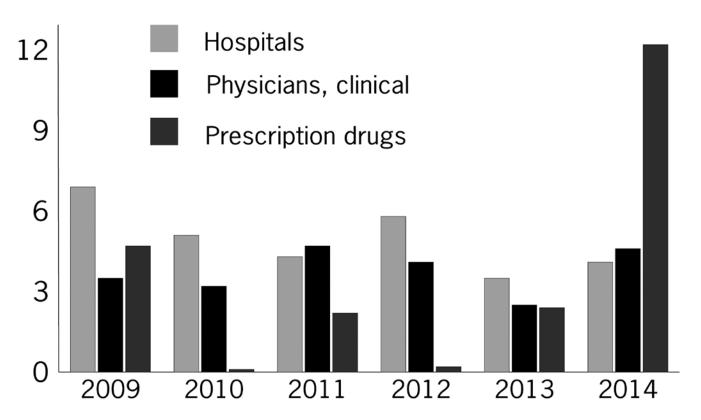
The term **menses** comes directly from the Latin for month (menses are often referred to as "the monthlies"). **Month** derives from moon and refers to the period of one lunar cycle. One may find this relationship hidden within the expression "honeymoon." In early England, it was customary for the newlyweds to share a glassful of mead or honey wine each night for the first month of marriage. Thus, the harmony of their nuptials might be initiated and indelibly impressed on the marriage. In Italian, it is called *luna di miele*: "month of sweetness."

It is, therefore, the "honey month." Or perhaps the honeymoonth.





### Percentage growth in health spending by category



Source: CMS Office of the Actuary; Modern Healthcare graphic.

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