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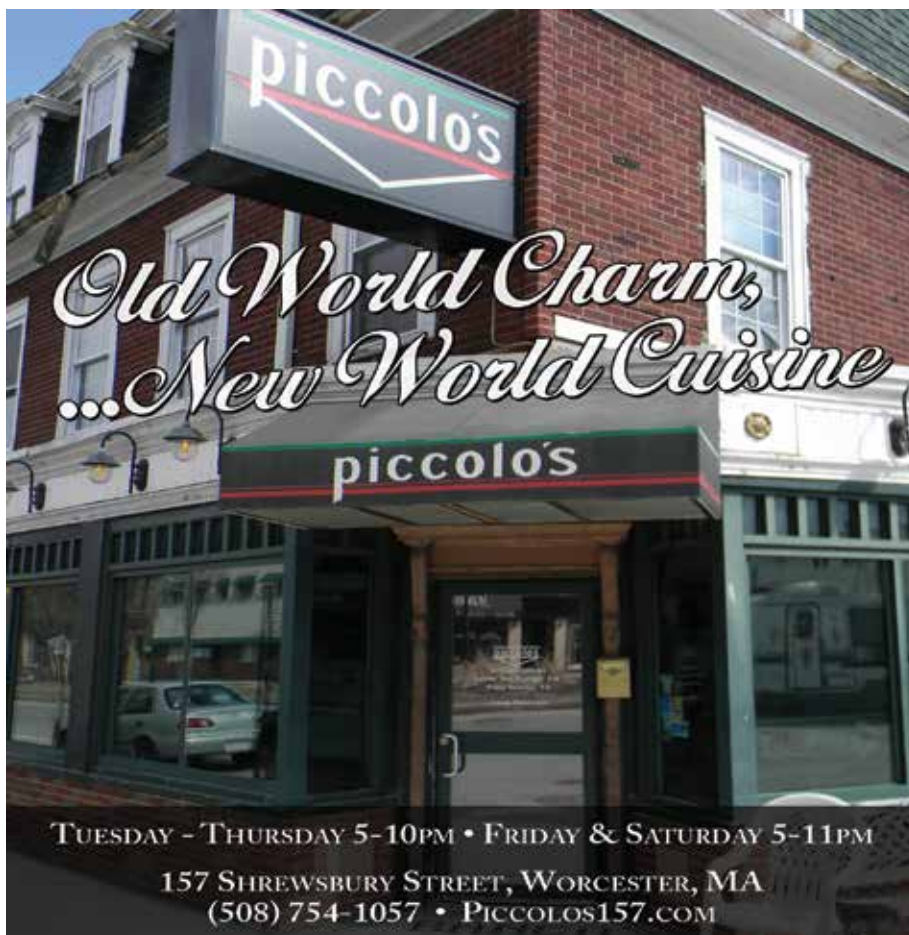
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The views expressed in the individual articles in this issue of Worcester Medicine are the views of the authors only and do not reflect the opinions of the Worcester District Medical Society. The Worcester District Medical Society is not endorsing any candidate in the 2016 elections.

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Editorial

Jane Lochrie, MD



Jane Lochrie, MD

On Nov. 8, 2016, we will go to the polls and elect the 58th President of the United States. Though there are many critical issues to consider, including the economy, terrorism, foreign policy and immigration, we decided to focus this issue of *Worcester Medicine* on how the election will influence health care. No matter who wins the election, the president will have to deal with the future of Obamacare, the rising cost of health care and reforming Medicare.

For well over a decade, health care has been a hotly debated partisan issue in American politics. It is one of the top five voting issues in this campaign, with 75 percent of voters stating that this will be a very important factor influencing their vote.

The contents of this publication are not necessarily the opinions of the Worcester District Medical Society, and the society is not trying to influence anyone's vote.

In the first article, U.S. Sen. Elizabeth Warren relates how important National Institutes of Health (NIH) is to the overall health of the American people and the world. She calls it "the crown jewel of government-supported medical research around the world." Unfortunately, funding has been cut over the past several years, and recently, nine out of 11 grants were not supported.

This fall, Massachusetts voters will be deciding on the legalization of recreational marijuana. State Rep. Hannah Kane reports that the proposed ballot question places no limit on the number of "pot shops" in the state. Question 4 authorizes edible marijuana products that will attract children, such as cookies and candy. She opines that states that have legalized

marijuana saw a dramatic increase in teen addition, impaired driving and accidental ingestions by children.

Chancellor Collins states that this election will shape many critical societal issues, including the future of the Affordable Care Act, research and education, NIH funding, the decrease in primary care physicians and the veterans' health care system. This election is a priority for all.

William Gaines, MD, a primary care physician at Reliant Medical Group, gives an incredibly thoughtful look at the candidates and compares and contrasts their position on health care, their experience, temperament and preparedness. He maintains that this election will have a profound implication for the future health care delivery of our country.

The historical perspective of the way health care is linked to politics is described by Kenneth Peterson, Ph.D., FNP-BC. Almost a century ago, President Roosevelt campaigned for national universal health care. Since that time, political leaders have had a profound impact on health care. The delivery of health care has a powerful control over social policy. Serious gaps in health occur for those near or at poverty level. He affirms that health is a human right and that it is imperative that our future president upholds International Human Rights Law and the principles of social justice.

As always, the medical students give a unique perspective to the issue. Chris Androski gives a humorous account of his meeting with the candidates. He compares a visit to his mechanic to a visit to a physician. His conclusion is that our health care system is too complex and, unfortunately, it is the patient who is paying the price.

Jason Yang notes that there is no required course on health care systems in the medical school curriculum. Fortunately, he took an elective course at UMass and concludes the emphasis should be placed on public health efforts, increasing the efficiency of the electronic medical records and protecting patient information.

As always, please enjoy Society Snippets, As I See It and Legal Consult.

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Building a Stronger Future Through Research

U.S. Senator Elizabeth Warren



Sen. Elizabeth Warren

Voters going to the polls this November face a stark choice about the direction America is headed. Will we be a country that only works for the wealthy and well-connected? Or will we be a country that works to build a future for all of our families? There are a lot of critical issues for voters to consider, but it's important to take a close look at one key part of how we build a stronger future: improving federal investments in scientific research.

Investing in research is powerfully important because it paves the way for new knowledge and innovative breakthroughs. Federally funded research also yields tremendous economic benefits: For every dollar we invest in the National

Institutes of Health (NIH), more than \$2 is returned to the economy.¹

Medical research saves lives – and it saves money. Take just one example: Alzheimer's. This year, our country is expected to spend a collective \$236 billion caring for people with Alzheimer's.² We have nothing to offer, no cure, no treatment, no way to slow it down. With an aging population, costs spent on Alzheimer's are growing fast, and the long-term projections spell bankruptcy for this country unless we have a breakthrough in medical research. So how much was NIH able to spend this year on Alzheimer's? Less than half of one percent of what we spent on care.³ This is deeply wrong.

The NIH is the crown jewel of government-supported medical research around the world. The agency supports the work of more than 300,000 researchers – including 145 Nobel Prize winners⁴ – at more than 2,500 universities, medical schools and other institutions.⁵ And Massachusetts receives more NIH funding per capita than any other state in the nation.⁶ These funds help to foster the growth of great health care ideas and inventions, which in turn have led to spin-off companies in Massachusetts that generate jobs, growth and new medical products that reduce suffering and save lives.⁷ In short, the NIH helps Massachusetts make our state – and the world – a healthier and more prosperous place.

Historically, members on both sides of the aisle in Congress understood the relationship between research investments and innovation. They made sure that the federal government made steady increases in research investments; between 1971 and 1998, after adjusting for inflation, federal research funding increased about 3.3 percent per year.⁸ In the late 1990s, a bipartisan push doubled funding for the NIH. But a little over a decade ago, that progress slowly reversed as Congress started chipping away at research funding. The result? Adjusted for inflation, Congress's investment in NIH over the past dozen years has been cut by 20 percent.⁹

Congress's decade-long decimation of support for the NIH has done damage that will reverberate for decades to come. Because of underfunding, nine out of 11 grant applications don't get funded in 2014¹⁰ – one of the highest rejection levels in NIH history.¹¹ And lower levels of research support means less risk-taking and, ultimately, fewer groundbreaking discoveries.

What life-saving discoveries have we missed out on because of this decade-long decline in research support? Could one of the promising proposals rejected by the NIH over the last decade have led to the discovery of a new treatment to cure a now-incurable cancer? How many Massachusetts bio-tech startups didn't get off the ground because the basic research to support them was never funded?

We're losing ground quickly – and we need to act. The NIH needs a sustainable funding mechanism and steady growth. That's why I've joined Democrats on the Senate Health, Education, Labor and Pensions (HELP) Committee to demand that any package of medical innovation bills includes significant new funding for the NIH. Republicans in the Senate say they support the NIH – but words don't turn medical research into a funding priority. Congress must make a real commitment to funding research today.

Medical research shouldn't be dragged into the tired old Washington fights about tax-and-spend or used as a pawn to force cuts to other vital investments in early education, nutrition programs or meals for seniors. We can't pit a family with a child fighting cancer against a family trying to put food on the table each night. We can't ask seniors to choose between advances in Alzheimer's treatment and a hot meal each day.

It's up to all of us to stand up and fight back. That means asking candidates for federal office to commit to supporting increased research funding. It means reaching out to your elected officials to help educate them about how NIH funding leads to tomorrow's cures. And please visit www.warren.senate.gov/nihfunding/ to share your stories about the importance of medical research and to join us in the fight for more NIH funding.

How we spend our money must align with our values, and a top priority for this country must be to invest in life-saving medical research. That's how we will build a stronger future for ourselves and for our kids.

Senator Elizabeth Warren serves as the senior United States senator from Massachusetts.

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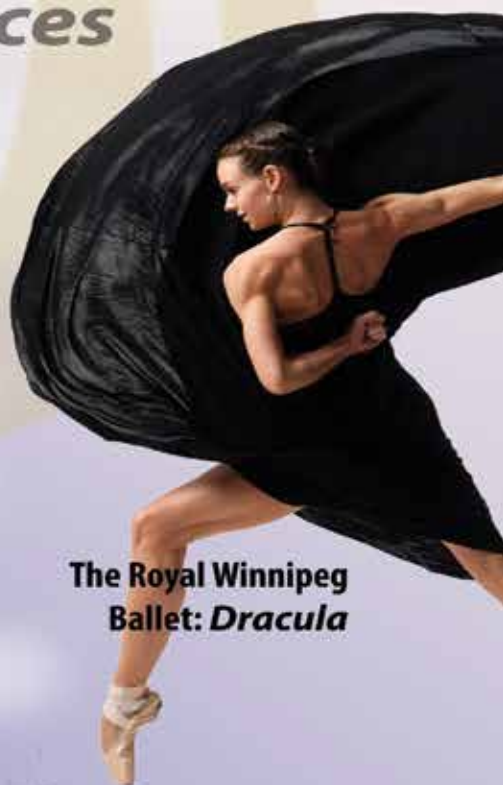
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Question 4: Health and Wellness Concerns in Legalizing Recreational Marijuana

State Representative Hannah Kane



Rep. Hannah Kane

This fall, Massachusetts voters will be faced with an important choice. They will choose whether they believe now is the time to allow a new, billion-dollar commercial marijuana industry into Massachusetts to market and sell its products, including dangerous edible products, to our families. That is the essence of Question 4.

We know that if this ballot question passes, there will be serious consequences for the health of all Massachusetts residents. It also will have a direct impact on the medical community, particularly as we grapple with the ongoing opiate crisis.

There are not many issues that can bring such a broad coalition together, but the potential legalization of the commercial marijuana industry is one of them.

The coalition to oppose Question 4 already consists of a bi-partisan group of elected leaders – including Governor Charlie Baker, Lieutenant Governor Karyn Polito, Boston Mayor Marty Walsh and Speaker Robert DeLeo – from every region of this state. Just as importantly, a strong coalition of community activists, business leaders, anti-addiction specialists, public safety leaders and medical professionals also are lending their voices to oppose Question 4. Among the medical/health care associations opposing Question 4 are: the Massachusetts Hospital Association, the National Association of Mental Illness (Massachusetts Chapter), the Conference for Boston Teaching Hospitals, Association for Behavioral Healthcare, the MA Chapter of the American Academy of Pediatrics, American Nurse Association Massachusetts and the Massachusetts Medical Society.

There are many reasons why this ballot question will put Massachusetts on a wrong path. This proposed law was written by the marijuana industry and sets no limits on the number of pot shops in the state. In Colorado, that has resulted in more marijuana businesses than McDonalds, 7-Elevens and Starbucks combined. It will create a new black market by allowing individuals to grow thousands of dollars of marijuana in their homes, even over the objections of their neighbors. And in states that have legalized, we have seen the marijuana industry particularly target poor communities and also have seen racial disparities in arrest rates widen, particularly among juveniles.

For the medical professionals reading this publication, however, we wanted to focus on the serious health consequences that will result if Question 4 passes. These consequences will have a direct impact on your patients, your profession and all of our families.

Ushering in the edible industry

One of the biggest sea changes of allowing the commercial marijuana industry into Massachusetts will be the creation of the lucrative, and dangerous, edible market. Question 4 specifically authorizes marijuana edible products like candy, gummy bears, cookies and “cannabis cola” to be sold in Massachusetts. These edibles are now a huge part of the marijuana industry’s profit model, accounting for approximately 50 percent of marijuana sales in Colorado, and that number is growing. These products are highly potent and can have THC levels reaching as high as 90 percent (traditional joints currently have THC of around 17 percent to 18 percent).

These products are also attractive to our youth and have a serious risk for accidental ingestion by children and pets. Doctors at Children’s Hospital Denver reported that after legalization, the ER began treating one to two kids a month for accidental marijuana ingestion, mostly in the form of edibles. Prior to legalization, they reported none. As an example, in 2014, a 2-year-old girl from Longmont, Colo., was sent to the hospital after accidentally eating a marijuana cookie she found in front of her apartment building.

Youth addiction

The industry has tried to claim that marijuana is a “benign plant.” Medical professionals know that pot is anything but benign. According to studies by the National Academy of Sciences and other organizations, marijuana use by adolescents can impair brain development, impact long-term career growth and even lower IQ. We also know that it is highly addictive. One in six people who begin marijuana use as an adolescent become addicted.

That is why it is so troubling that, according to the National Substance Abuse and Mental Health Service Administration, Colorado has become the No. 1 state in teen marijuana use since legalization. The long-term health implications of that reality will be felt for years in that state. Why would we even risk that potential here in Massachusetts?

Impaired Driving

We also know that states that have legalized commercial marijuana have seen a dramatic increase in impaired driving fatalities. In Washington State, they saw the number of fatal car crashes involving marijuana double in just one year since legalization.

Putting our work combatting the opiate crisis at risk

As every medical professional reading this publication knows, we are in the midst of the worst addiction crisis in generations. Families are grappling with the realities of addiction, and our medical and recovery communities are stretched to capacity. Why would we risk introducing a billion-dollar industry focused on the marketing and selling of another addictive drug at this time?

We are not even talking about the gateway drug argument here – there are medical opinions on both sides of that issue. But at a time when we are trying to convince our kids about the dangers of addictive drugs, it is an inherently mixed message to simultaneously allow an industry to come in and promote THC-infused gummy bears and snacks. As Gov. Baker has said, now is not the right time to introduce this major new challenge to our families, our recovery specialists and our medical community. Let’s handle one challenge at a time and, at the very least, hit the pause button on commercial marijuana.

When we formed our committee to oppose Question 4, we chose to name it the “Campaign for a Safe and Healthy Massachusetts.” That is because we knew that there would be significant health consequences to bringing the commercial marijuana industry into Massachusetts. More important than that, medical professionals who are directly dealing with patients and families every day understand what those serious consequences would be.

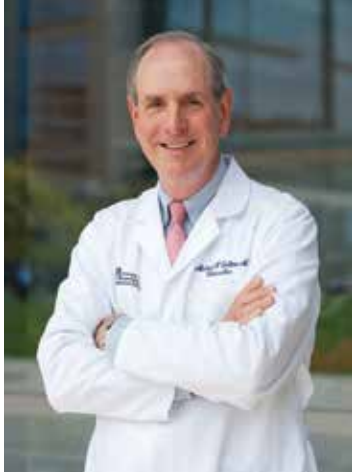
As you consider this issue, we respectfully ask for you to lend your voice to our coalition opposing the commercial marijuana industry in Massachusetts. And then we hope that voters will make the right choice in November and vote No on Question 4.

For more information, please visit <http://www.safeandhealthyma.com/> or on twitter at @safehealthyma

Hannah Kane is a state representative for the 11th Worcester District, a member of the Joint Committee on Public Health and a Steering Committee member of the Campaign for a Safe and Healthy Massachusetts

The Election Conversation We Should Be Having

Michael F. Collins, MD



Michael F. Collins, MD

As the nation marches toward Election Day, in the midst of a presidential campaign unlike any in our history, many leaders of academic health sciences universities cannot help but notice all that is missing from our national conversation. The news headlines grow more unpredictable and stunning by the day, but as an electorate, we seem to be losing sight of the consequential issues of health care and scientific research. There is little question that the future pathways of these critical societal issues will be shaped by the outcome of November's vote.

A case in point: Six years after the Affordable Care Act (ACA) was signed into law, the nation's health care providers are steadily making the transition from fee-for-service to focus on population-based and patient-centered care, from volume to value. Yet, absent from this summer's political conventions was any discussion of the next steps we should be taking with health reform. Given the complexity of the American health care system, neither answers nor consensus is easily found, but that is precisely why voters should be afforded clear explanations and robust debate about each candidate's plans for the future of our nation's health care system.

A recent study in *JAMA Internal Medicine*¹ concluded that while the ACA may not yet have realized dramatic cost savings, evidence shows that it has reduced the number of uninsured Americans by 20 million, lowered medical debt and encouraged patients to receive preventative primary care rather than frequenting emergency rooms for episodic care. Voters this November could determine whether these benefits and initiatives are maintained, eliminated or changed to something altogether different.

There are still major issues confronting the health care system. In some states, insurance exchanges are faltering. Private insurers are becoming increasingly reluctant to offer coverage to individuals who are not in larger risk pools. The nation is in need of increased numbers of primary care clinicians, but their remuneration is far below that of physicians in specialties. Medical student debt levels impact specialty choice. The number of available match slots is inadequate to provide a residency placement for each American medical graduate. These and many other challenging issues will be facing the new administration come January.

Next, consider NIH funding of scientific – in this case, biomedical – research. Both in real dollars and in buying power, the federal investment in new discoveries and cures is not keeping pace. This means fewer projects are funded and scientists must spend more time applying for and revising grants rather than pursuing their research. In our global economy, our nation does itself a disservice to lose sight of the value that foreign countries place on investments in research. As Rep. Jim McGovern shared in his 2014 commencement address² at the Medical School, researchers have visited his Washington, D.C. office to tell him that Singapore was offering more

enticing support for their research than is available in the United States. China, he said at the time, was increasing spending on medical research by 67 percent; South Korea by 24 percent; India by 15 percent.

This gap is especially painful because technological innovations have accelerated the pace of discovery, making this precisely the time when a more significant investment of federal dollars in biomedical research would go further and deliver the greatest benefit. Future generations may pay the price for our collective failure to take advantage of these timely and worthwhile opportunities.

More immediately, our generation has an opportunity to invest in one of the most dynamic sectors of the national economy – research and education. At a health sciences university such as ours, there is a real economic multiplier derived from biomedical research. Every \$1 invested by the National Institutes of Health (NIH) yields \$2 in local economic impact.³ Increasing the NIH budget is not only a wise and prudent expenditure of taxpayer dollars, but it will increase our understanding of health, disease and their scientific underpinnings. In our Commonwealth, known for a life sciences ecosystem that is the envy of the world, investing in research fuels our economic engine.

During the 1992 presidential campaign, the still-familiar phrase, “It’s the economy, stupid,” was coined by campaign strategist James Carville and became a glib way of emphasizing a universal concern that might motivate voters to cast their ballot. In 2016, it should be understood that the ways in which the new president analyzes the opportunities and risks of health and science-related funding will impact our society well into the future.

So, too, we should focus on substantive ideas to take better care of the women and men who have served our country in the Armed Forces. The Veterans Affairs health care system is nearly buckling under the weight of caring for two generations of heroes with disparate needs – the aging Vietnam generation and those who served in Iraq and Afghanistan. These veterans face myriad, complex health challenges and, without adequate care, face the risk of squandering their potential to live healthy and productive lives for the next half century. Creative possibilities exist to partner with the VA to improve the care our veterans receive. Whoever is elected will need to place veterans over bureaucracy to make the VA a provider of choice for all who rely upon it. Surely, the quality of their lives is deserving of thoughtful consideration.

It comes down to this: If investing in the people who will make new discoveries, care for patients and develop treatments for some of the most intractable diseases and public health challenges of our day – the outcomes of which will benefit millions, regardless of gender, race or beliefs – is not a priority for our electorate, then what is? It must be a priority for all.

Michael F. Collins, MD, is the chancellor of University of Massachusetts Medical School and senior vice president of Health Sciences at the University of Massachusetts.

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Really Putting America First

William Gaines, MD



William Gaines, MD

The outcome of the next presidential election will have profound implications for the future of our commonwealth and our country. How it will affect health care delivery in Massachusetts isn't one of them. How it will affect the health of our country is. Why?

In 2006, Governor Mitt Romney signed into Massachusetts law "an Act Providing Access to Affordable, Quality, Accountable Health Care," which later came to be called "RomneyCare." Four years later, President Barak Obama signed into federal law the "Patient Protection and Affordable Care Act," otherwise known as "ObamaCare." The goal of both laws was to provide health insurance to nearly all residents while leaving the existing health insurance industry intact. Both laws require individuals above a certain

income level to purchase health insurance (and employers to offer it), so as to broaden the insurance pool and, in turn, eliminate "pre-existing health conditions" as an obstacle to obtaining health insurance.

As one of the cornerstones of his campaign, Donald Trump has repeatedly made it clear that "on day No. 1" of his presidency he would move to repeal ObamaCare. Although damaging to the millions of Americans outside of Massachusetts, who would presumably lose the health insurance that they gained under ObamaCare, repeal would likely have little direct impact in Massachusetts, where Gov. Charlie Baker and the legislature – not supporters of Mr. Trump – would likely amend RomneyCare so as to maintain the status quo. Other than for promises to increase competition in the health insurance market, Mr. Trump has not offered an alternative plan for improving access to health care.

Conversely, Hillary Clinton has made it crystal clear that she supports the goals and objectives of ObamaCare and would seek not only to maintain it, but strengthen, broaden and improve it.

Access to mainstream medicine, however, does not meet everyone's needs. Some people seek out "alternative health care providers" when they don't feel that their problems are being adequately addressed. Oftentimes, the problems involve chronic pain, fatigue or malaise, for which mainstream medicine does not – yet – offer a straightforward, evidence-based diagnostic or therapeutic answer. At other times, the patient is confronted with a catastrophic illness, for which there are no "great" treatment options. Into this frequently unregulated "gap" can step innumerable providers of alternative care, with many different motivations, competencies and standards. Sometimes, the care is helpful; oftentimes, it is not; and occasionally, it is dangerous.

In an analogous and broader sense, many Americans in 2016 don't feel that the country "is on the right track." They don't feel safe. Things feel "out of control." Terrorist attacks occur throughout the world with frightening regularity, while there are very real and damaging civil and racial divisions here at home. Fundamental social, economic and religious understandings about "how things are and ought to be" seem to be constantly under threat and ever-changing. Poverty and strife throughout the world have created large numbers of migrants and refugees, many of whom want to come to the U.S., while at the very same time, dangerous demagogues, claiming to fight "in the name of Islam," have attacked, and continue to seek to attack,

the very same U.S. George W. Bush didn't "fix it." Barack Obama hasn't "fixed it."

Into the breach has stepped Donald Trump as the "alternative candidate," validating people's fears and providing "common sense and obvious" explanations as to "why things are the way they are," while prescribing equally "straightforward" (but "tough") solutions. Rather than having spent a lifetime studying and working in the field of politics and statecraft, he has promoted himself as a billionaire businessman who has made his fortune by being smarter and sharper than others. He presents himself as a "strongman" who knows how to apply "common sense" solutions to "fix problems" by getting "the best and smartest people" to tackle them. His open and unedited style generated such a tremendous and unexpected appeal in the Republican Party primaries, he serially vanquished all of the "traditional" Republican Party candidates.

In reality, Jeb Bush's reference to Donald Trump as "the chaos candidate" sums up what this country and the world can expect from a President Trump. Mr. Trump's campaign has reflected elements of the "birther bigotry," with which he previously targeted President Obama, by stoking anti-Muslim and Mexican xenophobia and often expressing hostility towards African Americans, while his narcissism is so extraordinary that he appears unfazed by his total lack of knowledge and experience in national and world affairs. Whether Mr. Trump knows it or not, believes it or not, or cares or not, his trumpeting of "America First" and "Make America Great Again" has the potential to unleash the darkest forces in human nature, tearing at the fabric of our democracy as ethnic, religious, racial, gender (and other) groups inevitably become pitted against each other. His is a "zero sum game," in which there are "winners" (he and whomever he designates) and "losers" (those that he bullies, castigates and dehumanizes).

In contrast, Hillary Clinton, despite being the first female major party candidate for the American presidency, is the ultimate "mainstream" candidate. Unfortunately, her career has been colored by a long-standing history of political and personal "opportunism," having often put self-interest ahead of "doing the right thing" (admittedly, not an uncommon trait in successful politicians). The recent email private server scandal is a perfect example: careless, selfish and "wrong," followed by a series of dissembling explanations, but not technically illegal. She is far-from-perfect, and yet, she is extremely bright, informed, competent and experienced; has spent decades in public service; and understands as well as anyone the dangers and hazards confronting our country and the world. She has an extensive understanding of policy, people, nuance and complexity and has consistently given voice to a belief in "equal rights for all."

Donald Trump and his administration would pose threats to:

- American democracy as we know it, or
- Human rights, or
- Domestic policy (including civil rights and health care), or
- Immigration policy, or
- Trade policy, or
- Foreign policy, or
- Environmental and climate change policy.

Donald Trump poses the greatest danger to the health and well-being of the American and world "body politic" of any major party American presidential candidate in our lifetime.

As imperfect as she may be, when evaluated by measures of intelligence, temperament, maturity and preparedness, Hillary Clinton is in a far better position to lead America forward in these troubled and complex times. She has my vote.

William Gaines, MD, is the Internal Medicine Site Chief at Reliant Medical Group in Auburn and an instructor in medicine at UMass Medical School.

Presidential Penny for Your Thoughts?

Kenneth Peterson, Ph.D., FNP-BC



Kenneth Peterson, Ph.D., FNP-BC

Deciding on a candidate in the United States Presidential Election is a concrete task, yet challenging and controversial for many. Have you ever wondered if, and to what extent, people consider the candidate's views on health and health care as they cast their vote on Election Day? Have you ever considered whether your concerns regarding health in our nation are consistent with the presidential candidates? Will the new president take a stand on health issues here and throughout the world that are aligned with your values? What questions should be percolating in our minds as we consider formalizing our perspectives on what matters most in achieving better health for the citizens of this country and for determining the best candidate to accomplish the job.

Although there are numerous elements to consider when electing a

president, one – who has the capacity and desire to improve health and health care – is of interest to many. The selection of this individual should and must be influenced by what positions he or she takes on important health matters and what priority he or she places in developing and promoting a health care platform for impacting national and global health. When considering the candidates health care platforms, appreciation for the following three points is warranted: (1) Health care is inexplicably linked to politics; (2) Health care and its delivery are the subject of social policy; (3) Health, and the management of it, are perceived as commodities and not as human rights.

Health care is inexplicably linked to politics.

Political leadership is a key driver for health in the U.S. The association dates back to nearly a century ago, with the work of President Roosevelt and his re-election campaign strategy plan for national universal health care coverage. During that time, costs linked with illness, injury and medical care, in the context of a rapidly evolving industrial movement and expanding labor force, became challenging for many. The idea that the government could offer benefits to ensure financial cost protection around health and illness for citizens became a powerful entity, but privatization of this social welfare function occurred. This idea of universal health care coverage continues to reign, and the political power associated with it is now very significant.

The policy decisions our political leaders make have a profound impact on our citizen's health. The Medicare Part D coverage gap, or "donut hole," is a great example. Influential politics were involved in creating a prescription drug program to defray spending costs for the government and Medicare beneficiaries. Unfortunately, good intentions turned bad and special interests were introduced. The financial burden ended up on the backs of the elderly and disabled.

The affects of pesticide chemical use in agriculture or the overuse of antibiotics in animal feeding for food production can lead to poor health and the potential for antimicrobial resistance.^{1,2} Political apathy on the influences and effects of climate change has the potential for serious global health impact.³ Policies that dictate control over a woman's right to reproductive freedom or those that limit funding of programs that support women and children have serious impacts on health.⁴ As is often said, all policy is health policy.

Whose interests are at stake? Who gets the better bargain? Does (will) your candidate (and his/her party) use their political power to significantly influence health for all?

Health care and its delivery are the subject of social policy.

Appreciating health care and its delivery in the context of social policy places emphasis on our social welfare practices. These practices are known to be unsatisfactory, given an abundance of empirical data that supports higher rates of health disparities for certain diverse groups of individuals in the U.S.⁵ Serious gaps in health occur for those whose incomes are near or below the poverty level.⁶ Those individuals who have substandard housing, inadequate nutrition or who live with poor sanitation conditions will likely incur disproportionate rates of chronic illness and communicable disease.⁷ Children who are raised in family environments that manifest parental neglect, violence or high stress may experience developmental delay and endure a lifetime of psychological and psychiatric illness.⁸ Individuals who receive limited or no quality educational opportunities are at increased risk for poor health due to potential future economic deprivation, as well as higher rates of health disparity for violence, injury and substance use.⁹

Does your candidate's political discourse reflect an understanding of the social and structural determinants of health?

Health in the United States, and the management of it, are often perceived as commodities and not as human rights.

Health is a human right. Health care should not be seen as a commodity in which its receipt is reserved for a deserving few. For our outcomes to improve and best practices to thrive, our health and fiscal policies should be framed with principles of distributive justice at the core. This is a particularly important perspective for presidential candidates. Health inequity in the U.S. is increasing. A predicted rise in rates of poverty is sure to worsen the problem. It is imperative that our future president upholds International Human Rights Law and makes certain that all policies are inclusive of principles of social justice.

Will your candidate promote and support social welfare policies that will improve the quality of life for ALL citizens?

Health and policy are uniquely linked, and politics is the mechanism that drives the process. To create a culture of health, we must remember that achieving health for all ultimately requires contributions and collaborations from all members of society. Political science theory suggests we think of ourselves as political agents for enhancing the scope of conflict.¹⁰ In this regard, we strive to alter the debate. If achieving health for all is our desired outcome, then we must become involved and vote for those who support our values; it is our social responsibility to be part of the decision-making process. Remember, your vote counts.

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Medicine and Automotive Maintenance: Small Talk with the Presidential Candidates

Chris Androski



Chris Androski

So ... I had the opportunity to sit down with the two presidential candidates over lunch the other day, and of course, after the introductions, we got to some small talk. We started talking about cars, and when the conversation came to me, I decided to tell them the story of my old, but awesome, 1997 Jeep Cherokee.

I've had this car for a close to five years, and throughout this time, my Jeep and my mechanic have become very well acquainted with one another. So much so, my mechanic dreads seeing me pull up in Chiefy. (Yes, I named my car Chiefy.)

I was driving early this past spring when I hit a newly minted pothole, fresh out of a New England winter. I hit it hard, but I was able to still drive, despite the grinding from the front of the car. The next day, I took it to my mechanic, and despite his disdain for this old car, he put his best foot forward, hoping to figure it all out.

At first, he had a good idea as to what the problem was, but just to be safe, he called his friend to take a look. His friend agreed with what my mechanic was thinking, but just to be positive, she decided to run some special tests... which had to be interpreted by another expert at the dealership. My mechanic thought it was a broken axle, his friend thought it was broken axle, and after the specialist reviewed the diagnostics, he, too, thought it was a broken axle. Luckily for me, it was not too bad of a break. My mechanic was able to fix it on his own, and old Chiefy was good as new, at least for the time being.

I told the candidates how happy I was to have my car back, and more importantly, it was running better than ever. The bill came a few days later, but unfortunately, one needs a Ph.D. in particle physics to understand what these bills are saying. Once my physicist friend and I were able to break it down, it came out to something like this:

- I had to pay my mechanic for his time spent evaluating, his time fixing, and unfortunately because my mechanic does not own the building he works in, I had to pay the owners for *allowing* me to bring my car in.
- I had to pay my mechanic's friend for her input, even though I never met her.
- I had to pay for the special tests she ordered from the test company, even though she instantly knew what was wrong.
- Finally, I had to pay the specialist at the dealership who read the tests. He literally never saw my car.

When I asked my mechanic what all this was about, he simply said that just is how it is.

At this point in my conversation with the candidates, one of them just began to laugh:

"That is so dumb!" he burst out. "Why did you let that happen!? That mechanic of yours is a joke! When I become president, I'm going to build big huge walls around people like this. I cannot believe you let that happen to you, but I'm here for you. I have friends, many friends, in the automobile business, and I will not let these people get away with this."

As soon as he finished, the other candidate joined in with just as much disdain:

"I am so, so sorry this happened to you," she said. "That is unfortunate, unfair and downright wrong for a middle-class individual like yourself. When I become president, we will stand up to bullies like this; we will not back down; and we will make sure these big companies stop profiting off the misfortunes of their consumers. When I get home, I'm going to email my friend, from my Gmail account, who works right here in Massachusetts. She will be on the case ASAP, and we will be sure to make this right for you."

Being the skeptic that I am, I had little hope that either of their acts would help very much with the costs of my car repair, but I was blown away by the fact that although they had drastically different ideas for how to fix the problem I was facing, they mutually AGREED that this was a problem!

Did you hear that? They agreed.

We can all agree that this is an absurd situation, and one we would not well tolerate with the trials and tribulations of old car care. Now, replace Chiefy with one of your parents' names and change the broken axle to a broken wrist. This unacceptable experience of fixing your car just became a daily occurrence in a primary care setting. Because of the distorting complexity of our health care system, we tolerate this ridiculousness every single day.

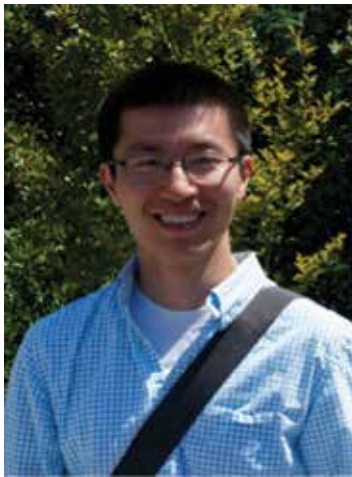
I firmly believe that pointing out problems without proposing a solution is nothing more than complaining, and while as a medical student I have my own ideas for improvement, I must admit that I do not have a definitive solution to this problem. At this point, I am complaining. The system is so complex, with so many parties competing for their own stake in the game, and the ultimate price is being paid by the patient. Maybe we need a president who has run businesses all his life to take a good hard look at our health care system? Maybe we need a politician who has built her career on social justice to stick up for our patient consumers? Maybe we just need to start from square one?

The candidates and I finished our meals and went on our ways. They got into their respective motorcades and took off to their next rally. I walked down the street to Chiefy, got in and started him up. Every time that engine turns over, I sigh in relief. I whispered to him, "Good Chiefy," and we were on our way. A mile into the drive home, the check engine light came on. Time to call the mechanic.

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How will the 2016 Presidential Election Impact Health Care?

Jason Yang, BA



Jason Yang, BA

“What do you think about Obamacare?”

When the Supreme Court debated about the Affordable Care Act (ACA) in 2012, the usual health-related questions that I received from family and friends became ones about the health care system. Since I couldn’t answer them with “You should probably see your doctor about that,” I ended up scrambling to string together words like “health care exchange,” “national RomneyCare” and “accountable care organization” into a semi-coherent response.

Unfortunately, I wasn’t alone. According to a 2012 study that surveyed more than 1,000 medical students, less than half indicated that

they understood the ACA, even though close to two-thirds responded that physicians should take part in implementing the ACA.¹ Perhaps this shouldn’t come as a surprise, since there is no required course on health care systems in the medical school curriculum. Fortunately, at UMass Medical School, I took advantage of an elective course, Understanding and Improving Our U.S. Health Care System, and a population health clerkship, Health Policy for the Uninsured, to learn about how the health care system worked on the national and state level. The knowledge that I gained from those classes and experiences gave me a foundation and sparked an interest in how we deliver health care. Now, four years later, the question has changed once more.

“Who is better for improving health care?”

After digging through campaign literature and articles, I found a common theme among the candidates vying for our votes this November. Hillary Clinton (Democrat), Donald Trump (Republican), Gary Johnson (Libertarian) and Jill Stein (Green Party) all drew their health care strategies around tackling the cost for consumers, and this was no coincidence, since Gallup polls peg the recovering economy as the top issue keeping voters up at night.² In July, President Obama said for the ACA to succeed, the government must gain the ability to negotiate prices for expensive drugs, fully implement alternative payment models and enhance competition in health care exchanges.³ Again, all of these proposals aim at reducing the cost for consumers. While cutting costs always resonates well with the electorate, the candidates should also consider other ways to bring better care to all.

Emphasis on public health efforts and increased EMR efficiency represent opportunities for improving American health care. In 2014, the Commonwealth Fund reminded us that the U.S. health care system still lagged significantly behind those of its peers.⁴ Specifically, the U.S. ranked last in “efficiency” and “healthy lives.” With the Center for Disease Control (CDC) reporting that more than 70 percent of American adults are overweight, coupled with the fact that being overweight is a risk factor for many diseases and health conditions, it is essential that we promote healthier lifestyles among Americans.⁵ While the CDC provides public health guidelines for state and local governments on promoting healthy lifestyles, little is known whether these programs exist or how successful they are.⁶ Reducing the number of Americans who are overweight can help prevent health conditions and diseases that will otherwise increase health care expenditure.

Technological innovation in digitizing recordkeeping has, more often than not, isolated clinical practices rather than connected them. Electronic Medical

Records (EMRs), originally hailed as a catalyst to increased efficiency, bog down physicians’ daily routines due to poor user interface and an inability to communicate with EMRs from competing developers. While solutions like Epic have a more integrated, friendlier user experience, their cost often prohibits smaller community clinics from deploying them. There must be policy changes that encourage standardization between the EMRs, so that they can more easily share information. This will enable a faster, smoother transition when the patient moves from one hospital to the next, allowing more time for caring for the patient and reducing the number of unnecessarily repeated tests and procedures.

Another issue looming over the health care industry is the inability to protect our patients’ information in the digital age. According to *PBS Newshour*, more than 113 million medical records were hacked from insurance companies and health care providers in 2015, and experts agreed that the health care industry trailed far behind others in terms of protection against data theft.⁷ Monetary compensation for data breach is costly, but the erosion of the trust between the health care professional and the patient costs even more. With the rise of mobile health technologies, patients turn to their smartphones to help manage their health conditions. A recent study showed that more than 80 percent of the 271 diabetes management apps on Google’s Android operating system lacked privacy policies, enabling the app developers to freely collect and share user data.⁸ The rise of these cybersecurity and privacy issues will dominate health care conversations and should be addressed as part of any future health care agenda.

According to the Brookings Institution, regardless of the winner this November, changes to the health care system will likely take a long time, resulting in only incremental progress.⁹ The report cautions that fundamental changes will be inhibited by the numerous stakeholders (i.e., insurers) involved and that the American public does not often welcome drastic changes with enthusiasm. Thus, out of the four candidates, Hillary Clinton’s plan to build on top of the ACA, rather than to overhaul it, represents the most logical choice. While reducing costs remains the main focus, public health efforts to decrease obesity and create better EMRs and stronger network security and privacy policies will also help improve health care. Finally, let’s not forget to encourage our current and future physicians-in-training to learn more about how the health care system works, so they may become instruments of change in the future. Looking ahead, health care in America will likely change many more times before I hang up my white coat, and I feel both humbled and excited at the opportunity to play a part in its evolution.

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A Macro Look at Macra

Peter J. Martin, Esq.



Peter J. Martin, Esq.

In the world of education, one result of regulators' desire to measure educational outcomes has sometimes been referred to as "teaching to the test," with teachers tailoring lessons to maximize their students' test scores. Under the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), a new Merit-based Incentive Payment System (MIPS) that ties points earned to changes in the Medicare physician fee schedule may have physicians and other clinicians "practicing to the points." It is an open question whether this new incentive scheme will actually foster quality and value in clinical practice, and at what cost.

A proposed MACRA rule was published in the spring of 2016 that lays out two paths Medicare-participating clinicians will be forced to take. One path is to participate in one form of an Alternative Payment Model. The government estimates that between 30,000 and 90,000 "eligible clinicians" (physicians, PAs, NPs, CRNAs and clinical nurse specialists) will participate in APMs in 2017. The other path is MIPS, in which eligible clinicians continue to be paid under the Medicare physician fee schedule, but with quality-related modifications. This will be the path taken by many more eligible clinicians, at least initially - the government estimates between 687,000 and 746,000 eligible clinicians will choose MIPS in 2017. The MACRA proposed rule is massive and complicated, and is subject to modification through the public comment process. A final rule is supposed to be issued by November of 2016. Given that complexity and the likelihood that the vast majority of practitioners will participate in MIPS, only a very general overview of MIPS can be provided in this article.

MIPS will create two groups of clinicians - those in APMS and those in MIPS. Some clinicians will be exempted from both systems - those with less than \$10,000 per year in Medicare charges and who have fewer than 100 assigned Medicare Part B beneficiaries; and clinicians who become Medicare-enrolled during a given "performance year" (the first of which is calendar year 2017). Those new clinicians will participate in the next subsequent performance year. Under MIPS, scores earned in 2017 will affect a clinician's Medicare reimbursements in 2019.

MIPS scores will be earned in four areas: quality; resource use; clinical practice improvement activities (CPIA); and advancing care information. Scores in these four areas will be aggregated into a composite performance score (CPS) which will in turn result in changes in a practitioner's reimbursement under the Medicare physician fee schedule that range from a possible 4% decrease to a possible 4% increase in 2019. The stakes will rise in subsequent years: by 2022, possible fee schedule changes based on MIPS scores will have a range of plus/minus 9%.

Scores in the four areas are weighted, so that in 2019, quality scores will count for 50% in reimbursement adjustments; resource use 10%, CPIA 15% and advancing care information 25%. By 2021, these weightings will

look much different - quality scores will decrease in relative importance to be equal to resource use scores (both at 30%) while the CPIA and advancing care information scores will retain the same proportions. The various measures within each category will also be modified over time. CMS will publish annually no later than November 1 a list of quality measures that will pertain to the subsequent performance year. A "Call for Quality Measures" will be made each year to update or replace quality measures. Those measures that have been "topped out" due to widespread and consistent compliance will be considered for removal. These changes, both within and between MIPS performance categories, will require practitioners or their advisers to constantly keep abreast of what measures are available, most meaningful, and have the greatest impact on Medicare reimbursement.

In the quality category, practitioners may choose from among a 47-page list of measures. Of these measures, they will be required to submit data on at least six measures, one of which must be "cross-cutting" and another of which must be an outcome measure. If there is no outcome measure available, the practitioner must choose to submit data on a quality measure deemed to be "high priority." For primary care physicians, some possible quality measures include: the percentage of over-65 patients with an advanced care plan in the medical record, the percentage of children with upper respiratory infection who were not prescribed an antibiotic within three days, or the percentage of older patients given a pneumonia vaccination. An example of a cross-cutting measure that is also an outcome measure might be the percentage of hypertension patients who had adequately controlled blood pressure. For any measure, practitioners must report on a minimum of 80% of their patients if using Medicare Part B claims; and 90% of their patients if reporting through an electronic health record system.

The second category, that of resource use, does not impose a reporting burden on clinicians, because these data will be derived from Medicare administrative claims data. This performance category will count 10% toward the CPS initially, rising to 30% in 2021. The data will pertain only to Medicare patients attributed to the clinician and to Part B claims related to a trigger event leading to a procedural episode.

The third performance category is that of clinical practice improvement activities, which will constitute 15% of the CPS in 2019 and afterwards. Practitioners participating in a patient-centered medical home practice will be awarded the maximum score in this category, if that practice is recognized by a national entity, such as the AAAHC, NCQA, the Joint Commission or the URAC. Other clinicians must, as with the quality measures, choose a certain number of CPIAs that total 60 points. Certain CPIAs are considered high-weight, such as participating in the CMS Transforming Clinical Practice Initiative, or collection and follow-up on patient experience and satisfaction data; such measures are worth 20 points. Medium-weight measures are worth 10 points. Such CPIAs include timely communication of test results, medication management efforts such as reconciliation and coordination of medications and the conduct of periodic, structured medication reviews, or the provision of chronic disease self-management support programs or coaching. Practice groups in geographic HPSAs, in rural areas, or with fewer than 15 eligible clinicians only have to report on two CPIAs, either medium- or high-weight. Each CPIA must be engaged in a minimum of 90 days during the performance year.

The final performance category, comprising 25% of the CPS, is called

“advancing care information” and is basically a measure of the use of certified EHR systems. Clinicians may report in this area through self-attestation. To obtain half of the total available points, the clinician must report on all measures required under the Stage Three EHR Incentive Program. To this base score is added a performance score which requires reporting on eight measures within the areas of patient electronic access, coordination of care through patient engagement, and health information exchange activities.

The proposed rule contains complex scoring guidelines, translating performance in the four areas outlined above into an overall CPS. In the quality performance area, each reported measure will be assessed against historical performance by other MIPS clinicians, with the results arrayed in deciles. Depending on where the MIPS clinician falls within these deciles, s/he would be awarded between one and ten points. Bonus points would be awarded for reporting on extra outcome or patient experience measure. However, reporting more than the minimum number of quality performance measures does not necessarily result in more total points, since only those measures with the highest scores would be included in the CPS calculation. There are other rules that award partial credit for “topped-out” measures. Bonus points would also be awarded for those clinicians who report using certified EHR systems. In future years, rules would be developed to attempt to measure improvement in scores, as well as achievement of performance benchmarks.

Under the resource use category, a one-to-ten point scale will be used, established by historical performance during the 2017 performance year. The methodology for establishing the benchmarks would be published in a final rule. As described above, the CPIA score is based on a maximum of 60 points; while it is possible to score higher than 60 points, any score reaching that threshold will be awarded the maximum score within that performance category. Also as described earlier, the advancing care information category involves both a base score and a performance score, but it should be noted that all elements of the base score must be reported, either with a numerator/denominator or an affirmative answer to a yes/no question, for any base score points to be awarded.

All four category scores are then weighted as described above, with the resulting CPS affecting the clinician’s reimbursement under the Medicare physician fee schedule. The proposed rule anticipates that approximately half of MIPS eligible clinicians will fall below the CPS performance threshold, resulting in a reimbursement decrease for 2019; 87% of solo practitioners can expect to see reduced Medicare reimbursement under MACRA. For those clinicians scoring in the 25th percentile above the performance threshold, an additional positive reimbursement adjustment would be made.

As should be clear from the dizzying new array of terms, reporting obligations and evaluation criteria, MACRA is a whole new ball game for Medicare clinicians. While we can expect further changes when the final rule is released in the fall, we can expect the general outlines of the proposed rule to remain in place. The need under MACRA for sophisticated data gathering alone may accelerate the trend toward practice consolidation and acquisition and encourage individual practitioners and small groups to join ACOs. Although the government promises technical guidance and assistance to groups with fewer than 15 eligible clinicians, it is doubtful this will be sufficient to help smaller groups to flourish under this new regime. The rule also holds out the hope that individual practitioners, or groups of fewer than ten eligible clinicians, can join “virtual groups” that might assist in meeting MACRA’s requirements, but this relief would not be available until 2018. Because points under MACRA will begin to be awarded based on activities and reporting in calendar year 2017, the rules of this new ball game require practitioners’ immediate attention.

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Medical Cannabis

William Ortiz, MD

In light of the recent decision by the Massachusetts Board of Medicine to suspend two medical marijuana practitioners, and rightly so, I wanted to discuss the appropriate uses and the appropriate method of evaluating and certifying a patient for MMJ certification.

My introduction to the use of marijuana medicinally started in 2010, while I was working as a hospitalist in Maine. I was admitting a patient to the medical ward and noted that this patient has tested positive for THC (tetrahydrocannabinol). I asked the patient about her use of marijuana. She asked me to sit down and then stated, "I am a single mother of three children. I have a job, and I am holding this together all by myself. My doctor has offered all kinds of pills: Xanax, Percocet, muscle relaxants and pills for depression. I can't work and take care of my family on that stuff. I smoke a little weed now, and it helps me, but if you tell my doctor, I will lose my job and my kids will be taken away from me." This prompted me to learn about the appropriate use of medicinal marijuana and how to use it safely. So I opened my practice, The Health Clinic – "THC" – in 2012, and we can be found online at thehealthclinic.org. I thank the Maine Board of Medicine, which reviewed my work and offered guidance with my practice, ultimately making it stronger.

Medical cannabis is not a first-line medication for any condition at this time. It is not a completely benign medication. It can interact with several

medications, mainly by its effect on medication metabolism. It also has side effects such as orthostatic hypotension, tachycardi, and increased fall risk. All of these should be considered before cannabis is prescribed. Medical co-morbidities such as orthostasis, osteoporosis and fracture risk, and cardiac disease need to be factored in making the decision to use cannabis.

Cannabis can be administered in several different formulations, which include topical, tincture, suppository, edible, raw vs. cooked cannabis, and inhalation. Some of the conditions that I have had success in treating with cannabis include neuropathic pain, PTSD, insomnia, migraines, severe or chronic pain and Crohn's disease. I have success in treating patients with cannabis who had significant treatment failures with conventional medical therapies. I give my patients very clear instructions on how to appropriately and safely use this medication and require a four-month follow-up, then again in one year, to assess progress and adverse reactions.

This is medicine, not recreation.

In my opinion, we are not ready to legalize recreational marijuana.

Yet.

That's how I see it.

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Calendar of Events

2016

2017

September 23 Friday 7:30 a.m. Beechwood Hotel	25TH ANNUAL WOMEN IN MEDICINE BREAKFAST <i>"Perspectives in Health Care — Pre- and Post the 2016 Elections"</i> Speaker: Alex Calcagno, director, Advocacy, Government and Community Relations, Massachusetts Medical Society <i>Sponsored by Physicians Insurance Agency of Massachusetts (PIAM)</i>	February 8 Wednesday 5:30 p.m. Beechwood Hotel	221ST ANNUAL ORATION <i>"A Glass (More than) Half Full: The Top 10 Reasons to be Optimistic about the Next 218 Years of Worcester Medicine"</i> Orator: Terence R. Flotte, MD Celia and Isaac Haidak Professor of Medical Education, dean of the School of Medicine and Provost and executive deputy chancellor of the University of Massachusetts Medical School.
October 17 Monday 5:30 p.m. Beechwood Hotel	11TH ANNUAL LOUIS A. COTTE LECTURE <i>"Physician Burnout: An Under-recognized Problem"</i> Speaker: Diane W. Shannon, MD, MPH Former practicing physician and medical freelance writer	March 4 Saturday 7:00 p.m. reception, Boyden Salon; 8:00 p.m. program, Mechanics Hall	THE VENICE BAROQUE ORCHESTRA PERFORMING THE VIVALDI FOUR SEASONS Founded in 1997 by Baroque scholar and harpsichordist Andrea Marcon, the Venice Baroque Orchestra is recognized as one of the premier ensembles devoted to period instrument performance
November 16 Wednesday 5:30 p.m. Beechwood Hotel	FALL DISTRICT MEETING AND AWARDS CEREMONY The dinner meeting includes the Dr. A. Jane Fitzpatrick Community Service Award, the WDMS Career Achievement Award, and Scholarship Award Presentations.	March 8 Wednesday 5:30 p.m. Beechwood Hotel	WOMEN IN MEDICINE LEADERSHIP FORUM Speaker: Dr. Laurie Lesluis, President, Worcester Polytechnic Institute
December 2 & 3 Friday and Saturday 9:00 a.m. MMS headquarters and Newton Marriot Hotel	2016 INTERIM MEETING AND MEETING OF THE MMS HOUSE OF DELEGATES All WDMS members are invited to attend as guests and may submit a resolution to the Massachusetts Medical Society.	March 30	DOCTORS' DAY <i>Event to be announced</i> March 30 is National Doctors' Day when patients, friends, family, and colleagues honor physicians and express their gratitude for physicians' continuing commitment to patients and exceptional medical care. <i>Sponsored by the Worcester District Medical Society Alliance</i>
December 8 Thursday 5:30 p.m. Washburn Hall, Mechanics Hall	A NIGHT AT THE MOVIES <i>Something the Lord Made</i> This movie tells the story of the 34-year partnership that begins in Depression Era Nashville in 1930 when Blalock (Alan Rickman) hires Thomas (Mos Def) as an assistant in his Vanderbilt University lab, expecting him to perform janitorial work. But Thomas' remarkable manual dexterity and intellectual acumen confound Blalock's expectations and Thomas rapidly becomes indispensable as a research partner to Blalock in his forays into heart surgery. The film traces the two men's work when they move in 1941 from Vanderbilt to Johns Hopkins, an institution where the only black employees are janitors and where Thomas must enter by the back door.	April 12 Wednesday 5:30 p.m. Beechwood Hotel	ANNUAL BUSINESS MEETING Meeting includes presentation of the 2017 Community Clinician of the Year Award.
		April 27 & 29 Thursday and Saturday 9:00 a.m. the Seaport Hotel and World Trade Center, Boston	2017 MMS ANNUAL MEETING AND HOUSE OF DELEGATES All WDMS members are invited to attend as a guest and may submit a resolution to the Massachusetts Medical Society.
		Wednesday University of Massachusetts Medical School	MEET THE AUTHOR SERIES <i>Date to be determined</i> <i>Sponsored by WDMS and Humanities in Medicine Committee of the Lamar Soutter Library at the University of Massachusetts Medical School</i>
		June 7 Wednesday 5:00 p.m. Worcester Historical Museum	BUSING THROUGH WORCESTER'S MEDICAL HISTORY Enjoy a trip back through time with Narrator William D. Wallace, executive director, Worcester Historical Museum.



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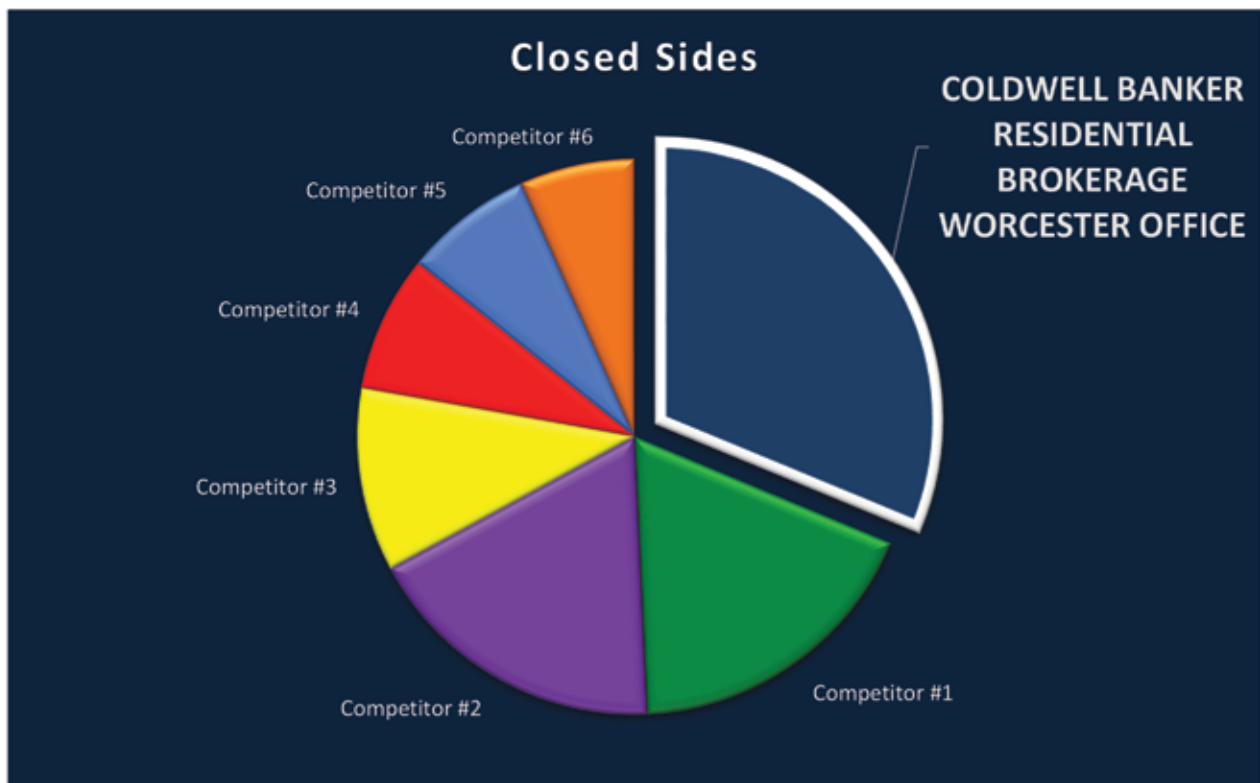
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