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Suicide and Physicians – Why don't doctors in distress seek help?

NICHOLAS NISSEN, BA, MD '20; EDWARD FELLER, MD, FACP, FACG

- One in 9 medical students reports suicidal ideation during med school.
- Suicide – most common cause of death in male residents, second most common in women
- Study of 7905 surgeons – 1 in 16 reported suicidal ideation in the prior year.
- As many as 400 doctors die from suicide yearly.
- Yet, data indicate that as few as 1 in 4 at great risk sought help.



In an opinion piece in the April 29, 2019 *New York Times*, a professor of psychiatry stated, “We must address the root causes of suicide – poverty, homelessness...trauma, crime and drugs.” But, that’s not true for doctors. We have an abundance of accepted protective factors, including a high probability of being married, low divorce rate, advanced education, employment, likelihood of financial security and societal respect.¹ Yet, at every career stage, the rate of physician suicide is higher than that of the general population and other professionals – as much as 40% greater for males and a startling 140% higher for female doctors.²

An increased risk compared to age-matched controls is evident even in the first year of med school.³ Shortly before med school graduation and beginning residency, the rates of burnout, depression and suicide ideation increase, while the mental quality of life declines

without varying by specialty choice.⁴ Resident suicides occur disproportionately (35%) in the first two months of residency. Post-holiday, midwinter and seasonal factors may also negatively affect some residents and later-career doctors, contributing to depression, isolation, and even suicide.

Why are doctors at increased risk?

The nature and culture of Medicine may exacerbate risk. Physicians work an average of 10 hours more weekly than the general population (50 vs 40 hours); one-third of physicians and as few as 11% of non-physician controls work 60 hours or more per week. As many as 4 in 10 physicians believe that their career does not allow adequate time for their personal life compared to 23% of controls without gender difference.⁵

Medicine has changed in recent decades with a widespread decline in job satisfaction. Financial issues associated with liability insurance costs, declining reimbursement and huge training

Table 1. Physician Risk Factors – Burnout, Depression, Suicide

Behavioral

- Imposter syndrome – unrelenting comparison with peers
- Sparse use of psychiatric referral
- Stigma of mental disorders as weakness, incompetence
- Degrading experiences, harassment, patient demands
- Poor coping skills, unfamiliarity with failure
- Microaggressions – stigmatized minorities (gender, race, ethnicity)
- Substance abuse

Academic

- Persistent work overload without personal control
- Unrealistic goals/demands
- Academic setback, failure
- Expectation of scholarly productivity
- Pressure to gain elite residency, promotion, job
- Research funding demands

Clinical/Cultural

- Culture of self-sacrifice, “work heroes”
- Perception – early success determines career path
- Unrelenting high-stakes assessments
- Inhospitable work environment, persistent work overload
- Patient suffering – grief
- Medical error – stigma, guilt

Social/Personal

- Death, illness of loved one
- Personal physical illness, divorce
- Inadequate protected time; poor work-life balance
- Isolation, lack of time to connect with peers
- Large personal debt; litigation-related stress
- Misalignment of career with family, childbearing
- Retirement – loss of self-identity

debts are debilitating. We now work in larger groups with less autonomy and more external restrictions, are subject to career-long evaluation of our record-keeping, competency and quality, quantity and cost of care. Positive, rewarding work relationships enhance career happiness. Only older doctors recall when hospitals had “Doctors-only” dining rooms filled with colleagues. Today lunch is typically eaten quickly, alone at one’s desk while doing medical record chores or emailing.⁶ Nursing stations in hospitals reveal everyone sitting – silent and alone – staring at a computer screen. A recent report indicates that interns spend 3 and one-half more time interacting with medical records than with direct patient care.⁷ Unfortunately, too many of us confirm our angst on the UCLA loneliness scale, which asks: “How often do you feel you lack companionship?” and, “How often do you feel isolated from others?”

Depression is a reality at all career stages. Data from 1428 fourth-year medical students indicated that more than one-third reported depressive symptoms and poor mental quality of life.⁸ Estimates of the prevalence of depression among resident physicians ranges from 21% to 43% depending on the survey instrument used.⁴ Schwenk et al. noted that 81% of mid- and later-career physicians reported that depression had increased their professional stress level and 91% reported that depression had decreased work satisfaction. MDs in primary care fare worst.⁹

Burnout commonly afflicts caregivers, beset by stressful work amidst intense interactions with patients having pressing physical and emotional needs, frequently intractable. In a national

survey, physicians had a greater rate of burnout – emotional exhaustion, cynicism, impaired or reduced sense of personal accomplishment and depersonalization – 38% vs 28% – relative to population controls. Data indicate that as many as 50% of medical students experience burnout at some point with 11% reporting suicidal ideation during medical school.⁴ Those with burnout were three and one-half times more likely to report suicide ideation.⁵

Physician suicides differ from those in the general population

We seem less likely to experience personal trauma such as a recent death of someone close or other personal crisis as a suicide precipitant. Yet, we are more prone to work or career crises. Perhaps surprisingly, we don’t have more documented antidepressant use, but do have higher rates of benzodiazepine or barbiturate intake.¹⁰

Compared to other professionals with doctoral degrees – PhD, JD – MDs have increased probability of burnout and poor work-life balance.⁵ Physician self-identity seems to be more often dependent on satisfaction in their professional roles. Job unhappiness appears to be a major risk factor for suicide among physicians. We are exposed to a litany of workplace stressors – patient demands, conflicting roles, inadequate control over working conditions, time pressure, degrading experiences or harassment, patient death or poor outcomes, the trauma of medical errors, litigation-related stress and dissatisfaction with coworkers. Retirement has been incriminated as source of role loss and potential suicide risk.

Why don’t doctors at high risk seek help?

At all career stages, a minority of physicians at risk seek psychologic support services.¹¹ In Medicine, seeking psychiatric help is viewed commonly as stigma, embarrassment, and loss of privacy. Other barriers are fear that public knowledge of receiving behavioral help confirms personal incompetence, weakness, lack of fitness, risk of discrimination in grades or clinical and research training, referrals, promotions and evaluations. As many as one-third cite lack of confidentiality and one-fourth report fear of documentation in their academic or employment record as impediments to seeking help. Some claim, “I don’t have time!” Perceived career-long stress and competition for med school admission, residency positions or post-training jobs, research productivity and promotions also foster a hesitancy to disclose psychiatric problems. Doctors also describe fear of disclosure of a mental illness on state licensure, malpractice insurance and medical staff applications, reinforced by the reality that the vast majority of state medical boards inquire about mental illness on initial state medical licensure applications and half on renewal applications.¹²

A majority of doctors have not seen a physician in the previous twelve months.¹² Suicidal ideation and depression are commonly screened for at primary care visits; too many doctors are never screened. Many of us with behavioral health problems strive for anonymity, seeking care outside of our medical orbit or avoid therapy. Too commonly, at-risk physicians self-prescribe psychiatric medication or receive prescriptions from a colleague with whom they didn’t

have a psychiatric treatment relationship. A unique suicide risk for physicians is medical knowledge. As Dyrbye notes, “We know how to kill ourselves.”¹³

What is the natural and unnatural history of suicidality?

The National Comorbidity Survey indicated that about one-third of those with suicide ideation make a plan; three quarters with a plan make an attempt, and one quarter proceed directly to an unplanned attempt.¹⁴ These findings suggest that as many as half of those with suicidality make a suicide attempt. The majority of attempts occur within 1 year of onset of suicide ideation. For many, progression from depression, suicidal ideation, and suicide attempt may be more rapid than believed. Impulsivity seems to play a major role – one in four suicide attempters make an attempt less than 5 minutes after deciding to commit suicide.¹⁵

Data on physician suicide is limited by poorly comparable study designs and screening methods, non-uniform assessment measures for depression, burnout and suicide ideation and different participant demographics. Speculation suggests that the magnitude of physician suicide is greater than reported because physician suicide may be consciously miscoded on death certificates as an unintentional overdose. Some medical schools refuse to track suicides.

Conclusion

Suicide risk is a career-long reality for physicians. Medicine’s pervasive, stressful demands help explain suicide’s elevated risk compared to the general population. Depression and burnout are significant triggering factors. ❖

References

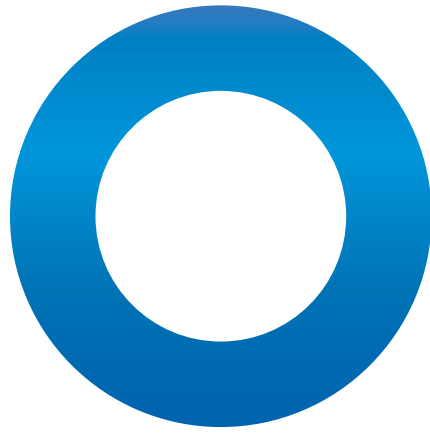
1. Shanafelt TD, Balch CM, Dyrbye L, Beachamps G, Russell T. Suicidal Ideation Among American Surgeons. *Arch Surg.* 2011;146: 54-62.
2. Schernhammer ES, Colditz GA. Suicide rates among physicians: a quantitative and gender assessment (meta-analysis). *Amer J Psych.* 2004;161: 2295-2302.
3. Aggarwal K, Thompson M, Falik R, Shaw A, O’Sullivan P, et al. Mental illness among us: a new curriculum to reduce mental illness stigma among medical students. *Acad Psych.* 2013; 37: 385-391.
4. Dyrbye LN. The problems program directors inherit: medical student distress at the time of graduation. *Med Teach.* 2011; 33: 756-758.
5. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med.* 2012; 172:1377-85.
6. Frey JJ. Professional Loneliness and the Loss of the Doctors’ Dining Room. *Ann Fam Med.* 2018;16:461-463.
7. Chaiyachati KH, Shea JA, Asch DA, Liu M, Bellini LM, et al. Assessment of Inpatient Time Allocation Among First-Year Internal Medicine Residents Using Time-Motion Observations. *JAMA Intern Med.* 2019. doi:10.1001/jamainternmed.2019.0095.
8. Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. *JAMA.* 2016; 316: 2214-2236.
9. Schwenk, TL, Davis L, Wimsatt LA. Depression, stigma, and suicidal ideation in medical students. *JAMA.* 2010; 304: 1181-1190.
10. Gold KJ, Sen A, Schwenk TL. Details on suicide among U.S. physicians: Data from the National Violent Death Reporting System. *Gen Hosp Psych.* 2013; 35: 45-49.
11. Tjia J, Givens JL, Shea JA. Factors Associated With Undertreatment of Medical Student Depression. *J Amer Coll Health.* 2005; 53: 219-224.
12. Kay M, Mitchell G, Clavarino A, Doust J. Doctors as patients: a systematic review of doctors’ health access and the barriers they experience. *Br J Gen Pract.* 2008; 58: 501-508.
13. Rubin, R. Recent suicides highlight need to address depression in medical students and residents. *JAMA.* 2014; 312: 1725-1727.
14. Kessler RC, Borges G, Walters EE. Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. *Arch Gen Psych.* 1999; 56: 617-626.
15. Simon TR, Swann AC, Powell KE, Potter LB, Kresnow M, et al. Characteristics of impulsive suicide attempts and attempters. *Suicide Life-Threat Behav.* 2001; 32.Suppl Issue 1: 49-59.

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URI Commencement 2019: Kennedy asks grads to make U.S. safer, more supportive, and more loving for people with mental illness, addiction

PATRICK J. KENNEDY



URI PHOTO BY MICHAEL SALERNO

[Managing Editor's Note: Former U.S. Representative (D-RI) Patrick J. Kennedy, lead sponsor of the Mental Health Parity and Addiction Equity Act of 2008, and founder of The Kennedy Forum and of DontDenyMe.org, delivered the commencement address at the University of Rhode Island (URI) on May 19th, where he was awarded an honorary degree. The following excerpted remarks are reprinted with permission of URI.]

the best version of myself, a journey which has lasted, and will continue to last, a lifetime.

A wise person once said the definition of hell is when, on the last day of your life, you meet the best version of yourself... and you discover that there is a huge gap between who you are and who you could have been.

Ouch.

That is not a good situation my friends. So, we all need to work every day to close that gap.

For me, part of this journey has also meant wrestling with the darkest version of myself. My "shadow self" as some call it.

And learning to understand, and embrace, and have compassion for that part of me.

Sometimes we treat ourselves much worse than we would ever treat a friend. We say things to ourselves we would never say to a loved one. That's been an important reflection for me.

I struggled through high school with what I now understand to be mental illness and addiction.

I have bipolar disorder, and to cope with that I have used both alcohol and prescription painkillers to self-medicate.

And for me this has been the central challenge of my life – amidst a great many blessings.

I am now 51. I recently celebrated

with my family a profound and humbling victory: my eighth year of continuous sobriety.

So, this should give you an idea of how protracted this struggle can be.

'By the time I got to Rhode Island, I had already been to rehab and attempted the first of my many recoveries. I worked hard at it, and committed to seeing a psychiatrist, but I was so embarrassed that I used to park my car blocks away from his office.

But he helped me – and it was the first time I ever realized treatment with therapy and medication could work.'

Early years

Growing up, my problems were referred to, if at all, in whispers. And too much of the advice I got was judgmental rather than medically sound and supportive.

I'm very proud that my late father, Senator Edward Kennedy, was one of the nation's most important champions for healthcare. But he didn't really understand that what was going on with me was part of healthcare, too.

When it came to my asthma, or my brother's bone cancer, he was

all-supportive

all-loving

and

all-in

to fight the illness.

PRESIDENT DOOLEY, THANK YOU FOR THE honor and opportunity to be here today.

Thank you also for the honorary degree because that makes me one more member of the amazing class of 2019.

So, to the class of 2019, my fellow classmates, congratulations.

And to my fellow Rhode Islanders, it is great to be back home.

I've reflected a long time on what kind of message I wanted to offer this special group of students before me.

You know, I've given a lot of addresses over the years.

But as they say in the movies...this time, it's personal.

In an apartment not far from here I began the journey toward discovering

But when it came to my mental health challenges, and the vicious cycle of addiction that followed, he tended to lay that one on me – rather than viewing what I was experiencing through the prism of an illness.

This was a blind spot that a lot of people had in his generation. And too many people still have it in your generation.

More often than not, my father's diagnosis was that "Patrick just needs a good swift kick in the ass."

We now understand genetic predisposition to addiction and mental health much better. We have tools and therapies to intervene in, and prevent, devastating symptoms and behaviors.

And let me just say that if anyone within the sound of my voice is struggling with these issues, and this is statistically likely, I want you to know from my own experience that this is the most hopeful time in human history for a person to overcome mental health and addiction issues. There is a toolkit that a trained professional can give you to work on these issues. And with the right support, it works.

It's not easy and it's not magic but it's worth it – to live a full and free life. So, let this be the day you resolve to get the help you need and deserve.

Honestly, I was probably the biggest skeptic about these issues. I spent many years lost in the fog of shame...

I also believed I was suffering – not from diseases of the mind and body – but simply because of shameful personal failings. And many times in my life I lacked the faith I could prevail.

These days, I see it more clearly. No one wakes in the morning and chooses to alienate all their family, friends and risk losing their job and being arrested. Because they think that it will be a great plan for the day.

Long road to recovery

By the time I got to Rhode Island, I had already been to rehab and attempted the first of my many recoveries. I worked hard at it, and committed to seeing a

psychiatrist, but I was so embarrassed that I used to park my car blocks away from his office.

But he helped me – and it was the first time I ever realized treatment with therapy and medication could work.

I struggled with these illnesses, just like everyone else. Being a Kennedy certainly has its benefits.

But I can assure you of this: mental illness and addiction are in no way impressed that I come from a famous family.

Untreated or unheeded, these illnesses are equal opportunity destroyers.

Still, through all of this, at the age of 21, I was elected to the RI House of Representatives. The press noted I was the youngest Kennedy to ever hold office. That was a nice factoid to talk about.

But the real achievement in my own eyes was doing a pretty good job in three terms in the State House – while at the same time dealing with my mental health challenges.

Fighting asthma was tough and it nearly killed me a few times. It was an excruciating painful physical challenge just to breathe during those attacks. But for me, at least, it was a walk in the park compared to maintaining sobriety and struggling with my mind.

This was when I started realizing that getting good care and good insight into your illness – even when you aren't always the best patient and despite some setbacks – can allow you to function and even thrive.

Again, these diseases are treatable. The challenge is that society discriminates against them and the people who have them.

And so does medical insurance, by not covering them properly and equally with other illnesses. So mental illness and addiction end up being the only diseases for which getting gold-standard treatment is questioned, and even sometimes discouraged.

When I was 27, I was elected to represent Rhode Island in the U.S. Congress. Believe me, I did not go to Washington

to become the nation's voice for mental health and addiction care.

For several years, I tried to add mental health and addiction to my legislative agenda without calling any more attention to my own situation or providing any more personal information.

This was the mental health and addiction equivalent of "don't ask don't tell."

Darkest days

And then I blew it – and almost blew my entire career.

In the Spring of 2006, with my 40th birthday approaching, I was having problems keeping my illnesses under control. I had quietly gone to the Mayo Clinic for care over Christmas, and then when I returned to the House, I tried to balance my duties there with an outpatient day program – which allows you to go to work, but still get intensive therapy and support for recovery.

Then on May 6th, I woke up at 3 am in a panic thinking I was late for a vote. I drove under the influence to the House of Representatives and crashed my car into a security barrier.

On TV the next morning, I was forced to tell the truth.

And THAT is one of the biggest problems when you have a mental illness or struggle with an addiction. It's the secrecy, the lying, the self-delusion. Ultimately, the shame.

Our secrets are our most formidable adversaries: they are "the enemy within" that blocks our recovery...you become a con artist...only you are your own victim.

I knew this in my heart. So I went for it.

I went from living the big lie...to telling the big truth.

I admitted what had been really going on, in a way I couldn't take back or hide from. And I announced I was going to get care. This wasn't about politics. This was about saving my life.

...When I got back to work, I felt incredibly fortunate. Not only because I had survived such a dark chapter, but

also because had found my highest calling as a public servant: I prepared to devote myself, heart and soul, to making access to treatment for mental illness and addiction a reality for everyone.

Mental Health Parity Act

During the very next session of Congress, with the support of many like-minded colleagues, I got a bill passed and signed into law called the Mental Health Parity Act.

This basically put mental health and addiction on a par with other chronic illnesses for insurance purposes – as a matter of federal law.

...But we didn't stop there.

You know, we said:

“Not only is it wrong to charge higher premiums, higher copays or higher deductibles for mental illness and addiction.

...It's also against the law to have lower lifetime caps on coverage.”

...And it's wrong to have more restrictive medical management decisions on whether or not approve care.”

So, they can't wrap people up in red tape like they used to, with what they call pre-authorization, or concurrent review, or retroactive review to a greater extent than they apply to cancer cases, for example.

We need to make sure medical insurance treats these illnesses equally in relation to other dreaded diseases. And we must eliminate those blind spots in our society.

Too many of us still look upon these illnesses as merely shameful behaviors instead of complex, but highly treatable, conditions.

Taken to the extreme, we see these conditions criminalized in a manner that just throws a mountain of lives in the garbage. We don't rehabilitate, we incarcerate. And if you follow the money, you understand why.

...We now need to ensure we focus on this generation...your generation. I was looking at some of the most recent and most disturbing statistics about

the changing causes of death for people your age.

You are the very first generation to be more at risk to die of suicide or overdose – or some other cause connected to mental illness or addiction – than any other cause of death.

But you're also the first generation to grow up under the protections of the Mental Health Parity Act, which we passed to prevent this from happening.

Still, we have a lot of work to do to enforce these laws, and these days that is one of the major areas of advocacy I'm involved in today...to finish the job.

Consider that the height of the HIV Aids crisis we were spending 24 billion dollars a year to combat it because it was killing 53,000 Americans a year. Thankfully, just like many forms of cancer, this has gone from a fatal illness to a mostly manageable chronic disease. This is wonderful news and our hearts soar to hear of these miraculous developments.

But against that backdrop, we had 72,000 fatal overdoses last year. We had 47,000 suicides. Why aren't 120,000 American lives lost last year to mental health and addiction...worth the same bold commitment our country is famous for making, to combat other health care challenges?

Why are we spending only 1/5 of the money on something that is killing twice as many people? The staggering rates of suicide and the overwhelming rates of overdoses among young people are literally lowering our life expectancy as a nation.

To make matters even worse, the opioid and methamphetamine epidemics have ripped a hole in our social fabric that across the entire country. No one is exempt from this. But somehow, we still don't have the sense of urgency required to reverse this appalling scourge.

...At the very least, I want that 24-year-old who overdoses or that thirty-year-old who contemplates suicide to be valued at least as much as a person like my Dad, who died in his

70s from brain cancer.

This is also an investment to counter income inequality. Consider that instead of making a few people at the top of the economic ladder richer, this money can allow all Americans to live a richer, healthier life.

Again, we benefit as a society when we treat mental illnesses and addiction as health issues instead of as criminal justice issues. There are proven, scalable programs that succeed at a community level. The Kennedy Forum is committed to promoting these solutions. We want to implement what works, over and over again.

This is the public health challenge of our time, and solving it will help reconnect our fractured nation.

Because, regardless of your age, your gender, your ethnicity, your politics or your socioeconomic class, we all have one thing in common – our brains are what allow us to function and be ourselves.

And if our brain diseases are not properly treated...we lose ourselves... and America loses what we could contribute.

It's a time of particular uncertainty for young people. I urge you to consider meeting that uncertainty with action. To dedicating some of your valuable time and youthful energy to a cause greater than yourself.

...And today, I have talked to you about the devastating mental health and addiction statistics threatening your own generation with epidemics that no other generation has endured.

We have a lot of overwhelming concerns in the world now. But please, don't let this issue get lost. That is my request to you as the future of this country and as voters who will shape the national dialogue for many decades.

As you go out into the world today, I ask you to do whatever it takes to make this country a safer, more supportive, and more loving place for people with mental illness and addiction. Do it for yourself. And do it for all the Rhode Island kids coming up behind you. ❖



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What Does It Mean to Heal?

JONATHAN STALOFF, MD, MSc



[Editor's Note: The following are excerpted remarks from Jonathan Staloff's remarks at the Alpert Medical School Commencement Ceremony held on May 26th.]

...I'D LIKE TO REFLECT ON A QUESTION I've grappled with since starting on this path of medicine. That is, what does it mean to heal?

When entering medical school, I thought I had a good understanding of this question. I was privileged that my experiences led me to believe that healing was a process with a clear, discernible beginning and end. In elementary school when I was sick with strep throat, the doctor healed me with an antibiotic. In high school when my friend was in end-stage kidney failure, the doctor healed him with a transplant.

At the 45th ceremony for new graduates from Brown's Warren Alpert Medical School, 128 new doctors took the physician's oath. This year marked the first graduating class in the school's new Primary Care-Population Medicine (PC-PM) program. A member of that first PC-PM class, Jonathan Staloff, gave remarks at the ceremony, held in the First Unitarian Church on College Hill.

In college when my grandmother had a cancerous tumor on her eye, the doctor removed it, and healed her, too. I understood that not all that ails us could be healed, but for what modern medicine could provide, I found comfort and inspiration in this simple understanding of healing.

At the start of this journey, I thought that through learning the knowledge of medicine and mastering that wealth of tangible scientific facts, I, too, could become a healer. I, too, could be a physician.

I'm sure you won't be surprised to learn that these four years taught me that healing is not always so simple. For many of us, bearing witness to the more complex nature of our patients' suffering led us to struggle with our respective understandings of what it means to heal.

We wondered how are we healing patients hospitalized for chronic diseases like heart failure, knowing that despite our best efforts nothing will change the fact that their condition will slowly yet surely worsen? We asked do we owe more to our patients than prescription medicines and treatment plans when environmental and social systems

so strongly influence their long-term health? Or what does it mean to heal patients at the end of their lives when so much of what lies ahead for them and their families is clouded in uncertainty?

These are just a few of the questions we've asked ourselves during the last four years as others have started to look towards us as healers for the first time.

Standing here today, I now appreciate that the uncertainty of illness does not challenge the notion that we as physicians can help our patients heal. Rather, we will heal by choosing to commit ourselves to our patients and joining them in the shadow of uncertainty. We heal by spending long tireless nights searching for answers to mysterious diagnoses so that morning might bring clarity. We heal through dedicating ourselves to years, decades of research so that the limits of medicine today are the foundations of medicine tomorrow. We heal by standing alongside our patients in each step of their journeys, whatever they may bring. We heal in celebrating moments of health, struggling in moments of illness, and mourning when life comes to an end. When under our care, our patients can say, "I have a partner, I am not alone;" that is what it means to heal.

I consider myself so fortunate to be your classmate, for over the last four years, your work, your advocacy, and our countless discussions in and out of the classroom have taught me that in our responsibility as physicians to

heal, we must also ask what in this world needs healing? You taught me that what impacts the health of our patients does not begin nor end in the walls of our hospitals and clinics, and neither should our roles as physicians. In the Brown tradition of questioning tradition and building new ones, together we are building a new understanding of what it means to heal.

We understand that when medical science produces groundbreaking treatments, but has not yet found a way to deliver them to the patients who need them the most, physicians must ask if

our healthcare system needs healing. When communities are forced to ask if their water is safe to drink or if their air is clean to breathe, physicians must ask if our environment needs healing. When the zip code of someone's birth, their race, income, gender identity, immigration status, or who they love impacts their health as much as any medication we can provide, physicians must ask if what we consider just in our society needs healing. Even though the causes of social ills are as complex as the human body and their recovery equally uncertain, we must join our communities in

this uncertainty and together work to make real a world that reflects our firm belief that health is a human right.

Beyond all of this, you have all taught me that what it means to heal and be a physician is always being re-written. I'm inspired to know that the future of medicine will be firmly written in the handwriting of the Warren Alpert Medical School Class of 2019. It is truly my honor to know you and to call myself a member of this extraordinary community of physicians, this community of healers. Thank you and congratulations! ❖



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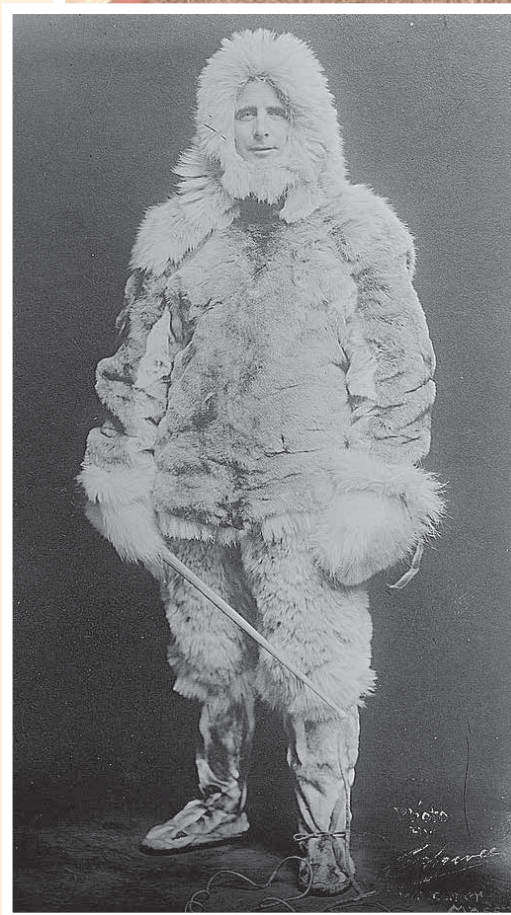
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FREEPORT, MAINE

Rhode Island Medical Journal Associate Editor **Kenneth S. Korr, MD**, reviews the May issue of the Journal outside L.L. Bean's in Freeport, Maine. Behind him is a sculpture of the iconic Bean Boot invented in 1911 by Leon Leonwood Bean after he returned from an outdoor expedition in the Maine woods with cold, damp feet. He combined leather uppers with rubber bottoms to create a waterproof boot with a local cobbler. In order to improve upon his design, he took out a loan for \$400 and set off to Boston, where he contracted with the US Rubber Company to produce a better quality rubber sole. By 1917, he had sold enough of his boots to buy a dedicated building for his shop on the main street of Freeport.



In 1921, Rear Admiral Donald B. MacMillan, who accompanied Robert E. Peary's history-making expedition to the North Pole in 1908, found that the Bean Boot was superior in preventing hypothermia to fur boots and outfitted his Arctic expedition with L.L. Bean Boots. According to the L.L. Bean timeline on its website, MacMillan wrote to the company endorsing the qualities of the boot. "My men are very enthusiastic over their experience with your foot equipment on our last Arctic Expedition, finding it extremely practical, especially for fall and spring work."

[PHOTO: LIBRARY OF CONGRESS]



Original Bean Boot [PHOTO: L.L.BEAN]

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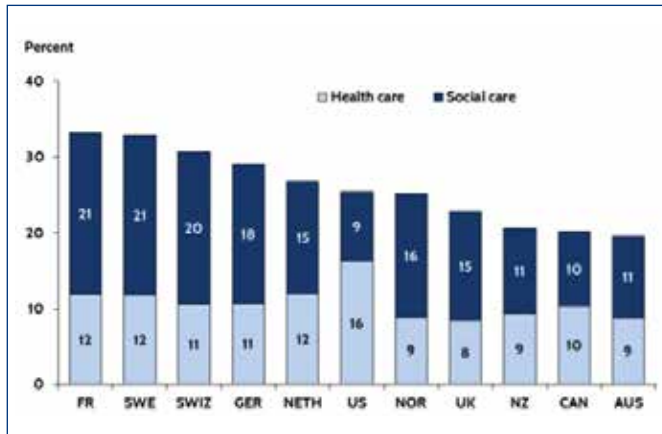
¹ www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/quitting/index.htm

Integration of Medical and Social Care: Challenges, Opportunities and Next Steps for Rhode Island

ELIZABETH TOBIN-TYLER, JD, MA

Health care reform, guided by the Affordable Care Act (ACA), is driving not just federal policy change, but also significant state innovation in health care delivery and payment. Focus on achieving the “quadruple aim” – reducing costs while also improving quality, provider satisfaction and population health outcomes – has coincided with mounting evidence pointing to the social determinants of health (SDOH) – “the conditions in the environments in which people are born, live, learn, work, play, worship and age” as critical to health outcomes, risks and costs.¹ Indeed, the U.S. stands out in its failure to invest in upstream health promoting social services, while dramatically outspending its peers in downstream medical care. (See Figure 1.)

Figure 1. Health and Social Care Spending as a Percentage of GDP



Source: Health and Social Care Spending as a Percentage of GDP (Brookings Institution, Washington, DC, 2017)

Failure to invest in social supports has fostered persistent racial, ethnic, socioeconomic and gender-based health disparities and a rise in chronic disease. As states struggle to contain health care costs, improve population health and reduce disparities, they are increasingly turning to strategies that integrate medical and social care. Typically, this approach incorporates screening for health-related social needs (HRSN) into the clinical workflow, partnerships with social service providers, and a protocol for referring patients to those providers based on the patient’s identified needs. Rhode Island has been at the forefront of state innovation in this effort. As the articles in this volume describe, the

integration of medical and social care is happening through state-driven policy as well as innovative partnerships in the community.

As **MAREA TUMBER**, et al. discuss, Rhode Island’s State Innovation Model test grant (a \$20 million federal grant awarded to promote health system reform) and its Medicaid Accountable Entity program (which supports the development of accountable care organizations to shift RI’s Medicaid program from fee-for-service to value-based payment) have embraced medical and social care integration as essential to health care delivery reform.

Medical and social care integration has significant implications for clinical care delivery and for physicians, especially primary care providers, who are often on the front lines of detecting patients’ unmet social needs. Lessons from providers adopting an integrated approach tell us that inter-professional collaboration and partnerships are key to success. **DR. PANO YERACARIS**, et al. explain the evolution of an approach in Rhode Island known as “comprehensive primary care,” supported by the Care Transformation Collaborative (CTC) (a non-profit committed to the proliferation of the patient-centered medical home model in Rhode Island), which involves systematic screening, care management and care coordination to address behavioral, health and social needs of patients.

Patient populations have different types and levels of vulnerability, presenting unique challenges and opportunities for an integrated approach to care. As the population ages, better coordination and integration of medical and social care for older adults is even more vital. **JOAN KWIATKOWSKI** and **DR. TSEWANG GYURMEY** describe Rhode Island’s PACE program, one of the oldest in the country, which has been a leader in holistic care for elders that supports aging in the community. The PACE program demonstrates how an integrated approach – “the right support at the right time by way of an interdisciplinary team” – can reduce unnecessary emergency room visits and hospitalizations, while preserving autonomy and quality of life for older adults.

Among the most vulnerable of patient populations are homeless individuals whose access barriers to both health care and social services are profound. **MEGAN SMITH**, et al. describe the Rhode Island Patient Navigator Partnership, a unique interdisciplinary student organization housed at the Warren Alpert Medical School of Brown University that seeks

to bridge the gaps in the health and social service landscape for homeless individuals in Rhode Island, while sensitizing students – future providers – to homelessness and health-related social needs with an eye toward systems change.

The articles in this volume point to the innovative interdisciplinary approaches being implemented in Rhode Island to integrate medical and social care. But they also raise important questions that state and community leaders and health and social service providers will continue to grapple with: As clinicians are increasingly asked to integrate screening for and address social needs as part of care delivery, what protocols and team members are necessary to be effective? What skills and knowledge do clinicians need to practice in this new environment? Should screening and referral protocols be standardized across providers or should they remain flexible, based on the patient populations served and/or the local context? Finally, and perhaps most critically, as we take this journey toward integration of medical and social care, do we risk medicalizing social needs? Are we simply filling the gaps in flawed and under-resourced social service systems without addressing the underlying structural issues that lead to the plethora of unmet social needs of patients?

Reference

1. U.S. Department of Health and Human Services. The Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives. 2020 topics and objectives: social determinants of health. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>.

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Addressing the Social Determinants of Health: The Rhode Island State Innovation Model (RI SIM) Experience

MAREA B. TUMBER, JD, MPH; LIBBY BUNZLI, MPH; MARTI ROSENBERG, MA

ABSTRACT

Addressing social determinants of health (SDOH) is important for improving health and reducing longstanding disparities in health and health care. There is growing interest in standardizing SDOH measures and assessment tools for clinicians to help improve health outcomes. In 2015, Rhode Island received a \$20 million State Innovation Model Test Grant (RI SIM) from the Centers for Medicare and Medicaid Services (CMS) to carry out health system transformation and to improve population health. As a part of RI SIM's work, state and community partners began the development of an integrated, coordinated, statewide social services directory infrastructure for addressing SDOH. The goal is to transition this project from resource directory development to a broader eReferral system over the next few years. Tracking referral outcomes will improve coordination of care and will also provide data on capacity of services and help to direct policy and funding allocation decisions at the state level.

INTRODUCTION

The social determinants of health (SDOH) are the conditions in which people are born, grow, live, work, and age and can affect a wide range of health risks and outcomes.^{1,2} Differences in health are striking in communities with poor SDOH, such as unstable housing, low incomes, unsafe neighborhoods, or substandard education.³ It has been estimated that SDOH can account for up to 40% of individual health outcomes, particularly among low-income populations.⁴ Compared with other industrialized nations, the United States spends much more on health care and much less on social services.⁵ Clinical care is only one factor influencing health outcomes and may be responsible for 10–15% of preventable mortality in the United States.⁶ Yet, according to 2016 data, health care spending made up 17.9% of the U.S. gross domestic product (GDP), at \$3.3 trillion.⁷ Payers and providers recognize the importance of these determinants not just to clinical outcomes but also to cost and use of services. Toward that end, both clinical and financial cases have been made for an expanded focus on SDOH for all patients.^{8,9}

An Institute of Medicine (IOM) committee identified social and behavioral domains that most strongly determine

health that could be used in Electronic Health Records (EHRs).¹⁰ While there are variations among different measurement tools, the following is a list of common SDOH domains:¹¹

1. Housing instability including homelessness, poor housing quality, or inability to pay a mortgage or rent;
2. Food insecurity;
3. Transportation needs, both medical and non-medical in nature;
4. Utility needs, specifically screening for difficulty paying utility bills; and
5. Interpersonal safety related to intimate partner violence, elder abuse, and child abuse.

SIM BACKGROUND AND INITIAL SDOH PLANNING

The Rhode Island State Innovation Model Test Grant (RI SIM) is a \$20 million grant that Rhode Island received from the Centers for Medicare and Medicaid Services (CMS) to carry out health system transformation – moving from volume-based care to value-based care – and to improve Rhode Island's population health. RI SIM is a public/private partnership, with a broad, representative Steering Committee of providers, payers, community organizations, and state agencies; an Interagency Team of state agency leadership; and an embedded staff model, with RI SIM staff in five participating state agencies. The five agencies are the Executive Office of Health and Human Services (EOHHS), the Office of the Health Insurance Commissioner (OHIC), HealthSource RI and the Departments of Health (RIDOH) and of Behavioral Health, Developmental Disabilities, and Hospitals (BHDDH).

People often face a fragmented system of health and human services that can be challenging to navigate, and providers often operate in disconnected environments and have no meaningful way of coordinating services for their patients. As part of its work, RI SIM engaged in a public process to identify actionable steps to improve coordination between state agencies and community partners to better understand the drivers of risk and to ultimately facilitate improved care management. OHIC had convened a working group to explore best practices in high-risk patient identification, and during this process it became evident that the incorporation of SDOH into risk algorithms and subsequent care management was a critical way to improve outcomes for patients. This

topic was well suited for collaborative effort, as local payers and providers had very limited experience in measuring or addressing these factors.

In the spring of 2017, SIM convened its own work group to discuss SDOH screening and two important takeaways came out of those discussions. First, some provider entities had begun employing SDOH screening tools within their practices, either by their own volition or as a requirement of a larger demonstration. While these providers were using different screening tools, the group identified an opportunity to use common data elements to track the results of the screening to enable systematic data collection and monitoring of SDOH. For example, one tool might ask patients about housing instability and another might ask about risk of homelessness, but the answers could be tracked together under the meta-label Housing. The work group proposed further research and analysis of the potential for statewide use of insurance billing codes, known as Z-codes, to document these meta-identified SDOH needs. Second, some providers were reticent to screen for SDOH because they felt ill-equipped to respond to any social needs that became apparent. Some providers had developed their own resource directories to facilitate referrals, but largely, providers had a fragmented and variable awareness of available social services.

SDOH SCREENING—EARLY IMPLEMENTATION

With the support of federal funds from CMS, EOHHS launched its signature health system reform initiative in July 2018, the Accountable Entity (AE) program, which provides infrastructure funding for the establishment of AEs, or Medicaid ACOs. These provider organizations must meet a set of structural requirements to be able to deliver high quality whole-person care and enter into value-based payment arrangements that create incentives to improve health outcomes and reduce costs for a population of attributed patients. A key strategic goal of this program is to improve quality by driving whole-person care, such that behavioral health and SDOH are fully integrated into primary care delivery. One of the requirements of AEs is that they must screen their patients for SDOH, and EOHHS is currently in the process of developing a clinical quality measures to drive performance improvement in that regard. EOHHS has also encouraged AEs to utilize Z-codes to document responses to SDOH screening – although it is unclear the extent to which AE's have done so – and requires participating providers to engage in arrangements with community-based organizations by which processes for referral and data sharing are made clear.

RI SIM decided to pursue the need identified by providers for better access to information about the range of resources and services that would help them address specific SDOH. The RI SIM Interagency and Staff Teams determined that if providers would only screen if they could access a tangible resource in response to a positive screen, SIM could help by

making that information more readily available to providers. A small state work group began to research the problem and determined that multiple organizations throughout Rhode Island had online resource directories and others had printed, paper-based versions – all of which need to be kept up to date, validating their always-changing information.

THE UNIFIED SOCIAL SERVICE DIRECTORY (USSD)

In response to this problem, RI SIM decided to begin the development of an integrated, coordinated, statewide infrastructure for addressing SDOH. The first step for this common infrastructure begins with the maintenance of a single statewide database of community-based organizations, services, and public benefits. The USSD will also serve as a centralized location and process for data validation and will connect with existing referral and case management systems.

United Way's 2-1-1 social service directory is the largest in Rhode Island with over 6,000 resources in its database, so it was the most practical foundation upon which to build a statewide system. The project began with an investment in improving 2-1-1's data, and the SIM contract included funding to clean and validate the records contained in the database. This ensures that the data is as up to date as possible, and as of this writing, over 90% of the data has been validated.

The primary focus of the USSD project is to connect the resource data from 2-1-1 to the various practices and organizations that need it in a way that can support existing workflows. This is challenging because information technology platforms vary across agencies and providers. Providers have indicated a strong preference for compatibility with existing information systems and established practice workflows to help minimize the administrative burden of performing SDOH screening and tracking. Some practices and community agencies have electronic referral systems that allow them to create and track referrals – and building a data feed with 2-1-1 to pull updated and validated resource data into existing systems supports providers in addressing SDOH.

The first test of the SIM and United Way project will be to pilot a data transfer from 2-1-1 to RIDOH's early childhood resource and electronic referral system. As a first step, 2-1-1 was updated to include early childhood health and social services that were not already in the database. SIM dollars are currently funding a technical build of the data feed. While this initial data feed is in process, SIM and United Way are planning how to move the project out into the wider community. Staff from SIM and United Way continue to meet with state and community partners to assess their resource needs, to develop plans for building connections with existing health information technology (HIT) platforms, and to establish protocols for data standardization and maintenance.

Because SIM funding will end on June 30, 2019, United Way is also working to secure sustainable funding by

applying for grants and developing partnerships with state agencies and community stakeholders to optimize funding streams and reduce duplication of resources. The alignment of community and state dollars will be instrumental to the sustainability of the USSD. The goal is to transition this project from resource directory development to a broader eReferral system over the next few years. Planning for the next phase of this eReferral project will be part of EOHHS's upcoming HIT strategic planning process which will begin this coming summer. One of the key components of the project is planning for the system's future integration into EHRs, as well as "close-the-loop" technology, which enables providers to learn what has happened with their referrals.

LESSONS LEARNED

- SDOH Screening processes need to be universal. To avoid stigmatizing anyone – and to avoid dangerous assumptions about patients – it is important to screen all patients, not just those thought to be "high risk."
- Information technology needs to be an integral part of the planning process. Social services and clinical settings often have different systems (or none at all) so addressing the quality and cost of the data connections they need is a crucial step.
- To screen for SDOH, we need:
 - High-quality referral resources;
 - Prompt access to those resources (knowing who/what/where they are and the ability to see if the resource (i.e. bed, appointment, etc.) is available before the connection is made);
 - The ability to track the referral process and close the loop between the referring provider, the service provider, and the patient.
- If possible, screening tools should be the same within a health system, but if they cannot be identical, they should be similar enough using common domains – to help align quality measures, reporting, and search terms in common directories.
- The existence of multiple databases in an organization or health system, which all need to be updated, is burdensome to users. Aligning to a single database, and combining resources to update it, is a much more efficient use of time and money.
- As always, it is useful to share and learn from best practices, such as the examples from San Diego and North Carolina.

SDOH INITIATIVES IN OTHER STATES

California—2-1-1 San Diego: Connecting Partners through the Community Information Exchange (CIE)¹²

The CIE is a cloud-based platform developed by San Diego 2-1-1 designed to allow multiple health and social service providers to see a patient's interaction across systems, agencies, and community services. 2-1-1 San Diego developed

the CIE to enable participating providers to better understand a client's interactions with health and community services and to improve care coordination for vulnerable patients. The CIE includes a social risk assessment tool, provides alerts, and facilitates connections across multiple agencies and providers. Health and social service providers may otherwise not know, for example, that their patients have had multiple emergency department (ED) visits, lack a medical home, or face unstable housing and food insecurity. In addition, a housing provider can use information such as the number of ED visits to prioritize case management services for those with high-risk and improper health care use. Recent CIE data show that among clients with a history of frequent EMS transports to EDs who were enrolled in the CIE, there was a 26% reduction in calls to EMS. In addition, CIE clients who were connected to housing were more likely to remain housed compared to those who were not enrolled.

North Carolina—NCCARE360¹³

North Carolina's NCCARE360 is the first statewide coordinated care network to electronically connect those with identified needs to community resources and allows for a feedback loop on the outcome of that connection. Community partners will have access to a robust statewide resource directory that will include a call center with dedicated navigators; a data team verifying resources; and a shared technology platform that enables health care and human service providers to send and receive secure electronic referrals in real-time, securely share client information, and track outcomes. This solution ensures accountability around services delivered, provides a "no wrong door" approach, and closes the loop on every referral made. Rollout of NCCARE360 began in January 2019, with full statewide implementation in every county in North Carolina by the end of 2020.

CONCLUSION

As Rhode Island seeks to recognize the importance of SDOH on health outcomes, we need to create systems that support their integration into care delivery. The use of common domains by providers, community-based organizations, and payers will help to ensure that SDOH assessment and interventions efforts are standardized and trackable. By aligning our approach to SDOH across providers and health care systems, we can facilitate the collection and aggregation of data that will ultimately inform payment reform and support healthier communities. Closing the referral loop is important for coordination of care and quality measurement and will become even more valuable to providers and payers as they carry out more significant health system transformation, including the assumption of downside risk. Tracking referral outcomes will also provide data on capacity of services and help to direct policy and funding allocation decisions at the state level.

References

1. Healthy People 2020. Social Determinants of Health. Retrieved online: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>.
2. WHO (World Health Organization). 2012. What are the social determinants of health? Retrieved online: http://www.who.int/social_determinants/sdh_definition/en/.
3. Braveman P. Health disparities and health equity: concepts and measurement. *Annu Rev Public Health* 2006; 27:167-94; Norman D, Kennedy B, Kawachi I. Why justice is good for our health: the social determinants of health inequalities. *Daedalus* 1999; 128: 215-51.
4. Booske B, et al., "Different Perspectives for Assigning Weights to Determinants of Health." County Health Rankings Working Paper. Madison (WI): University of Wisconsin Population Health Institute, 2010.
5. Bradley E, Taylor L. The American Health Care Paradox: Why Spending More Is Getting Us Less. New York, NY, PublicAffairs, 2013.
6. McGinnis J, Williams-Russo P, & Knickman J. The case for more active policy attention to health promotion. *Health Affairs* 2002, 21(2), 78-93. <https://doi.org/10.1377/hlthaff.21.2.78>; Retrieved online: https://www.medicaidinnovation.org/_images/content/2019-IMI-Social-Determinants_of_Health_in_Medicaid-Report.pdf
7. Centers for Medicare & Medicaid Services. National health expenditures 2016 highlights. Retrieved online: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/highlights.pdf>
8. Olson D, Oldfield B, Navarro S. Health Affairs Blog, Standardizing Social Determinants Of Health Assessments, March 18, 2019. Retrieved online: <https://www.healthaffairs.org/doi/10.1377/hblog20190311.823116/full/>.
9. As one example, a Wisconsin pilot that was implemented to refer and track patients with social needs showed that, in addition to improved outcomes, the cost-savings for a patient with two to three identified social needs was over a \$1000 per year. Retrieved online: http://app.ihl.org/FacultyDocuments/Events/Event-3135/Presentation-17910/Document-14731/Presentation_ML4_Practical_Tools_to_Address_Social_Determinants_update12.10.pdf.
10. Committee on the Recommended Social and Behavioral Domains and Measures for Electronic Health Records, Board on Population Health and Public Health Practice, Institute of Medicine, 2015.
11. In addition to this list of five SDOH domains, Rhode Island's Accountable Entity (AE) Certification Standards also require the inclusion of physical activity and nutrition.
12. 2-1-1 San Diego, <https://211sandiego.org/wp-content/uploads/2018/04/Leveraging-a-Community-211-System-to-Build-and-Information-Exchange.pdf>.
13. NCCARE360, <https://www.ncdhhs.gov/about/department-initiatives/healthy-opportunities/nccare360>.

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Care Transformation Collaborative of Rhode Island: Building a Strong Foundation for Comprehensive, High-Quality Affordable Care

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ABSTRACT

As the Patient Centered Medical Home (PCMH) model has evolved nationally and in Rhode Island, there has been increased recognition that PCMH has not been sufficient to achieve desired cost and quality goals. In this article, we describe the evolving concept of “comprehensive primary care” in Rhode Island, which includes addressing the behavioral health and social determinants of health (SDOH) needs of patients. These needs are identified through systematic screening and dedicated care management and care coordination for patients who present with complex needs.

BACKGROUND

Rhode Island is one of the first States in the country to focus on investing in primary care transformation to the Patient Centered Medical Home (PCMH) model as a strategy to improve quality and affordability and provider satisfaction.¹ The Care Transformation Collaborative of RI (CTC), co-convened by the Office of the Health Commissioner (OHIC) and Rhode Island Executive Office of Health and Human Services (EOHHS), is a Statewide multi-payer, multi-stakeholder, public-private partnership focused on primary care and health system transformation. The original focus was to assist primary care practices to become a PCMH.

As the model has evolved nationally, there has been increased recognition that PCMH is necessary but not sufficient to achieve desired cost and quality goals. In this article, we describe the evolving concept of “comprehensive primary care” taking place in Rhode Island, which includes addressing the behavioral health and social determinants of health (SDOH) needs of patients. These needs are identified through systematic screening and dedicated care management and care coordination for patients who present with complex needs.²⁻¹¹ CTC has worked to support ongoing innovation including the integration of behavioral health into primary care, the establishment of a statewide network of Community Health Teams to address SDOH in high-risk patients, as well as advancing the quality and financial case to support long term investment and sustainability. CTC plans to expand the statewide network from adults to serve children and families as well.

INTRODUCTION

Established in 2008, the Care Transformation Collaborative of Rhode Island (CTC) was formed as part of the RI “Affordability Standards”¹² that recognizes strong primary care as a critical foundation to reducing health care costs and improving quality. The effort is built around the “quadruple aim” of better patient-centered care, improved health of populations, lower costs, and improved provider and care team well-being.^{13, 14}

In 2015, CTC extended practice transformation to practices serving children through its PCMH Kids initiative, a patient-family-community approach to comprehensive primary care. PCMH Kids is comprised of 37 practices, providing care to over 110,000 children and young adults ages 0–18, including more than 80% of the state’s pediatric Medicaid population.

Acting on the strategic direction from its diverse board of directors, CTC has deepened its efforts to promote innovation and strengthening of comprehensive primary care, additionally working with specialists, systems of care, and other key stakeholders in the RI health care delivery system. The work of advancing and strengthening the primary care foundation through sustainable funding and continuous multi-stakeholder efforts has led to the national recognition of Rhode Island as one of the leaders in health system transformation.

PROGRAMS AND OUTCOMES

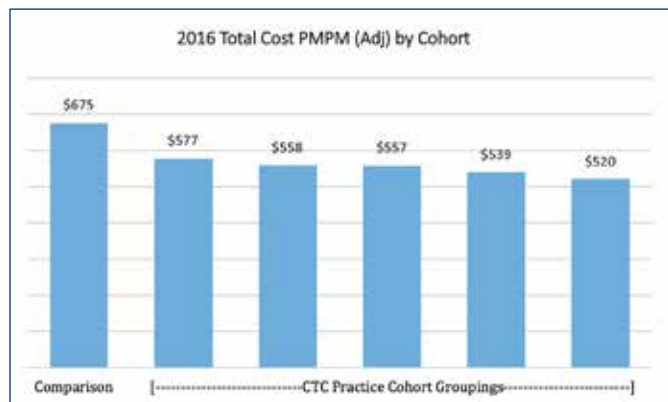
Patient-Centered Medical Home (PCMH)

Since 2008 CTC has worked with 126 practices including all Federally Qualified Health Centers, representing over 750 adult and pediatric primary care providers, serving over 650,000 Rhode Islanders, or nearly two-thirds of the state’s population. Key features of the program include a common contract with payers for supplemental payments to support care management/care coordination resources, quality reporting, and PCMH transformation. Additionally CTC provides onsite practice facilitation and regular learning collaboratives for best-practice sharing. In 2014, Rhode Island led the country in having the lowest percent of residents without a personal physician at 12.2% compared with a national average of 22.5% and was in the top ten states for fewest residents without a usual place of care, 10.1% compared with a national average of 17.3%.¹⁶

This transformation to PCMH is also associated with lower costs. As shown in **Figure 1**, according to HealthFacts RI (The RI All Payer Claims Database) in CY 2016, CTC adult practices outperformed the comparison group in total cost of care (with exclusions) by \$122 Per Member Per Month (PMPM, a common way to describe insurance-related costs). This represents lower cost of care of \$217 million for adult CTC practices in 2016. Exclusions from total cost of care include maternity and Behavioral Health hospitalizations.

Integrated Behavioral Health

Figure 1. Average Total Cost of Care for CTC and comparison group practices, 2016



Source: Rhode Island All-Payers Claims Database 2016

In 2015, CTC received funding from the Rhode Island Foundation, Tufts Health Plan and a State Innovation Model grant to conduct a three-year pilot program to integrate behavioral health services in primary care. Ten adult primary care practices representing a mix of six federally qualified health centers and private practices participated in the project in two separate waves – Cohort 1 (began January 2015) and Cohort 2 (began November 2016). Both cohorts were comprised of two private primary care practices and three community health center practices.

Both cohorts were required to: 1) implement universal screening for depression, anxiety and substance use disorders; 2) hire a behavioral health clinician to work as a member of the PCMH care team; 3) meet monthly with an onsite behavioral health practice facilitator; 4) conduct quality improvement projects to reduce ED visits associated with unmet behavioral health needs; and 5) identify and treat patients with co-morbid medical and behavioral conditions, and coordinate care for patients referred to behavioral health services; and 6) participate in quarterly learning network meetings with the other primary care practices participating in the pilot to report out on “lessons learned.”

In 2017, CTC contracted with external evaluators to conduct a qualitative evaluation of the IBH program. Universally, primary care practices communicated the positive impact IBH has had for providers and patients. “I would not

want to practice without it” effectively summarized provider response to IBH. The evaluation offered recommendations to strengthen IBH implementation, including using a systematic approach to IBH program development and implementation. Barriers to IBH included billing challenges, with different codes being covered by different insurers, two same day copays when the patient meets with an IBH counselor and their primary care provider, and higher specialty copays for patients with commercial insurance. Supported by this evaluation, in 2018, the RI legislature passed a bill which was signed into law on July 2, 2018 requiring that behavioral health visit copays be equal to primary care copays. This is a step forward, although double copays still continue for services that occur on the same day.¹⁷

CTC has conducted its own set of analyses and also contracted with Brown University to analyze cost results using a matched control group.

Figure 2 shows Cohort 1 and Cohort 2 practices were able to successfully implement universal screening to target thresholds over the 3-year study period. Both Cohorts had previously implemented universal depression screening, but not universal anxiety or substance use screening. **Figure 2** shows both Cohorts continued to screen between 80–85% of their patients for depression across the study period. Cohort 1 improved anxiety screening rates from 6% to 84% and substance abuse screening from 22% to 81%. Cohort 2 improved anxiety screening rates from 22% to 75% and improved substance use screening rates from 20% to 75%.

Figure 2. Universal screening rates for depression, anxiety and substance use disorder, Cohorts 1 & 2, 2015–2018

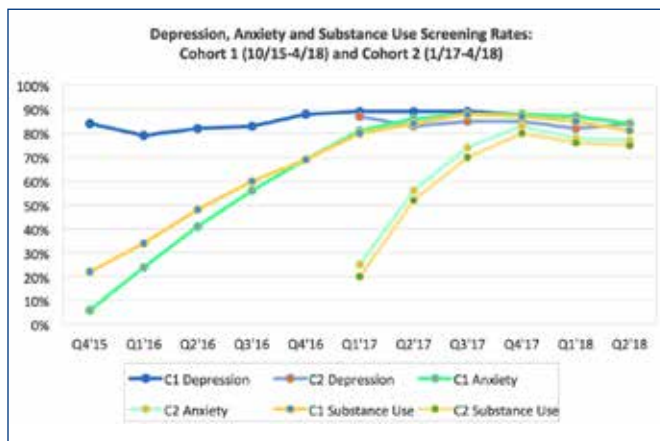
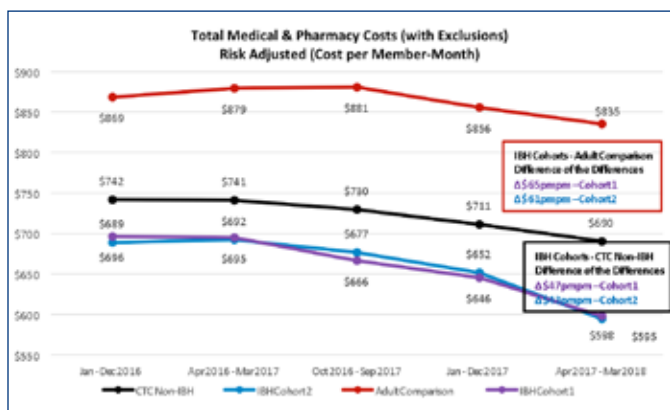


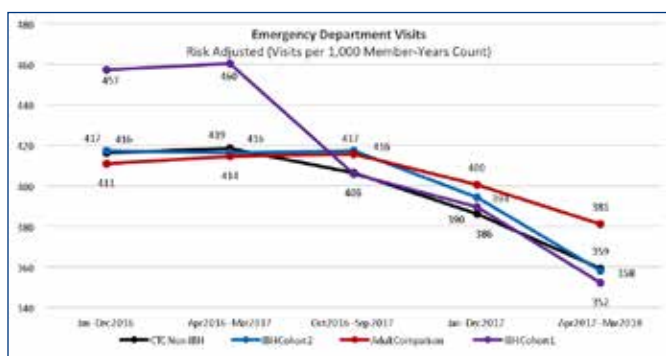
Figure 3 shows that CTC adult practices performed much better financially than the non-IBH CTC practices as well as the non-PCMH comparison group in risk-adjusted total cost of care. Using HealthFacts RI data comparing the change in PMPM costs from Jan–Dec, 2016 to the change in PMPM costs for April 2017–March 2018 we see a greater reduction over the 27-month period in total cost of care for the CTC IBH practices by \$41–\$43 PMPM compared to the non IBH

Figure 3. Total Medical & Pharmacy Costs (with Exclusions) Risk Adjusted (Cost per Member-Month). Cohort 1 and Cohort 2 IBH Pilot Program Comparison to CTC Non-IBH Comparison Group and Non-CTC Adult Comparison Group.



Source: Rhode Island All Payers Claims Database

Figure 4. Emergency Department visits – comparison of CTC IBH cohorts with non-CTC cohort, 2016-2018.



Source: Rhode Island All Payers Claims Database

CTC practices and over \$65 PMPM compared to non PCMH practices (“Difference of Differences” methodology).

Figure 4 shows decreased ED visits for both the IBH pilot programs and the comparison group with the pilot programs show a slightly greater reduction. Not surprisingly, the IBH pilots showed a greater reduction in emergency department and inpatient utilization as well.

Community Health Teams

Community Health Teams (CHTs) provide community-based care coordination services to assist high-risk, high-cost patients with their complex social and behavioral health needs. In 2015, CTC piloted two regionally based CHTs. Teams include community health workers and a behavioral health clinician and are seen as an extension of primary care. An external, mixed-methods evaluation conducted in 2016 showed high patient and provider satisfaction with the CHTs. Both patients and providers reported CHTs helped link patients to needed services, provided opportunities for increased access to behavioral health services, diverted

emergency department use and improved patient treatment compliance. Lessons learned from the evaluation included the need for a standardized approach to program management, patient screening and assessment, care planning, and data collection.¹⁸

Subsequently, in 2017 CTC received funding from the RI State Innovation Model grant and from the RI Department of Behavioral Health, Developmental Disabilities, and Hospitals (BHDDH) to expand the statewide CHT network to eight regionally based CHTs aligned with Health Equity Zones.

Working with the RI Department of Health (RIDOH) and the Medical Legal Partnership (of Boston – MLPB) CTC was able to add pharmacy, nutrition services, and legal consultation services. CTC designed the program so that CHTs work with practices to identify and triage rising risk, high risk, or high cost patients; use standardized screens to assess the patient’s physical, behavioral and social needs; develop and coordinate care plans; provide or coordinate behavioral health and/or substance use treatment referrals; link patients to services; and support continued patient engagement with their PCP. Patients are identified as rising or high risk when they have multiple chronic conditions, special healthcare needs; impacts of social determinants of health; significant behavioral health diagnoses; do not access primary care on a regular basis; and/or have numerous inpatient or emergency department visits.

A 2018 analysis of CHT performance conducted by Rajotte and colleagues shows CHTs are achieving intended results. Rajotte’s analysis found CHTs worked with providers to identify, assess, and then engage with patients identified as having complex needs. Using different patient samples, these patients averaged 17.0 poor functioning days out of the past 30 days and at least 90% had at least one social determinant of health need. Outcome data on a sample of CHT patients show clinically and statistically significant reductions (29–43%) in health risk, depression, anxiety and substance use from CHT intake to discharge, with a duration in care from 7–10 months.¹⁹

Additionally, a formal, patient-matched evaluation is underway, through the Brown School of Public Health, with an initial cohort of patients followed at the South County CHT. Very preliminary data shows an apparent, not statistically significant, reduced cost of \$1,800 per member per quarter in the first two quarters after treatment. Additional data is expected in May and a final analysis including 2018 data from HealthFacts RI is expected at the end of 2019.

DISCUSSION

Nationally and in Rhode Island, the PCMH model has continued to evolve. The evidence increasingly shows coordinated primary care that addresses the patient’s behavioral health and health-related social needs improves patient care, patient outcomes, and reduces healthcare cost. Hence the

conceptual shift to “comprehensive primary care” to systematically address the social and behavioral health needs of patients. CTC and its many partners and collaborators have worked to imbed universal screening into the practice of comprehensive primary care. At the point of identification, the practice (and system of care) is responsible to “provide or arrange” for the appropriate care. CTC is also committed to conducting ongoing evaluations of these programs and to incorporate findings as we move forward in further development and expansion. Innovations are piloted through sets of learning collaboratives that often include practice facilitation, content expert involvement, clear deliverables, and measurement of quality and cost. CTC plans to continue that approach in helping to build a lower cost, higher quality, more organized and integrated primary care-based health delivery system in Rhode Island.

While primary care practices, health plans, systems of care, and state agencies have done much to innovate and expand the comprehensive primary care model, there is more work to be done. Additional efforts are currently underway to expand IBH to practices that serve pediatric patients, and to expand CHTs to serve children and families (including a special focus on pregnant mothers involved with, or effected by, substance use disorders). This requires collaborative work with the multiple programs offered through the RIDOH, the Division of Youth and Family Services, BHDDH, and other partners. CTC also recognizes the need to strengthen engagement with specialists, hospitals, and many other community partners in these, and other efforts. CTC continues to work closely with all payers, including Medicaid, and other state agencies, to develop payment strategies to support Community Health Teams as a public utility and to support the financial sustainability of Integrated Behavioral Health.

References

1. AAFP. States take lead in adopting medical home model Available: <https://www.aafp.org/news/pcmh/20090217pcmhstates.html>.
2. The Working Party Group on Integrated Behavioral Healthcare. Joint principles: Integrating behavioral health care into the patient-centered medical home. *The Annals of Family Medicine*. 2014;12(2):183-185.
3. Healthcare: TWPGoIB, Baird M, Blount A, et al. Joint Principles: Integrating Behavioral Health Care Into The Patient-Centered Medical Home. *The Annals of Family Medicine*. 2014;12(2):183-185.
4. SAMHSA-HRSA Center for Integrated Health Solutions. Advancing behavioral health integration within NCQA recognized patient-centered medical homes. Washington, DC: SAMHSA-HRSA Center for Integrated Health Solutions 2014.
5. Knickman J, Krishnan K, Pincus HA, et al. Improving access to effective care for people who have mental health and substance use disorders. *Vital Directions for Health and Health Care Series*. Washington, DC: National Academy of Medicine 2016.
6. Blasi PR, Cromp D, McDonald S, et al. Approaches to Behavioral Health Integration at High Performing Primary Care Practices. *The Journal of the American Board of Family Medicine*. 2018;31(5):691.
7. Bielaszka-DuVernay C. Vermont’s Blueprint For medical homes, community health teams, and better health at lower cost. *Health Affairs*. 2011;30(3):383-386.
8. Bodenheimer T, Berry-Millett. Care management of patients with complex health care needs. Research Synthesis Report No. 19. Robert Wood Johnson Foundation December 2009.

9. Brownstein J, Allen C. Addressing chronic disease through Community Health Workers: A policy and systems-level approach. A policy brief on community health workers. CDC Division for Heart Disease and Stroke Prevention 2015.
10. FamiliesUSA. The promise of care coordination: Transforming health care delivery. Washington, DC: FamilUSA April 2013.
11. Tricco AC, Antony J, Ivers NM, et al. Effectiveness of quality improvement strategies for coordination of care to reduce use of health care services: a systematic review and meta-analysis. *Canadian Medical Association Journal*. 2014;186(15):E568-E578.
12. Rhode Island Office of the Health Insurance Commissioner. Reform and Policy-Affordability Standards Available: <http://www.ohic.ri.gov/ohic-reformandpolicy-affordability.php>. Accessed April 16, 2019.
13. Bodenheimer T, Sinsky C. From Triple to Quadruple Aim: Care of the patient requires care of the provider. *The Annals of Family Medicine*. 2014;12(6):573-576.
14. Berwick DM, Nolan TW, Whittington J. The Triple Aim: Care, health, and cost. *Health Affairs*. 2008;27(3):759-769.
15. Gosden T, Forland F, Kristiansen I, et al. Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians. *Cochrane Database of Systematic Reviews*. 2000(3).
16. KFF. Kaiser Family Foundation: State Health Facts_Rhode Island Available: <https://www.kff.org/statedata/?state=ri>. Accessed April 10, 2019.
17. Coleman M, Goldman R. CTC-RI Integrated Behavioral Healthcare Evaluation: Executive Report. Delivered to: Care Transformation Collaborative-Rhode Island, Providence, RI August 2018.
18. Sklar M, Coleman M, Campbell S, et al. Reaching beyond patient-centered medical home walls: A mixed-methods evaluation of a community health team intervention. *Internal Medicine Research-Open Journal* 2017.
19. Rajotte J, Redding C, Hunter C, et al. Initial findings: Rhode Island’s Community Health Teams address complex physical, behavioral, and social needs of patient populations. *Rhode Island Medical Journal*. 2019;102(3):42-47.

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Program of All-Inclusive Care for the Elderly (PACE): Integrating Health and Social Care Since 1973

JOAN KWIATKOWSKI, MSW; TSEWANG GYURMEY, MBBS, MD, CMD

ABSTRACT

According to the Centers for Medicare & Medicaid Services (CMS), the future of older adult care in the United States has arrived in a provider-sponsored health plan model that integrates medical, behavioral, and social care for frail elders. This approach gives the provider complete control over patient outcomes and total cost of care and enables participants to live safely in the community – rather than a nursing home – for an extra four years, on average. This article reviews the Program of All-inclusive Care for the Elderly (PACE) model, whose roots go back to the 1970s in California, and offers case studies on two PACE-RI participants with chronic healthcare needs. In both examples, the patients reduced hospitalizations and increased mental and physical health, all while alleviating caregiver stress. With the older population slated to double by 2060, the time has come to expand PACE to more people.

A few years ago, the acting administrator of the Centers for Medicare & Medicaid Services (CMS) said he was “glimpsing into our future” when he visited a provider-sponsored health plan that integrated medical, behavioral, and social care for frail elders, allowing them to remain in the community rather than live in a nursing home.¹

This approach to aging services successfully braided Medicare and Medicaid funding and gave the provider complete control over patient outcomes and total cost of care over a significant period – the key elements to delivering “value-based care.”

What is noteworthy is that this program of the “future” has been in Rhode Island since 2005 and in other parts of the country since 1973! It helps its medically complex participants live at home for an extra four years on average and retain a much higher quality of life, all while controlling associated costs for the government through capitated payment arrangements.⁵

The program is called PACE – short for Program of All-inclusive Care for the Elderly – and it is a comprehensive and community-based model of care that coordinates medical, behavioral, and social services for individuals ages fifty-five and older who have high care needs but can remain safely in the community. PACE is currently offered in 31 states.² The model is backed by the National PACE Association and serves 50,000 seniors

in 126 sponsoring organizations at 260 PACE centers across the country. While PACE has already had some success at scaling its integrated services, emerging demographics and heightened outreach poise the program for significant growth.

THE GAP

In the United States, people 65 and older account for more than 20 million hospital visits yearly.¹ Many visits are to the Emergency Room (ER). The rate of ER visits per 100,000 population for those ages 65 and up, rose from 53,833 in 2014 to 56,803 in 2015.² This number is so high in comparison to Emergency Room (ER) visits of other age cohorts that emergency medicine has shifted to accommodate the spike in older patients. In fact, the American College of Emergency Physicians (ACEP) has released its own geriatric emergency department guidelines.³ The frequent hospital visits not only affect the quality of life for older adults, but they can also worsen an older person’s health. According to a study in the *Annals of Emergency Medicine*, six months after visiting the ER, seniors were 14 percent more likely to have acquired a disability than adults of the same age who had a similar illness and had not been to the ER.³ Not only is this phenomenon detrimental for the health of the elderly, but it also costs the government billions per year.²

One cause of the increase in hospital visits for American older adults are gaps in the coordination of care for our aging population. Many seniors do not have family or friends who are local and willing to assist. For those who do, caregiver stress is extreme. Further, because most older adults opt for a fee-for-service insurance program, they are not optimizing the payment and coordination of their treatment.

Seniors often struggle to access much-needed resources such as transportation to and from medical appointments, daily meals, and social interaction. Coordination of medical appointments, public resources, and day center attendance should be done by a professional, and regular access to a trained social worker is critical.

THE SOLUTION

PACE is both the insurer and the medical team. When enrolled, participants receive cost-effective, comprehensive,

preventive care. The program delivers primary, acute, and long-term care services tailored specifically to the needs of the individual.⁵ The tailored care plan begins being formulated, with collaboration from the caregiver, upon the first interaction with the enrollment team. The robust enrollment process includes a medical evaluation with the PACE doctor and a home assessment so the interdisciplinary team can readily address any underlying concerns. Once enrolled, PACE takes care of all the older adult's health needs using a holistic approach, including primary & acute services, pharmacy, rehabilitation services, homecare, transportation, adult day services, and more.

The PACE model is designed to provide the right support at the right time by way of the interdisciplinary team dedicated to the improvement of the health and overall quality of life of their participant. The team is comprised of doctors, nurses, social workers, CNAs, day center and health center directors, transportation providers, and life enrichment activities personnel. They meet every morning to review patient panel needs, rooted in the belief that, if physically able, living in the community is where people are happiest, most comfortable, and most likely able to maintain good health. Having a supportive care team allows the health of PACE participants to be closely supervised, helping them to avoid ER visits and hospitalizations. As their insurer, should they need to enter a hospital or skilled nursing facility, PACE covers the cost.

Staying in one's community provides easier access to resources needed to thrive, such as transportation to and from medical appointments and daily meals. PACE coordinates their own buses to provide reliable transportation, and PACE programs across the U.S. serve up 13,666 meals a day.⁶

ELIGIBILITY

To qualify for PACE, a person must be age 55 or over, live in a designated service area, and be certified by the state to need nursing home-level care. There is no income eligibility requirement for participating in PACE. Programs often attract those with high level of care needs, as nursing homes do. The difference is, however, more than 90% of PACE participants live in the community and only 7% live in skilled nursing facilities.

POPULATION

An average participant is 77 years old, female and has about eight medical conditions. Common chronic medical conditions of participants are diabetes, dementia, coronary artery disease and cerebrovascular disease. Common behavioral health conditions of participants include major depressive, bipolar, and paranoid disorders. Additionally, nearly 47% of PACE enrollees have some form of dementia.⁶ Thirty-five percent of participants need help with 3–5 "activities of

daily living," which include dressing, bathing, transferring, toileting, eating and walking.⁷ Fifty-four percent of PACE-RI participants speak a primary language other than English.⁷

PAYMENT

PACE programs are financed by combined Medicare and Medicaid prospective capitation payments, though some participants opt for private pay.⁵ This payment is a set monthly amount provided to each local PACE organization to provide all of their required care.⁵ PACE programs assume full financial risk for all the health care services provided.⁵ Private pay participants often find the PACE monthly fee is less expensive than the out of pocket expenses (co-pays, over the counter, etc.) they otherwise would incur.

Combining dollars from different funding streams allows PACE organizations to provide fully-integrated, comprehensive care that is customized to the participants' need. This customization is proven to minimize hospitalization and nursing home admissions. PACE pools Medicare and Medicaid funding, allowing the program to eliminate cost shifting, which can result from conflicting incentives of multiple payers.⁵

HISTORY

The PACE Model of Care was founded as a solution for caring for the Asian-American population in San Francisco. Placing elders in nursing homes was not culturally acceptable in that community, as they preferred to keep their aging family members at home while they received care. In 1973, to meet this community and cultural need, On Lok Senior Services ("On Lok" is Cantonese for "peaceful, happy abode") was opened. The program was an innovative way to offer what PACE currently does - comprehensive medical supervision, physical and occupational therapies, nutrition, transportation, respite care, socialization and other needed services using home care and adult day settings.⁷

Thirteen years later, in 1986, the Robert Wood Johnson Foundation provided funding for six sites, in addition to On Lok, to develop PACE demonstration programs. In 1997, with the passage of the federal Balanced Budget Act, PACE was granted provider status under Medicare, and state Medicaid agencies were given the option to include PACE as a benefit.

On December 1, 2005, the PACE Organization of Rhode Island opened its doors in Providence with a mission of preserving and sustaining the independence of older adults in the state. The organization has since grown to three locations and over 300 participants. In 2013, PACE-RI acquired the Adult Day Center of Westerly, allowing two options of care: traditional adult day or, as care needs progress, enrollment in PACE. In 2016, PACE-RI opened its Woonsocket day center, the first building fully designed by the organization. With these three centers, the organization services the aging population across the entire state.

WHO DOES PACE HELP?

The two case studies below showcase the population that PACE serves and how we provide comprehensive wrap-around services to assist them.

Joseph

Joseph is a 68-year-old gentleman who lives alone in senior housing. He is estranged from his family and has multiple, complex medical co-morbidities. They include diabetes with complications, major depression, high blood pressure, high cholesterol, heart disease, spinal stenosis, end-stage kidney failure requiring hemodialysis 3 times a week, and he is legally blind. He ambulates with a walker.

Before enrollment, he was in and out of emergency rooms and hospitals. Most of these visits were attributed to his inability to keep follow-up appointments with his doctors. His medications were not refilled on time due to lack of adequate home care and transportation to the pharmacy. He had been referred to the Division of Elderly Affairs by the apartment manager for self-neglect, but he was adamant about not wanting to go to a nursing home.

With PACE, he is provided with a certified nursing assistant (CNA) and home health care aide in the morning, noon and evening to help with grocery shopping, preparing meals, medication cuing, monitoring for unusual symptoms, and to help with transportation to get him to appointments with PACE doctors. He is transported by the PACE buses. He also receives home visits by the community registered nurse, social worker and primary care team. Medications are delivered to his home every two weeks by our vendor pharmacy.

He continues to live at home with stable medical conditions and he rarely has had ER visits or hospitalizations.

AltaGracia

AltaGracia is a 90-year-old old Hispanic woman with Alzheimer's dementia and severe end-stage COPD, requiring continuous oxygen. She lives with her daughter who works full-time. She had multiple falls and behavioral symptoms of dementia with aggression and frequent night-time awakenings. Like most of our participants, she was at the brink of a nursing home placement. Her daughter was exhausted from stress and worry.

With PACE, she attends the day center six days a week, participating in our memory care program and purposeful activities, as well as receiving CNA supports at home both in the morning and at night. She receives geri-psych follow up at the PACE center, which has led to a decrease in dementia-related behavioral symptoms. Her daughter gets respite care services so she can go on occasional vacations and get some personal time while keeping her mother at home and minimizing strain.

RESULTS

Below is a sampling of PACE-RI successes:

- Average enrollment (living at home rather than in a nursing home) = 4.3 years
- PACE-RI participants having no hospitalizations since enrollment = 31 %
- ER visits per 100 than RI Medicare FFS = 11 % fewer
- Influenza immunization rate = 93 %
- Participants would recommend PACE-RI to family or friends = 90 %

CONCLUSION

The PACE model of creating a personalized care plan with the individual and their loved ones and coordinating every aspect of their health care has proven to give participants what they want: to live safely at home, to stay out of the hospital and emergency room, and to reduce strain for their caregivers. PACE participants have seen an improvement in their behavioral health, mental health, and quality of life as well.

With the percentage of the population 85 years and older projected to increase nearly 10 percent from 2016 to 2025, and more than double by 2060, we can anticipate an increased need for programs like PACE.⁸ The model was built to sustain a growing aging population and our goal to spread the word about its impact so even more people can benefit and change what it means to age successfully.

References

1. National PACE Association. CMS calls PACE a “glimpse into our future”, 2015;1.
2. Sun, R., Ph.D., Karaca, Z., Ph.D., & Wong, H. S., Ph.D. Trends in Hospital Emergency Department Visits by Age and Payer. Healthcare Cost and Utilization Project (HCUP), 2018;1: 238.
3. Knowles, M. ER visits may serve as turning point for elderly patients' health. Becker Medical Review, 2018;1.
4. American College of Emergency Physicians. Geriatric Emergency Department Guidelines, 2019; 1
5. Center for Medicare and Medicaid Services. Programs of All-Inclusive Care for the Elderly (PACE). PACE Model Manual, 2011; 1.
6. Gong, J., MBA., RN, & Fitzgerald, P., MSc. PACE 2.0: PACE Programs Are Ready To Grow Exponentially, Journal of the Catholic Health Association of the United States. 2019;1.
7. National PACE Association. The Value of PACE. 2019, January 11; 1.
8. United States Census Bureau. Table 2. Projected age and sex composition of the population; 2017;1.

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Up from the Streets: The RI Medical Navigator Partnership as a Model of Structurally-Informed Service, Education, and Advocacy

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ABSTRACT

The Rhode Island Medical Navigator Partnership (RIMNP) is an interdisciplinary student organization homed at the Warren Alpert Medical School of Brown University with the tripartite mission of (1) improving access to care for patients experiencing homelessness, (2) sensitizing students to issues of homelessness through experiential learning, and (3) providing educational opportunities for providers. Centered on the lived experiences of people who are homeless, the RIMNP aims to combat structural violence and foster providers' structural competence through integrated direct service and advocacy. This article describes the RIMNP's efforts to bridge gaps in the health and social services landscape in Rhode Island, and ultimately concludes with a discussion of how similar models may be implemented at other academic institutions.

INTRODUCTION: A VIEW OF HEALTHCARE FROM THE STREET

The emergency department paperwork she showed the outreach worker was still soggy from yesterday's rain. Luckily the ink hadn't run, and the bold font was easy enough to read. It said, "Abnormal result. Please follow up with your OB/GYN as soon as possible." The date on it was from five months previous.

"Have you gone?" the outreach worker asked.

"No," she said. "I've been out here. And I don't have an OB/GYN. Besides, I know it's gonna be bad news, like I said they're gonna say I have cancer. And whatever they're gonna want to do to me they won't be able to anyway cuz I'm out here."

Her statement, matched with a dismissive wave, belied her evident worry. She'd kept this paper for five months, and she'd willingly shown it to the outreach worker after shouting from across the street that she had cancer.

A month later, standing in an OB/GYN's office with the outreach worker and a first-year medical student working with the Rhode Island Medical Navigator Partnership (RIMNP), she learned that she did in fact have metastatic ovarian cancer. She was accompanied through further testing, surgery, and chemotherapy – and several transitions between housing and homelessness – by that same student, now in her third year, and by other students of medicine and

social work who subsequently joined her RIMNP team.

While the last three years have seen her become connected with other supports, none have been as enduring as her RIMNP team. Some, like her oncologist, have featured more or less prominently as her health has fluctuated. Others, like her outreach worker, changed roles as she transitioned from homelessness to housing. Her RIMNP team is the group that knows her medical and social history most intricately, and this longitudinal connection has been both supportive for her and inspiring and educative for the students.

Although the RIMNP is limited in scope, its unique structure – which aligns an agile model of social support for individuals experiencing homelessness with an interdisciplinary educational opportunity for students – fills a gap in Rhode Island's healthcare and social service systems. In what follows, we describe the structural context of the RIMNP, the program itself, and how its core components can inform initiatives to train structural competency providers at other academic institutions.

Central to the RIMNP is the organizational belief that the health of our partnered participants is shaped by structures, defined broadly as the economic, political, and societal conditions that produce inequalities in health and otherwise. In identifying health and social inequities at the structural level, we recognize that partnered participants' experiences often involve structural violence, or the damage inflicted upon them by societally-constructed systems. This can manifest in the organization of institutions, policies, neighborhoods, and cities, extending beyond specific communities or individuals. Viewing our work through this structural lens, the RIMNP works to build structural competency amongst students and providers, thereby developing member capacity to both appreciate the texture of structural violence and help partnered participants navigate oppressive structures that influence their lives.¹ The RIMNP believes that we must understand partnered participants' experiences as the products of societal structures – and meet them on their terms – if we are to meaningfully help partnered participants inside or outside of the clinic.

THE STRUCTURAL CONTEXT OF THE RIMNP

Over half a million people experienced homelessness in the United States during 2018, including approximately 4,500

in Rhode Island. Oppressed minorities, particularly African Americans and Latinos, are overrepresented.^{2,3} Homelessness is also fundamentally about economics: low-wage employment and SSI benefits are simply inadequate to make rent. In Rhode Island, a person would have to work almost 120 hours per week at minimum wage in order to afford an apartment.⁴

Homelessness is linked to dramatically worse health outcomes. People experiencing homelessness disproportionately experience accidental and violent injuries, chronic health conditions, and mental and behavioral health challenges.^{5,6} All of this contributes to premature mortality: the average age of death of a person who is homeless in the United States today is between 42 and 52 years, some 25 years less than the national average.⁷

Homelessness is a reflection of both structural oppression and structural failings, as well as a lack of support for people with personal risk factors – including inadequate and sometimes harmful interactions with our fragmented healthcare and social service systems.⁸⁻¹⁰ Established community resources – such as health and mental health centers, housing authorities, and community action programs – often cannot go wide enough or deep enough. Health care and social service providers are often forced to choose between attempting to offer services outside their scope, competence, or logistical capacity, and making an external referral that may or may not be actualized

The RIMNP exists alongside other innovations combating the fragmentation and inadequacy of this service landscape, including initiatives that incorporate community health workers and resource hubs into primary care settings and that integrate interprofessional students into free clinic sites. Unlike many more formalized (and billed-for) supports, the RIMNP has the capacity to remain connected with individuals as they transition from homelessness to housing (and sometimes back to homelessness again), as insurance and immigration status changes, and as they are admitted as an inpatient and referred to out-of-network specialists. In walking with individuals through these settings of care – and co-navigating the chasms between them – students become powerful advocates for the public education and structural changes needed to create a system that renders such hands-on navigation unnecessary.

THE RIMNP MODEL

Founded in 2014, the RIMNP is a collaboration between the House of Hope Community Development Corporation, Warren Alpert Medical School of Brown University, the Rhode Island College School of Social Work, the College of Nursing at the University of Rhode Island, Roger Williams Law School, and Brown University. The RIMNP offers additional support to persons experiencing homelessness or housing insecurity who have complex medical needs and/

or face barriers to navigating the healthcare system (termed “partnered participants”). The program connects interdisciplinary teams – comprised of students from the institutions listed above – with a partnered participant and their providers in the community, including a case manager and an anchoring medical provider. As navigators, students on RIMNP teams help partnered participants connect with the healthcare system by attending medical appointments, assisting the scheduling of follow-up care, and engaging in collaborative patient advocacy and education. (See **Figure 1.**)

Figure 1. The RIMNP’s partnered participant-centered model.¹¹



During the 2018–2019 academic year, the RIMNP supported 18 teams centered on 21 partnered participants (17 individuals and one family of 4). A total of 42 medical students, 8 social work students, 10 undergraduates, and 1 pharmacy student were involved. All students participate voluntarily. The RIMNP’s operating budget, comprised of small grants from the Alpert Medical School, directly supports the specific needs of partnered participants and community members. Funded initiatives include a local health fair, the purchase of essential documents like municipal identification cards, a bi-monthly mobile foot health and hygiene clinic, a furniture drive, and a “Welcome Home” program that offers cleaning supplies and other necessities to newly housed individuals. Importantly, access to these funds is not limited by the eligibility requirements often associated with federal or insurance-based programs.

The organizational philosophy of the RIMNP is guided by the program’s primary goals, which are to: (1) improve partnered participants’ access to healthcare and their interactions with the healthcare system, (2) provide students with an

experiential learning opportunity to sensitize them to issues of care that impact the homeless community, and (3) create educational and immersion opportunities related to health care for homeless communities for residents, attendings, and other current and future providers across professions. RIMNP students are coached to consider their role as walking with partnered participants to support and advocate for their self-identified needs. This culture of partnership aims to give students a window into the unique lived experiences of partnered participants and to encourage inductive learning – namely, becoming familiar with broad, systems-level issues affecting people experiencing homelessness from the ground up – while moving towards the partnered participant's specific goals.¹² By meeting partnered participants on their terms, appreciating the context in which they live, and recognizing the power of being present, students organically develop skills in structural competency that will inform their practices as future providers.¹³

The RIMNP achieves its goal of promoting access to healthcare for individuals experiencing homelessness through several community-based, advocacy, and educational initiatives. In addition to the aforementioned patient navigation, the RIMNP engages with the broader homeless community through “street rounds,” which are daily early morning and late evening walks that focus on outreach to individuals who are experiencing street homelessness. These nondirective contacts emphasize the engagement process and include meeting immediate needs and coordinating referral and follow-up.¹⁴

Emerging from contact with and exposure to systemic barriers to health for partnered participants, the RIMNP has engaged in advocacy efforts and developed educational initiatives targeted at both providers-in-training and current providers. Through RIMNP's advocacy at the local and state levels, students have supported proposed legislation to increase access to affordable housing and oppose legislation that criminalizes people experiencing homelessness. By centering legislative testimony on partnered participants' lived experiences, students can use the privilege and power afforded to them as members of the medical community to advocate for more responsive and just policies.

Complementing this community-based learning, the Health and Housing Pre-Clerkship Elective at Alpert Medical School introduces students to the unique resiliencies of and challenges faced by those experiencing homelessness. Led by RIMNP students and faculty, the elective creates space for critical discussion of homelessness-related issues, and connects students with street outreach teams for shadowing. As third and fourth years, students can participate in the Health Care for Homeless Communities Clinical Elective. In the three years that the clinical elective has been offered, nearly all of its participants had taken part in the RIMNP during their preclinical years. This continuity of involvement is rare given the segmented nature of medical

education, and allows students to continue to build their structural competency across multiple years.

The RIMNP's second educational initiative focuses on medical providers who treat people experiencing homelessness. These training sessions educate practitioners about issues from documentation to discharge that intimately affect the lives of housing-insecure patients. Currently designed for physicians in several of Brown University's residency programs, this initiative outlines how physician documentation of medical encounters and illness affects patients' capacity to secure essential safety net benefits, including housing, bus passes, disability income, and follow-up care. Practitioners also develop strategies to support patients as they follow through on medical care and navigate the structural violence present in their lives.

RIMNP's organizational approach lends itself to a pedagogical model centered on structural competency and attunement to structural violence, expanding the frame beyond individual encounters to include the institutions and policies that influence health outcomes.¹ The experiential learning central to RIMNP patient navigation ensures students see the human impacts of policy. RIMNP values this exposure to the “ground truth” as a critical prerequisite and complement to didactic education. The process of observing, “being with,” and understanding social inequity as lived becomes a thread that extends through conversations on outreach, classroom-based discussions and trainings, and natural reflection with one another. It provides space for questioning the status quo of our healthcare system and social safety net, and invites consideration of how to incorporate addressing such inequities into future medical or social practice. In doing so, RIMNP incubates and fosters the co-generation of knowledge by students and community partners.

CONCLUSION: WHERE FROM HERE? EXPANDING THE RIMNP MODEL OF STRUCTURAL EDUCATION

The organizational model pioneered by the RIMNP has demonstrated clear benefits for both partnered participants and students, making the prospect of developing it in both scope and scale promising. In addition to calling for other medical schools to adopt models that incorporate person-centered, longitudinal, experiential, and interdisciplinary elements, we also call for such institutions to pay greater attention to structural education and competence in the curriculum. We must ensure that all of tomorrow's providers enter their practice with grounded and operational knowledge about the systems-level forces that shape patients' health. Such education will prepare them to engage with structures of oppression both in the clinical context and through broader advocacy.

However, in considering scaling this work, the RIMNP

runs the risk of making invisible the very structural deficiencies it is seeking both to navigate and to correct. The potential harms are twofold. First, the RIMNP will never be large enough to completely fill the gaps that exist (and propagate) among various providers and systems. In some respects, therefore, it masks the issue's scale while not meeting the complete need. Second, by utilizing students to provide continuity of care, the RIMNP provides a temporary fix for what needs to be a radical overhaul of our tattered social safety net. By adding a measure of stability to a deeply inequitable system, the lessened sense of urgency to establish systemic change could ultimately work against the organization's mission.

While these critiques are valid and should be borne consistently in mind, the rejoinder cannot be to abdicate our collective responsibility to act. Rather, this tension demands that concurrent with our direct work, we join the effort to catalyze systemic change in Rhode Island and beyond. In leaning into rather than shying away from the ethical dilemmas and competing priorities implicated in this work, students start developing their own identities as structurally competent healthcare providers.

We must model within our systems of education those interventions we wish to implement within our broader systems of care, and the RIMNP – in centering a culture of partnership that embodies structurally-informed service, education, and advocacy – offers one such path forward.

References

1. Metzlj, JM, Hansen, H. Structural competency: Theorizing a new medical engagement with stigma and inequality. *Soc Sci Med.* 2014; 103:126-133.
2. NationalAlliancetoEndHomelessness.StateofHomelessness.2019; <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-report/>. Accessed April 30, 2019.
3. Rhode Island Coalition for the Homeless. Rhode Island Annual Homeless and Housing Count. 2018; <https://www.rihomeless.org/annual-homeless-housing-count>. Accessed April 30, 2019.
4. RhodeIslandKidsCount.RhodeIslandKidsCountFactbook.2019; <http://www.rikidscount.org/Portals/0/Uploads/Documents/Factbook%202019/Whole%202019%20Factbook.pdf>. Accessed April 30, 2019.
5. Fazel, S, Geddes, JR, Kushel, M. The health of homeless people in high-income countries: descriptive epidemiology, health consequences, and clinical and policy recommendations. *Lancet.* 2014; 384(9953):1529-1540.
6. Fazel, S, Khosla, V, Doll, H, Geddes, J. The prevalence of mental disorders among the homeless in western countries: systematic review and meta-regression analysis. *PLoS Med.* 2008; 5(12):e225.
7. O'Connell, JJ. Premature mortality in homeless populations: A review of the literature. Nashville: *National Health Care for the Homeless Council.* 2005; 2005-16.
8. Nooe, RM, Patterson, DA. The ecology of homelessness. *Journal of Human Behavior in the Social Environment.* 2010; 20(2): 105-152.
9. Stange, KC. The problem of fragmentation and the need for integrative solutions. *Ann Fam Med.* 2009; 7(2):100-3.
10. Pierson, P. Fragmented welfare states: Federal institutions and the development of social policy. *Governance.* 1995; 8(4):449-478.
11. Melucci, S, Kler, S, Smith, M, Lam, J, Kalagara, S, Kaufmann, C. The Rhode Island Medical Navigator Partnership: A Growing Interdisciplinary Patient-Student Advocacy Model. Poster presented at the International Street Medicine Symposium XIV, Rotterdam, The Netherlands. October 2018.
12. Segal, EA. Social empathy: A model built on empathy, contextual understanding, and social responsibility that promotes social justice. *Journal of Social Service Research.* 2011; 37(3):266-277.
13. Rhode Island Medical Navigator Partnership. About. (n.d.); <https://rimnp.wordpress.com/about/>. Accessed April 21, 2019.
14. Pollack, D. Linking mentally ill persons with services through crisis intervention, mobile outreach, and community education. *Psychiatr Serv.* 1997; 48(11):1450-3.

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Evaluating the Impact of Hospital Closure on Local Emergency Department Operations

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ABSTRACT

BACKGROUND: The January 1, 2018 closure of Memorial Hospital of RI (MHRI) has anecdotally resulted in operational strain for the area's remaining EDs. This study seeks to evaluate the impact on neighboring facilities.

METHODS: An interrupted time-series analysis was conducted to compare operational outcomes and demographics pre- and post-MHRI closure. Three hospitals were selected from the same health system: Miriam Hospital, Rhode Island Hospital, and Newport Hospital.

RESULTS: In the first 12 months following MHRI's closure, there were significant increases in monthly ED volume, length of stay, and left without being seen rates at two area hospitals. There was also a significant diversification of the patient population at these sites. The most substantial impact was noted at Miriam Hospital, the closest remaining facility.

CONCLUSION: This study demonstrates operational strain and an evolving patient population at neighboring EDs following MHRI's closure. These findings suggest the need for additional resource allocation to support clinical care and logistics.

KEYWORDS: hospital closure, ED operations, LWBS

BACKGROUND

Emergency departments (EDs) provide critical access points for underserved, underinsured, and medically complex patient populations.¹ Utilization of emergency care has continued to increase in recent years despite ongoing hospital closures, pushing remaining facilities to their functional limit.² ED closures increase volume at remaining area hospitals,^{3,4} and patients are often forced to increase travel distance and time to access care.^{5,6} This dynamic has an outsized impact on underserved populations, as ED closure is more likely among low-profit margin, safety net facilities, disproportionately affecting non-white patients and Medicaid recipients.^{7,8}

Hospital closures place strain on the operations of remaining hospitals. Overcrowding may result in prolonged wait times; delays to diagnosis, pain medication or definitive treatment; worsened patient dissatisfaction; ambulance diversions; decreased physician productivity; and increased

frustration among medical staff.^{9,10,11} A growing body of research has also demonstrated significant, but transient, increases in mortality from time-sensitive conditions – such as myocardial infarction, stroke, and trauma.^{12,13,14,15,16} Inpatient mortality rates have also been shown to worsen at hospitals in the vicinity of an ED closure, suggesting a broader “ripple effect” across a local health system.¹⁷

This study builds upon existing literature by evaluating the functional impact of a hospital closure in Rhode Island on remaining local EDs by reviewing operational metrics pre- and post-closure on three hospitals within one system of varying distance from hospital closure.

The January 1, 2018 closure of Memorial Hospital (MHRI), a teaching and safety net facility in Pawtucket, Rhode Island, provides a case study into the local effects of ED closure on surrounding area hospitals. MHRI was a 294-bed facility with almost 37,000 annual ED visits that primarily served Pawtucket and Central Falls, communities with higher proportions of non-white, low-income, uninsured, and unemployed residents than the RI state average.^{18,19} Care New England (CNE), which acquired MHRI in 2013, decided to close the facility due to continued financial losses and concerns about patient safety.

The closure was ultimately supported by the Rhode Island Department of Health in large part because of the availability of alternative resources nearby: MHRI is surrounded by 7 acute care hospitals within a 10-mile radius (**Figure 1**). As part of the approval, the Department of Health required CNE to develop “innovative solutions and/or pilot programs” –which have included expanded primary care walk-in hours and free rides to neighboring hospitals – to address the impact on surrounding facilities.²⁰

Despite these efforts, remaining area hospitals have anecdotally noted an increase in visit volume and a larger proportion of patients from the communities previously served by MHRI in the year following the hospital's closure.²¹ To date, though, there has not been a formal study of the effect of MHRI's closure on the volume, patient mix, and operations of surrounding hospitals. Given the potential negative implications on healthcare access, quality, and equity of care at the remaining facilities in RI, we aimed to formally evaluate the effect of MHRI's closure on ED operations and patient demographics at three other RI hospitals pre- and post-MHRI closure.

Figure 1. Map of acute care hospitals within 10-mile radius of MHRI.
[Map data ©2019 Google]



Legend

MHR: Memorial Hospital RI
TMH: The Miriam Hospital
RWH: Roger Williams Hospital
VAM: Veterans Affairs' Medical Center

OLF: Our Lady of Fatima
RIH: Rhode Island Hospital
HCH: Hasbro Children's Hospital

METHODS

Three hospitals from the same health system were selected for study.

1. The Miriam Hospital (TMH), a 247-bed facility closest to MHRI (3 miles) was hypothesized to be the site most directly impacted by the closure.
2. Rhode Island Hospital (RIH), a 632-bed level I trauma center, is one of five hospitals located 5–10 miles from MHRI and was hypothesized to demonstrate a more moderate impact following the closure
3. Newport Hospital (NPH), a 129-bed community hospital located 40 miles away, was hypothesized to have limited to no impact from the closure because of geographic distance and was included as a control site

By selecting hospitals within the same system, key operational metrics could be evaluated and compared pre- and post-MHRI closure. As the distance from MHRI increases, the impact on operational efficiency was expected to decrease.

Patient demographic data (race, ethnicity, preferred language, city or town of residence, and insurance status) and ED operations (volume, LOS, and LWBS) were accessed through the hospital's medical record system (EPIC). We compared a two-year pre-closure baseline period (11/30/2015–11/30/2017) with the first 12 months post-closure (1/1/2018

–12/31/2018). We included a one-month “washout” period in between because MHRI had started ramping down services in the month before closure. The operational metrics selected for review were: monthly ED volume, length of stay (LOS) for admitted and discharged patients, and left without being seen (LWBS) rates. LWBS was chosen as the primary end-point because of its implications for quality and safety. LOS was chosen as a secondary overall metric of ED operations, as it maps to hospital flow and efficiency.

Statistical analyses were performed using Stata MP 13.0 software (StataCorp, 2013. College Station, Texas). We examined sociodemographic characteristics of ED patients and ED operational metrics before and after MHRI closure, at the intervention (RIH, TMH) versus control hospital (NPH) using counts, means or proportions and associated 95% confidence intervals. We further examined changes in operations (LWBS and LOS) in graphical representation and segmented regression analysis. The latter is useful in determining change immediately around the hospital closure (difference between intercepts) and differences in the rates of change in the pre- versus post-closure periods (slopes) ($a=0.008$ with Bonferroni correction ($n=6$)). The LOS analysis was also repeated, stratified by discharges and admits as an exploratory analysis.

RESULTS

In the first 12 months following MHRI closure, the average monthly ED volume at TMH increased 18%. LOS increased 24%, from 235 to 291 minutes for discharged, and 24% for admitted patients, from 339 to 420 minutes. The rate of patients who left without being seen (LWBS) increased 123%, from 2.5% to 5.6%. At RIH, the average monthly ED volume increased 1%. LOS increased 15% for discharged patients, from 260 to 298 minutes and 18% for admitted patients, from 417 to 491 minutes (mean diff. 74; CI 73.6, 74.4). The rate of patients who left without being seen (LWBS) increased 76%, from 3.4% to 5.9%. NPH did not experience significant changes in LOS or LWBS. (Tables 1a, 1b, 1c)

At TMH, the proportion of patients from Pawtucket increased from 17.4% to 23.9% and the proportion from Central Falls increased from 5.0% to 7.0%. There was also a statistically significant increase in the proportion of Hispanic, Spanish- and Portuguese-speaking, and Medicaid and self-pay patients. At RIH, the proportion of patients from Pawtucket increased from 4.2% to 5.6% and the proportion from Central Falls increased from 1.4% to 1.8%. There was also a statistically significant increase in the proportion of Hispanic, Spanish-speaking, and Medicaid patients. NPH did not experience significant changes in the proportion of patients from Pawtucket and Central Falls or the proportion of Hispanic, Spanish-speaking, or Medicaid patients (Tables 2a, 2b, 2c)

Table 1a. Miriam Hospital – Operational Metrics

	Pre-closure (11/30/15- 11/30/17)	Post-closure (1/1/18- 12/31/18)	Mean difference (95% CI)	% difference
Monthly ED volume	5,561	6,547	985.71 (980.55, 990.87)	17.7%
LWBS (%)	2.52%	5.62%	3.10% (2.92%, 3.28%)	123.0%
Length of stay: Discharged (mins)	235	291	56 (55.85, 56.15)	23.8%
Length of stay: Admitted (mins)	339	420	81 (80.52, 81.48)	23.9%

Table 1b. RI Hospital – Operational Metrics

	Pre-closure (11/30/15- 11/30/17)	Post-closure (1/1/18- 12/31/18)	Mean difference (95% CI)	% difference
Monthly ED volume	8,505	8,629	123.63 (117.22, 130.04)	1.5%
LWBS (%)	3.39%	5.95%	2.56% (2.40%, 2.72%)	75.5%
Length of stay: Discharged (mins)	260	298	38 (37.85, 38.15)	14.6%
Length of stay: Admitted (mins)	417	491	74 (73.57, 74.43)	17.7%

Table 1c. Newport Hospital – Operational Metrics

	Pre-closure (11/30/15- 11/30/17)	Post-closure (1/1/18- 12/31/18)	Mean difference (95% CI)	% difference
Monthly ED volume	2,630	2,765	135 (130.93, 139.07)	5.1%
LWBS (%)	0.61%	0.60%	-0.01% (0.09%, -0.11%)	-1.6%
Length of stay: Discharged (mins)	140	147	7 (6.96, 7.04)	5.0%
Length of stay: Admitted (mins)	269	279	10 (9.84, 10.16)	3.7%

Table 2a. Miriam Hospital – ED patient characteristics

	Pre-closure (11/30/15- 11/30/17)	Post-closure (1/1/18- 12/31/18)	Mean difference (95% CI)	% difference
Race				
White (%)	70.04%	66.48%	-3.56% (-3.97%, -3.15%)	-5.1%
Black or African American (%)	13.66%	13.94%	0.28% (0.58%, -0.02%)	2.0%
Other (%)	13.52%	16.48%	2.97% (2.65%, 3.29%)	22.0%
Ethnicity				
Not Hispanic or Latino (%)	83.47%	80.05%	-3.42% (-3.76%, -3.08%)	-4.1%
Hispanic or Latino (%)	15.53%	18.25%	2.72% (2.39%, 3.05%)	17.5%
Patient residence				
Central Falls (%)	5.00%	7.04%	2.05% (1.84%, 2.26%)	41.0%
Pawtucket (%)	17.40%	23.95%	6.56% (6.20%, 6.92%)	37.7%
Preferred language				
English (%)	86.48%	84.60%	-1.89% (-2.20%, -1.58%)	-2.2%
Spanish (%)	8.29%	9.74%	1.45% (1.20%, 1.70%)	17.5%
Portuguese (%)	1.95%	2.09%	0.13% (0.01%, 0.25%)	6.9%
Creole (%)	1.68%	1.71%	0.03% (-0.08%, 0.14%)	1.6%
Patient insurance				
Commercial (%)	68.77%	71.06%	2.29% (2.69%, 1.89%)	3.3%
Medicaid (%)	1.80%	2.23%	0.43% (0.30%, 0.56%)	23.7%
Medicare (%)	21.87%	18.02%	-3.85% (-4.20%, -3.50%)	-17.6%
Self-pay (%)	5.63%	6.93%	1.30% (1.08%, 1.52%)	23.0%

Table 2b. RI Hospital – ED patient characteristics

	Pre-closure (11/30/15- 11/30/17)	Post-closure (1/1/18- 12/31/18)	Mean difference (95% CI)	% difference
Race				
White (%)	59.56%	58.57%	-0.99% (-1.36%, -0.62%)	-1.7%
Black or African American (%)	14.29%	14.12%	-0.17% (-0.43%, 0.09%)	-1.2%
Other (%)	21.75%	23.25%	1.50% (1.19%, 1.81%)	6.9%
Ethnicity				
Not Hispanic or Latino (%)	75.01%	73.91%	-1.11% (-1.44%, -0.78%)	-1.5%
Hispanic or Latino (%)	23.84%	24.74%	0.90% (0.58%, 1.22%)	3.8%
Patient residence				
Central Falls (%)	1.41%	1.76%	0.36% (0.46%, 0.26%)	25.3%
Pawtucket (%)	4.20%	5.60%	1.40% (1.24%, 1.56%)	33.2%
Preferred language				
English (%)	82.32%	81.87%	-0.45% (-0.74%, -0.16%)	-0.5%
Spanish (%)	13.92%	14.19%	0.27% (0.01%, 0.53%)	2.0%
Portuguese (%)	1.24%	1.22%	-0.01% (-0.09%, 0.07%)	-1.1%
Creole (%)	0.29%	0.30%	0.01% (-0.03%, 0.05%)	4.3%
Patient insurance				
Commercial (%)	66.03%	68.06%	2.03% (1.68%, 2.38%)	3.1%
Medicaid (%)	3.19%	3.72%	0.53% (0.39%, 0.67%)	16.6%
Medicare (%)	17.69%	15.12%	-2.57% (-2.84%, -2.30%)	-14.5%
Self-pay (%)	9.89%	9.96%	0.07% (-0.15%, 0.29%)	0.7%

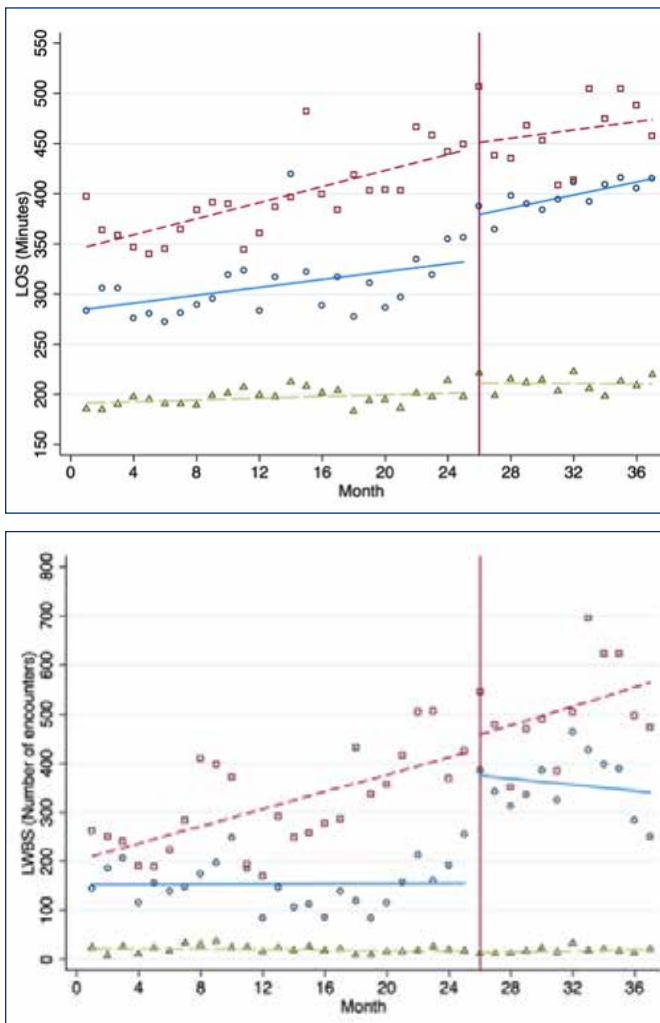
Table 2c. Newport Hospital – ED patient characteristics

	Pre-closure (11/30/15- 11/30/17)	Post-closure (1/1/18- 12/31/18)	Mean difference (95% CI)	% difference
Race				
White (%)	83.14%	81.84%	-1.30% (-2.81%, 0.21%)	-1.6%
Black or African American (%)	11.01%	11.39%	0.38% (-0.88%, 1.64%)	3.5%
Other (%)	3.39%	4.20%	0.81% (0.08%, 1.54%)	23.9%
Ethnicity				
Not Hispanic or Latino (%)	92.00%	91.51%	-0.49% (-1.58%, 0.60%)	-0.5%
Hispanic or Latino (%)	7.27%	7.76%	0.49% (-0.56%, 1.54%)	6.7%
Patient residence				
Central Falls (%)	0.06%	0.08%	0.02% (0.12%, -0.08%)	34.5%
Pawtucket (%)	0.37%	0.35%	-0.02% (-0.26%, 0.22%)	-5.9%
Preferred language				
English (%)	95.78%	95.41%	-0.37% (-1.18%, 0.44%)	-0.4%
Spanish (%)	2.82%	3.20%	0.38% (-0.29%, 1.05%)	13.6%
Portuguese (%)	0.68%	0.64%	-0.04% (-0.37%, 0.29%)	-6.0%
Creole (%)	0.01%	0.02%	0.01% (-0.03%, 0.05%)	148.3%
Patient insurance				
Commercial (%)	70.60%	72.81%	2.21% (0.38%, 4.04%)	3.1%
Medicaid (%)	1.75%	1.64%	-0.11% (-0.64%, 0.42%)	-6.4%
Medicare (%)	18.86%	16.97%	-1.89% (-3.46%, -0.32%)	-10.0%
Self-pay (%)	5.69%	5.49%	-0.20% (-1.13%, 0.73%)	-3.6%

Figure 2 displays our two primary outcomes, LWBS and LOS, at the three hospital sites (RIH, TMH, and NPH) over the study period. The overall length of ED stays at all three hospitals increased over the 36-month study period ($p < 0.001$), with the largest increase in length of stay seen at RIH. There was no difference in the *rate* of increase in the length of stay before and after closure of MHRI. Only the Miriam Hospital experienced a significant increase in the length of stay post-MHRI closure – increasing by 45 minutes immediately following MHRI closure compared to the period just before closure ($p = 0.015$). When length of stay was stratified by admits or discharges, only the length of stay

at RIH and TMH for discharged patients was significantly greater in the post-closure period. Although the length of stay for admitted patients increased over the entire study period, there was no immediate increase in the length of stay of admitted patients immediately following MHRI closure. The rate of patients left without being seen at each of the three hospitals was: (1) unchanged at NPH, (2) increasing throughout the study period at RIH, and (3) and decreasing at TMH. However, despite a trend towards decreasing the proportion of patient LWBS at TMH, this was the only site that experienced an immediate increase in LWBS (3.2% or 219 visits) post-MHRI closure ($p < 0.001$).

Figure 2a, 2b. Left without being seen and length of stay at three hospitals in Rhode Island before and after closure of Memorial Hospital Rhode Island (MHRI).



LOS = length of stay

LWBS = left without being seen

Vertical line at month 26 = closure date of Memorial Hospital Rhode Island

Hollow square, dashed line = Rhode Island Hospital

Hollow circle, solid line = The Miriam Hospital

Hollow triangle, long dashed line = Newport Hospital

DISCUSSION

These findings suggest that in the wake of Memorial Hospital's 2018 closure, remaining community EDs experienced substantially increased operational demand, evidenced by changes in ED volume, LWBS rates, and length of stay at two area hospitals. Of the three facilities studied, these effects were most pronounced at TMH (the most geographically proximate facility). Both the TMH and RIH EDs also witnessed significant diversification of their patient populations, serving greater proportions of patients from the Memorial Hospital catchment area (Pawtucket and Central Falls), and an increased proportion of Hispanic, non-English speaking, and Medicaid and self-pay patients following the MHRI closure.

These results are particularly illustrative of the closure's impact on TMH, where increased operational strain (as evidenced by changes in LWBS and LOS) parallels significant increases in the proportion of patients from Pawtucket and Central Falls. Specifically, the immediate post-closure changes in LOS appear to be driven by discharged patients. This may be reflective of the fact that MHRI began to ramp down inpatient services in the months leading to closure, possibly distributing the impact of admitted patients over the preceding months. In contrast, the dynamics contributing to operational strain at RIH does not appear to be explained by MHRI closure and future work should seek to explore other contributing factors. This highlights the need for ongoing efforts to examine patterns of health care utilization throughout Rhode Island.

This study is of most immediate relevance at the local level, where community EDs across RI continue to actively respond to changing clinical and operational demands in the wake of the MHRI closure. These findings provide direct evidence of increased volume and an evolving patient population at remaining hospitals, and can be utilized to inform local ED resource allocation decisions in the short term. In addition, this study suggests a need for broader community investment to support the transportation, language, and financial advocacy needs of residents of Pawtucket and Central Falls as they begin to access new medical homes. Beyond RI,

these findings can be used as a case study to help hospitals and communities better anticipate and plan for increased operational demand resulting from future ED closures.

This project has a number of limitations. First, the focus on a single hospital system impedes our ability to comment on the full scope of the ED closure's impact on the community. This is especially relevant in the RI market, where there is a high concentration of hospitals in close proximity to MHRI – 7 within a 10-mile radius – collectively absorbing this increased demand. Additionally, this study does not control for concurrent events likely impacting ED volume; for example, RIH experienced a four-day nursing strike in July 2018 that limited the hospital's capacity. Finally, this study does not explore the role of ambulance diversion in shaping ED volume, as the increased time spent on diversion likely blunted the true demand at these hospitals.

Future extensions of this work should seek to study the clinical impact of this operational strain, and investigate whether increased LWBS rates contribute to worsened disease burden as a result of patients' delayed presentation. From a resource allocation perspective, future work should seek to quantify the increased demand for services anecdotally noted to be strained following the MHRI closure, including language interpretation, financial advocates for underinsured patients, and case management resources.

References

- Tang N, Stein J, Hsia RY, Maselli JH, Gonzales R. Trends and Characteristics of US Emergency Department Visits, 1997-2007. *JAMA*. 2010;304(6):664. doi:10.1001/jama.2010.1112
- Institute of Medicine. IOM Report: The Future of Emergency Care in the United States Health System. *Academic Emergency Medicine*. 2006;13(10):1081-1085. doi:10.1197/j.aem.2006.07.011
- Lee DC, Carr BG, Smith TE, Tran VC, Polsky D, Branas CC. The Impact of Hospital Closures and Hospital and Population Characteristics on Increasing Emergency Department Volume: A Geographic Analysis. *Population Health Management*. 2015;18(6):459-466. doi:10.1089/pop.2014.0123
- Crandall M, Sharp D, Wei X, Nathens A, Hsia RY. Effects of closure of an urban level I trauma centre on adjacent hospitals and local injury mortality: a retrospective, observational study. *BMJ Open*. 2016;6(5):e011700. doi:10.1136/bmjopen-2016-011700
- Hsia RY-J, Shen Y-C. Rising Closures Of Hospital Trauma Centers Disproportionately Burden Vulnerable Populations. *Health Affairs*. 2011;30(10):1912-1920. doi:10.1377/hlthaff.2011.0510
- Joynt KE, Chatterjee P, Orav EJ, Jha AK. Hospital Closures Had No Measurable Impact On Local Hospitalization Rates Or Mortality Rates, 2003-11. *Health Affairs*. 2015;34(5):765-772. doi:10.1377/hlthaff.2014.1352
- Bazzoli GJ, Lee W, Hsieh H-M, Mobley LR. The Effects of Safety Net Hospital Closures and Conversions on Patient Travel Distance to Hospital Services. *Health Services Research*. 2012;47(1pt1):129-150. doi:10.1111/j.1475-6773.2011.01318.x
- Hsia RY, Srebotnjak T, Kanzaria HK, McCulloch C, Auerbach AD. System-Level Health Disparities in California Emergency Departments: Minorities and Medicaid Patients Are at Higher Risk of Losing Their Emergency Departments. *Annals of Emergency Medicine*. 2012;59(5):358-365. doi:10.1016/j.annemergmed.2011.09.018
- Sun BC, Mohanty SA, Weiss R, et al. Effects of Hospital Closures and Hospital Characteristics on Emergency Department Ambulance Diversion, Los Angeles County, 1998 to 2004. *Annals of Emergency Medicine*. 2006;47(4):309-316. doi:10.1016/j.annemergmed.2005.12.003
- Derlet RW, Richards JR. Overcrowding in the nation's emergency departments: complex causes and disturbing effects. *Ann Emerg Med*. 2000 Jan
- Johnson KD, Winkelman C. The effect of emergency department crowding on patient outcomes: a literature review. *Adv Emerg Nurs J*. 2011 Jan-Mar
- Shen Y-C, Hsia RY. Association Between Emergency Department Closure and Treatment, Access, and Health Outcomes Among Patients With Acute Myocardial Infarction. *Circulation*. 2016;134(20):1595-1597. doi:10.1161/CIRCULATIONAHA.116.025057
- Shen Y-C, Hsia RY. Does Decreased Access to Emergency Departments Affect Patient Outcomes? Analysis of Acute Myocardial Infarction Population 1996-2005. *Health Services Research*. 2012;47(1pt1):188-210. doi:10.1111/j.1475-6773.2011.01319.x
- Hsia RY, Srebotnjak T, Maselli J, Crandall M, McCulloch C, Kellermann AL. The association of trauma center closures with increased inpatient mortality for injured patients: *Journal of Trauma and Acute Care Surgery*. 2014;76(4):1048-1054. doi:10.1097/TA.0000000000000166
- Buchmueller T, Jacobson M, Wold C. *How Far to the Hospital? The Effect of Hospital Closures on Access to Care*. Cambridge, MA: National Bureau of Economic Research; 2004. doi:10.3386/w10700
- Hsia RY, Kellermann AL, Shen Y-C. Factors Associated With Closures of Emergency Departments in the United States. 2011:8.
- Liu C, Srebotnjak T, Hsia RY. California Emergency Department Closures Are Associated With Increased Inpatient Mortality At Nearby Hospitals. *Health Affairs*. 2014;33(8):1323-1329. doi:10.1377/hlthaff.2013.1203
- "This is CNE | 2016 Annual Report by Women & Infants Hospital ... - Issuu." 6 Sep. 2017, https://issuu.com/carenewengland/docs/ar_final. Accessed 11 Oct. 2018.
- "Rhode Island Department of Health Decision for Approval with..." 28 Dec. 2017, <http://www.health.ri.gov/applications/submitted/2017MemorialHospitalEmergencyDepartment.pdf>. Accessed 11 Oct. 2018.
- "Rhode Island Department of Health Decision for Approval with..." 28 Dec. 2017, <http://www.health.ri.gov/applications/submitted/2017MemorialHospitalEmergencyDepartment.pdf>. Accessed 11 Oct. 2018.
- "Miriam Hospital seeing patient surge as Memorial winds down..." 19 Dec. 2017, <https://www.wpri.com/news/eyewitness-news-investigates/miriam-hospital-seeing-patient-surge-as-memorial-winds-down-operations/1082457441>. Accessed 11 Oct. 2018.

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Pathological Gambling in a Patient on a Dopamine Agonist

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INTRODUCTION

Restless leg syndrome (RLS) is a common and disabling disorder with four essential criteria that establish the diagnosis: (1) an urge to move that is often associated with paresthesias, (2) onset or exacerbation of symptoms at rest, (3) symptom relief with movement, and (4) manifestation of symptoms in a circadian pattern.¹ Although the underlying mechanism is not understood, RLS symptoms are thought to occur in part due to abnormal signaling in dopaminergic and gamma aminobutyric acid (GABA) pathways, as both dopaminergic agents and gabapentinoid drugs have been proven to be effective in treating RLS.^{1,2} Dopamine agonists (DAs), such as pramipexole and ropinirole, are medications commonly prescribed to patients with Parkinson's disease (PD) and RLS for symptom control. In the past decade, the use of DAs has been frequently associated with impulse control disorders (ICDs) such as pathological gambling (PG), compulsive shopping, compulsive eating, hypersexuality, and punding, a term used to describe compulsive performance of repetitive, mechanical tasks.³

Pathological gambling is characterized by persistent and recurrent maladaptive gambling behavior. This is most common in patients with Parkinson's disease (PD), where the incidence of ICD is between 10–14% of patients taking a dopamine agonist.⁴ Patients with PD take much higher doses, in general, than those used in RLS. There are numerous case reports in the literature suggesting that DAs can cause ICDs, particularly PG in patients with RLS. d'Orsi et al. reported the case of a 71-year-old man who developed PG following 5 months of daily 0.18 mg pramipexole, a small yet unconventional dose.⁵ Symptoms of PG resolved after pramipexole was discontinued.⁵ Kolla et al. described two patients with RLS treated with pramipexole: one presented with depression and one presented following a suicide attempt, both in the context of compulsive gambling.⁶ In a survey of patients diagnosed with RLS using DAs, 6% of the respondents reported increased gambling and 4% reported increased sexual desire after beginning treatment.⁷ In another study, the frequency of PG was 5% and any ICD was 17% in RLS patients receiving treatment with DAs; these percentages were statistically significant compared with RLS patients not receiving dopaminergic treatment.⁸

Among patients with prolactinomas, treatment with DAs has also been associated with ICDs. A prospective study

of 25 patients with prolactinomas reported two new cases (8%) of ICD associated with DAs; both cases presented with hypersexuality which was reversed upon discontinuation of the drug.⁹ One case-control study found that males with prolactinomas treated with DAs were 9.9 times more likely to develop an ICD than those with nonfunctioning pituitary adenomas,³ and a cross-sectional study found that the prevalence of DA-induced ICDs among patients with prolactinomas was 17%.¹⁰

Herein we report a patient with RLS seen in a psychiatric setting who presented with suicidal ideation, depression, and PG.

CASE REPORT

A 47-year-old woman with a past medical history significant for gastric bypass, rheumatoid arthritis, latent tuberculosis, hypertension, gastroesophageal reflux disease, and RLS, and a psychiatric history of depression and PG presented to the Rhode Island Hospital Emergency Department (ED) after attempting to cut her wrists in a suicide attempt. Upon admittance the patient endorsed severely depressed mood, anhedonia, anergia, poor sleep, and poor appetite, and reported feeling hopeless and helpless, with "no way out other than suicide." Over the past several years the patient had experienced worsening depression as her pathological gambling depleted her family's financial resources, causing her to resort to borrowing and begging for money. The patient's gambling addiction eventually became severe enough to cause intense feelings of shame and embarrassment, and led to divorce from her husband. On several occasions the patient visited a therapist for pathological gambling but did not seek treatment for her depression. During this time period the patient was taking pramipexole prescribed by a neurologist for RLS. The patient reported that she had started taking high-dose pramipexole (2-3 mg BID) in 2014 and that the gambling behavior began during the same time period. The only significant family psychiatric history was depression in the patient's sister.

The patient saw gradual improvement throughout the course of her hospital stay as fluoxetine and gabapentin were prescribed and pramipexole discontinued. She reported improved mood and expressed greater hopefulness for the future, and was discharged after several days with plans

to follow up with an outpatient psychiatrist and gambling support resources. On follow-up two months after discharge, the patient reported full remission of symptoms. Though the patient initially desired to gamble following discharge, she was able to abstain. The patient resumed the relationship with her husband and began working full time. On follow-up 18 months after discharge, the patient reported that she has not engaged in any gambling activity, continues to work full time, remains psychiatrically stable, and has maintained good relationships with her husband and children. The patient discontinued fluoxetine and remained on gabapentin for RLS, which was eventually uptitrated to 600 mg TID. She reported that her current treatment regimen has unfortunately provided modest, if any, relief of RLS symptoms.

DISCUSSION

Until recently, DAs were considered the sole first-line treatment for RLS due to their acute efficacy.¹¹ When used for RLS, the typical DA doses are extremely low compared with those used in the treatment of PD, and, for pramipexole, range from 0.125 mg to 0.75 mg daily, whereas in PD doses usually range from 1.5 to 4.5 mg daily.² In our case, the patient had been prescribed a significantly higher dose of pramipexole than the maximum recommended dose for PD, which is 4.5 mg daily.¹²

The pathophysiology underlying DA-induced compulsive behaviors remains poorly understood. Although excess stimulation of the dopamine D3 receptor by DAs has been considered a possible mechanism, this theory fails to account for the wide array of compulsive behaviors patients may develop, which often includes gambling, hypersexuality, excessive spending, or consumerism, and does not explain why DAs with greater D3 agonism are seemingly no more likely to cause compulsive behaviors than agonists with predominant activity at other dopamine receptors.⁸ In addition, though various atypical antipsychotics have been implicated in the development of compulsive disorders,¹³ these medications have also been used in the treatment of compulsive symptoms,¹⁴ further obscuring the role of D3 receptors in the pathogenesis of these disorders. Although antipsychotics and SSRIs have been considered therapeutic options for the treatment of PG, their efficacy is limited,¹⁵ and dose reduction or discontinuation of DAs may be a more reliable strategy for the treatment of DA-induced compulsive behaviors.¹⁶ It is worth noting that, in addition to compulsive gambling behavior, patients with PG have been suggested to have possible associations with high impulsiveness, low disorderliness, and high exploratory excitability.¹⁷

Correlations exist between RLS and depressive symptoms; in one study, RLS subjects had a higher risk of developing anxiety and depressive disorders compared to controls,¹⁸ and RLS patients in another study reported significantly higher

rates of depressive symptoms versus controls.¹⁹ Despite our patient's lack of improvement in RLS symptoms, we believe that treatment with gabapentin was an appropriate clinical decision; in addition to its effects on RLS symptoms, gabapentin has been shown to target features of impulsivity, anxiety, and craving, which could potentially alleviate PG.²⁰ Similar to our case, cessation of dopaminergic treatment led to improvement or resolution of PG in most reported cases.⁵ In conclusion, our case adds to the growing literature of RLS patients developing PG following use of DAs. Further studies are needed to elucidate the exact mechanism of DAs in the development of compulsive disorders, and caregivers who prescribe DAs should closely monitor patients for serious adverse events such as PG.

References

1. Gamaldo CE, Earley CJ. Restless legs syndrome: a clinical update. *Chest*. 2006;130(5):1596-1604.
2. Garcia-Borreguero D, Silber MH, Winkelmann JW, Hogl B, Bainbridge J, Buchfuhrer M, et al. Guidelines for the first-line treatment of restless legs syndrome/Willis-Ekbom disease, prevention and treatment of dopaminergic augmentation: a combined task force of the IRLSSG, EURLSSG, and the RLS-foundation. *Sleep Med*. 2016;21:1-11.
3. Bancos I, Nannenga MR, Bostwick JM, Silber MH, Erickson D, Nippoldt TB. Impulse control disorders in patients with dopamine agonist-treated prolactinomas and nonfunctioning pituitary adenomas: a case-control study. *Clin Endocrinol*. 2014;80(6):863-8.
4. Weintraub D, Koester J, Potenza MN, Siderowf AD, Stacy M, Voon V et al. Impulse control disorders in Parkinson's disease: a cross-sectional study of 3090 patients. *Arch Neurol*. 2010;67(5):589-95.
5. d'Orsi G, Demasio V, Specchio LM. Pathological gambling plus hypersexuality in restless legs syndrome: a new case. *Neurol Sci*. 2011;32(4):707-709.
6. Kolla BP, Mansukhani MP, Barraza R, Bostwick JM. Impact of dopamine agonists on compulsive behaviors: a case series of pramipexole-induced pathological gambling. *Psychosomatics*. 2010;51(3):271-273.
7. Driver-Dunckley ED, Noble BN, Hentz JG, Evidente VG, Caviness JN, Parish J, Krahn L, Adler CH. Gambling and increased sexual desire with dopaminergic medications in restless legs syndrome. *Clin Neuropharmacol*. 2007;30(5):249-255.
8. Cornelius JR, Tippmann-Peikert M, Slocumb NL, Frerichs CF, Silber MH. Impulse control disorders with the use of dopaminergic agents in restless legs syndrome: a case-control study. *Sleep*. 2010;33(1):81-87.
9. Celik E, Ozkaya HM, Poyraz BC, Saglam T, Kadioglu P. Impulse control disorders in patients with prolactinoma receiving dopamine agonist therapy: a prospective study with 1 year follow-up. *Endocrine*. 2018;62(3):692-700.
10. Dogansen SC, Cikrikcili U, Oruk G, Kutbay NO, Tanrikulu S, Hekimsoy Z, et al. Dopamine Agonist-Induced Impulse Control Disorders in Patients With Prolactinoma: A Cross-Sectional Multicenter Study. *J Clin Endocrinol Metab*. 2019. doi:10.1210/jc.2018-02202.
11. Salminen AV, Winkelmann J. Restless Legs Syndrome and Other Movement Disorders of Sleep-Treatment Update. *Curr Treat Options Neurol*. 2018;20(12):55.
12. Hubble JP, Koller WC, Cutler NR, Sramek JJ, Friedman J, Goetz C, Ranhosky A, Korts D, Elvin A. Pramipexole in patients with early Parkinson's disease. *Clin Neuropharmacol*. 1995;18(4):338-347.

13. Grillault Laroche D, Gaillard A. Induced Obsessive Compulsive Symptoms (OCS) in schizophrenia patients under Atypical 2 Antipsychotics (AAPs): review and hypotheses. *Psychiatry Res.* 2016;246:119-128.
14. Pignon B, Tezenas du Montcel C, Carton L, Pelissolo A. The Place of Antipsychotics in the Therapy of Anxiety Disorders and Obsessive-Compulsive Disorders. *Curr Psychiatry Rep.* 2017;19(12):103.
15. Lupi M, Martinotti G, Acciavatti T, Pettorruso M, Brunetti M, Santacroce R, et al. Pharmacological treatments in gambling disorder: a qualitative review. *Biomed Res Int.* 2014;2014: 537306.
16. Sohtaoğlu M, Demiray DY, Kenangil G, Ozekmekçi S, Erginöz E. Long term follow-up of Parkinson's disease patients with impulse control disorders. *Parkinsonism Relat Disord.* 2010;16(5): 334-337.
17. Alvarez-Moya EM, Ochoa C, Jimenez-Murcia S, Aymami MN, Gomez-Pena M, Fernandez-Aranda F et al. Effect of executive functioning, decision-making and self-reported impulsivity on the treatment outcome of pathologic gambling. *J Psychiatry Neurosci.* 2011;36(3):165-75.
18. Winkelmann J, Prager M, Lieb R, Pfister H, Spiegel B, Wittchen HU, Holsboer F, Trenkwalder C, Ströhle A. "Anxietas tibi-arum". Depression and anxiety disorders in patients with restless legs syndrome. *J Neurol.* 2005;252(1):67-71.
19. Picchietti D, Winkelman JW. Restless legs syndrome, periodic limb movements in sleep, and depression. *Sleep.* 2005;28(7): 891-898.
20. Pettorruso M, De Risio L, Martinotti G, Di Nicola M, Ruggeri F, Conte G, Di Giannantonio M, Janiri L. Targeting the glutamatergic system to treat pathological gambling: current evidence and future perspectives. *Biomed Res Int.* 2014;2014:109786.

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Bullous Pemphigoid Complicated by MRSA Cellulitis and Bacteremia

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ABSTRACT

Unrecognized skin conditions are highly prevalent among the elderly population.¹⁰ Bullous pemphigoid (BP), an autoimmune dermatologic disease with greater incidence in the elderly, typically features pruritus, tense bullae formation, and negative Nikolsky's sign.^{1,2}

We describe a case of BP in an elderly Veteran that developed insidiously for months before it presented with a life-threatening secondary infection due to Methicillin Resistant Staphylococcus Aureus (MRSA).

KEYWORDS: bullous pemphigoid, cellulitis, bacteremia, MRSA

CASE REPORT

A 94-year-old male Veteran who lived alone and received monthly home visits from a home-based primary care nurse presented to the emergency department with right arm swelling, warmth, redness and pain that had been growing progressively worse over the past week. He described an itchy pink rash that began on his upper chest and spread to his right neck and arm about four months prior to presentation; the primary care provider had prescribed topical triamcinolone. Unsuccessful attempts by family members were made to have him evaluated more frequently for this persistent rash, because the patient resisted additional medical visits. He did not have any constitutional symptoms and denied any trauma, animal or pest exposures, recent travels, or use of new soaps, detergents, lotions, or clothes. The patient's past medical history was notable for hypertension, type 2 diabetes, chronic kidney disease stage 4, and mild Alzheimer's dementia. His home long-term medications were notable for Aspirin 81 mg daily, Atorvastatin 10 mg daily, Amlodipine 2.5 mg daily, Metoprolol tartrate 25 mg twice daily and Insulin long-acting twice daily. No new medications were started in the past two years.

In the emergency department, the patient's vitals were all within normal range. Physical exam demonstrated an elderly man in no acute distress, but with right arm edema, tenderness, and warmth. No crepitus was noted in the right upper extremity. The patient's skin exam showed large discrete excoriated and crusted plaques on the upper chest,

right arm, and right arm; tense and flaccid bullae with positive Nikolsky's sign were also noted in the same distribution (Figures 1–3). Isolated tense bullae were present in the right

Figure 1. Lower lip has healed crusted lesions, indicating mucosal involvement.



Figure 2. Upper left chest shows multiple healed excoriations and crusted lesions, with a tense bulla (red arrow).



Figure 3. Posterior aspect of right forearm shows similar excoriations and lesions, with flaccid bullae (red arrows) that had positive Nikolsky's signs.



groin fold and right anterior shin, without inflammation or erythema.

Initial workup was notable for a white blood cell count of 10.3 cells/mm³, erythrocyte sedimentation rate (ESR) of 46 mm/hour, and an X-ray of the arm showing soft tissue swelling suggesting infection without gas. The patient's MRSA nare swab was positive, and a right upper-extremity doppler ultrasound was negative for thrombosis.

The patient was initially treated for right upper-extremity cellulitis with IV piperacillin-tazobactam 2.25 gram every 8 hours and vancomycin 1500 mg every 48 hours for broad-spectrum coverage and clindamycin 600 mg every 8 hours for anti-toxin effect due to concern for toxin-mediated infection from noted bullae; medications were renally dosed due to a glomerular filtration rate (GFR) of 20-25 mL/min/1.73 m². The patient's admission blood cultures returned positive for MRSA in two of two bottles and his anti-Streptolysin-O (ASO) titer returned negative. Clindamycin and piperacillin-tazobactam were thereafter discontinued and his antibiotics narrowed to intravenous vancomycin to treat MRSA right-arm cellulitis and associated bacteremia. Transthoracic echocardiography was performed due to mild leg edema on exam, unknown cardiac function, and the possibility of needing IV fluids should he progress to sepsis; imaging was normal with an ejection fraction of 60–65%. Given low clinical suspicion for endocarditis with one major criterion (Staphylococcal bacteremia in two blood cultures) and zero minor criteria, a trans esophageal echocardiography was not performed.

Dermatology was consulted within 24 hours of admission due to suspicion for pemphigus vulgaris (PV), which can be fatal without aggressive immunosuppressive treatment, because providers noted mucous membrane involvement and a positive Nikolsky sign on admission. Dermatology obtained confirmatory lesional skin biopsy for hematoxylin & eosin (H&E) stain and perilesional biopsy for direct immunofluorescence (DIF) assay to distinguish among bullous disorders including PV and BP. The primary team began treatment with prednisone 1 mg/kg daily per dermatology's recommendation.

Histopathology subsequently showed "Subepidermal bullae with scattered lymphocytes, neutrophils, and rare eosinophils," which is consistent with diagnosis of BP. DIF confirmed the BP diagnosis due to linear IgG and C3 at the basement membrane zone.

After seven days of high-dose prednisone, the patient clinically improved, with no new bulla formation and healing pink plaques (Figures 4–5). He was discharged with a peripherally inserted central catheter (PICC) to complete a two-week course of intravenous vancomycin, as well as oral prednisone beginning at 40 mg daily and tapering by 10 mg every week with close dermatology follow-up. His home medications were continued without change.

Figures 4-5. Right neck base and left upper chest showed reduced erythema and healed erosions after 1 week of high-dose prednisone treatment.



DISCUSSION

Bullous pemphigoid (BP) can present in an insidious, polymorphous way, and one of the "great imitators" that can present as eczematous dermatitis or urticaria in its prodromal state.¹¹ In this case, our patient presented with clinical manifestations that were initially eczematous, and then to the primary providers concerning for PV. His delayed presentation for dermatologic evaluation led to a life-threatening bacteremia and cellulitis.

BP is classically less lethal and non-scarring than other diseases that present with bullae and erosions, such as PV⁵, mucous membrane pemphigoid⁶, or Stevens-Johnson syndrome/toxic epidermal necrolysis, all of which are associated with higher rates of morbidity and mortality.⁷

On initial presentation, our patient had flaccid bullae, one notably affecting his lower lip, and a positive Nikolsky's sign, (positive when exfoliation of the outermost layer of skin occurs with slight rubbing of the lesion), a sign that

is more commonly associated with PV. However, given our patient's late presentation, the flaccid bullae and erosions noted on exam may have represented secondary changes to the skin. In addition, oral mucosal lesions are found in only 10-30% of BP cases², and Nikolsky's sign has been reported in BP, although less commonly than in PV.^{2,8}

Given the clinically overlapping appearance of bullous dermatologic conditions, definitive diagnosis of BP requires histopathology of lesions or blistered tissue, as well as direct immunofluorescence of perilesional tissue. Correct diagnosis rests upon a skin biopsy for histopathologic evaluation, and is critical for determining the appropriate treatment. Rapid diagnosis serves to minimize risk of secondary infections and medical complications from overly aggressive immunosuppression^{4,9}, and also expedites wound healing.

CONCLUSION

This case demonstrates a severe consequence of delayed diagnosis of BP in an elderly, home-bound patient. MRSA cellulitis and bacteremia developed secondary to skin barrier breakdown that went undetected due to a combination of lack of provider suspicion as well as patient and structural obstacles to care. We recommend that evaluation of cellulitis in the absence of obvious prior trauma invoke a total body skin exam for potential primary dermatologic conditions that compromise the skin barrier. Skin barrier integrity remains the first-line of defense against life-threatening secondary infections in the elderly. This case illustrates the importance of prompt evaluation of skin rashes and properly training medical personnel to consider unusual conditions that could have life-threatening consequences if diagnosis is delayed.

References

- Schmidt E, della Torre R, Borradori L. Clinical features and practical diagnosis of bullous pemphigoid. *Immunol Allergy Clin North Am*. 2012;32(2):217-32.
- Kneisel A, Hertl M. Autoimmune bullous skin diseases. Part 1: Clinical manifestations. *J Dtsch Dermatol Ges*. 2011;9(10):844-56.
- Savin JA. The events leading to the death of patients with pemphigus and pemphigoid. *Br J Dermatol*. 1979;101(5):521-34.
- Kasperkiewicz M, Zillikens D, Schmidt E. Pemphigoid diseases: pathogenesis, diagnosis, and treatment. *Autoimmunity*. 2012;45(1):55-70.
- Langan SM, Smeeth L, Hubbard R, Fleming KM, Smith CJ, West J. Bullous pemphigoid and pemphigus vulgaris--incidence and mortality in the UK: population based cohort study. *BMJ*. 2008;337:a180.
- Fleming TE, Korman NJ. Cicatricial pemphigoid. *J Am Acad Dermatol*. 2000;43(4):571-91; quiz 91-4.
- Hsu DY, Brieve J, Silverberg NB, Silverberg JL. Morbidity and Mortality of Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis in United States Adults. *J Invest Dermatol*. 2016;136(7):1387-97.
- Uzun S, Durdu M. The specificity and sensitivity of Nikolskiy sign in the diagnosis of pemphigus. *J Am Acad Dermatol*. 2006;54(3):411-5.
- Ljubojevic S, Lipozencic J, Brenner S, Budimcic D. Pemphigus vulgaris: a review of treatment over a 19-year period. *J Eur Acad Dermatol Venereol*. 2002;16(6):599-603.
- Hahnel, Elisabeth, et al. "Prevalence and Associated Factors of Skin Diseases in Aged Nursing Home Residents: a Multicentre Prevalence Study." *BMJ Open*, vol. 7, no. 9, 2017, doi:10.1136/bmjopen-2017-018283
- Schmidt, E., Torre, R. D., Borradori, L. (2011). Clinical Features and Practical Diagnosis of Bullous Pemphigoid. *Dermatologic Clinics*, 29(3), 427-438. doi:10.1016/j.det.2011.03.010

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The statements in this article are those of the authors and not of the Veterans' Health Administration.

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Thrombotic Microangiopathy in a 59-year-old Woman

TIMOTHY J. BOARDMAN, MD; WILLIAM BINDER, MD, MA, FACEP

From the Case Records of the Alpert Medical School of Brown University Residency in Emergency Medicine

DR. TIMOTHY BOARDMAN: Today's patient is a 59-year-old woman who presents to the Emergency Department with 3 days of decreased oral intake, fatigue, generalized weakness, and dizziness. She reports 2 days of fevers and confusion, but denies vomiting, diarrhea, chest pain or shortness of breath. The patient is accompanied by her daughter, who assists with the history and reports that the patient normally ambulates without assistance, but today was unable to walk due to weakness.

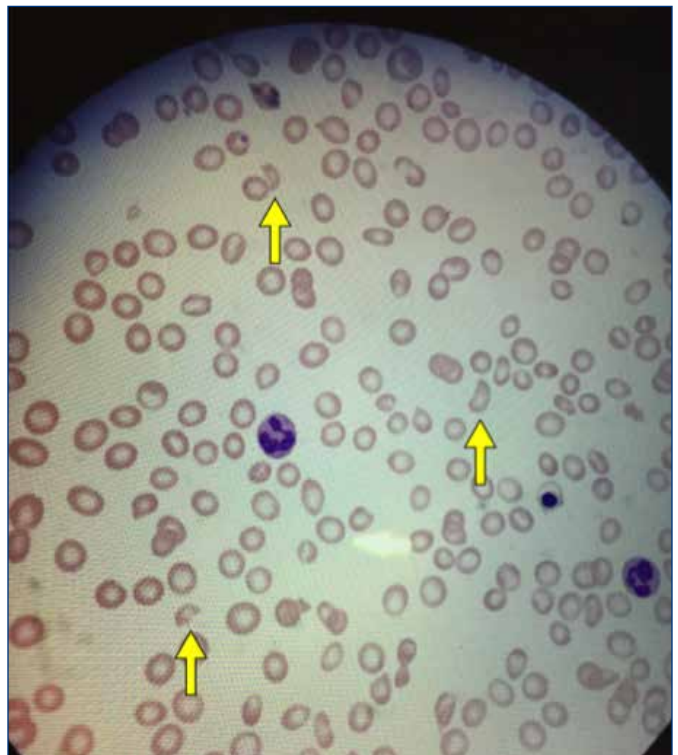
The daughter reported that her mother had developed a facial droop 19 days prior to presentation and had been prescribed prednisone at a local hospital in New York for Bell's palsy. Four days later she traveled to Rhode Island and was brought to the hospital by her daughter due to headache, dizziness, and persistent right-sided facial nerve palsy. Additional investigation revealed that the patient was from Liberia, but had been living in New York for 12 years. While she had no recent international travel, she had visited family in Liberia within the past year. It was unknown as to whether she had taken malaria prophylaxis. She resides in an urban setting and had no known tick exposures. On this visit the patient had a normal complete blood count (CBC) and metabolic panel. An MRI of the brain was performed and the patient was found to have enhancement of the right 7th nerve and valacyclovir and gabapentin were added to her regimen. HSV titers were positive for IgG, suggesting a remote exposure, and Lyme studies were negative. The patient was admitted for 48 hours and while her headache improved, her dizziness worsened. She completed the valacyclovir and prednisone, but continued the gabapentin, and now presents 14 days after her initial hospitalization in Rhode Island with the above stated complaints.

DR. BRUCE BECKER: The travel history is important to consider. Malaria is endemic in Liberia, and it remains the leading cause of morbidity and mortality in the West African nation.¹ However, *Plasmodium falciparum* is the primary malarial species noted in Liberia (almost 100% of cases) and incubation is usually 7–30 days after inoculation, making this diagnosis unlikely.² The length of time since the patient's travel rules out most viral hemorrhagic diseases

including yellow fever, as well as most rickettsioses, leptospirosis, typhoid, and many other travel-related diseases. On the other hand, the patient's symptoms began almost 3 weeks ago with the facial droop and only in the past several days did she become weak and confused. Her symptoms could be related to a more proximal disorder. The differential diagnosis for a peripheral 7th nerve palsy is quite broad, and taken in conjunction with her weakness and confusion includes HSV, HIV, Zika virus, EBV, and non-infectious disorders including neoplasms.³ Did the physical and laboratory exam provide any other clues?

DR. BOARDMAN: The patient's vitals were remarkable for a fever of 38.1°C and a heart rate of 130 bpm. She had a blood pressure of 118/77 mm Hg, a respiratory rate of 30 and her oxygen saturation was 96% on room air. The patient

Figure 1. Patient's blood smear demonstrating thrombocytopenia with the paucity of platelets as well as abnormal red blood cell morphology in the form of schistocytes (arrows).



had normal pupils, pale conjunctiva, and no nystagmus was appreciated. The cardiovascular exam was remarkable for tachycardia. Her abdomen was soft and without hepatosplenomegaly and she had no blood in her stool. Neurologic exam revealed a right-sided facial droop with sparing of the forehead and flattening of the right nasolabial fold and she was unable to fully close the right eye. The other cranial nerves were normal. The patient had normal strength and reflexes. She was lethargic, but arousable to voice and oriented to person.

Laboratory testing revealed a mildly elevated white blood cell count at 11.8×10^9 , a hemoglobin of 7.7 g/dL, hematocrit of 23.6%, a platelet count of 31,000, and an MCV of 81.1 fL. A repeat platelet count several hours later was 19,000. A cell differential demonstrated 1+ nucleated RBC's and 1+ schistocytes (see **Figure 1**). A coagulation panel and cardiac enzymes were normal. The patient's metabolic panel showed an elevated creatinine at 1.35 mg/dL, a transaminitis with AST of 72 IU/L and ALT of 116 IU/L, an elevated alkaline phosphatase of 205 IU/L, and a bilirubinemia with direct bilirubin of 0.5 mg/dL and total bilirubin of 2.2 mg/dL. Lipase, ammonia levels, a urinalysis, and a toxicology screen were unremarkable. A thick and thin smear was negative for parasites. EBV and HIV studies were negative. A chest x-ray was clear.

DR. BECKER: To summarize, we have a patient originally from Liberia, who presented with 19 days of a right-sided facial droop, followed by 2–3 days of fever, weakness, dizziness, and confusion. She was pale and tachycardic. She had normal labs about 14 days prior to this admission but today she had a mild transaminitis and mild renal insufficiency. Additionally, her CBC revealed thrombocytopenia and an abnormal smear demonstrating schistocytes. Malaria is unlikely given the negative parasite smear and a travel history incongruent with plasmodium falciparum infection. Was a lumbar puncture considered? In an immunocompetent individual, the triad of mental status changes, neck stiffness, and fever occur in less than 50% of patients with bacterial meningitis.⁴

DR. BOARDMAN: Prior to consideration of a lumbar puncture, a CT scan of the brain was performed and was negative. However, an alternative diagnosis was entertained and a lumbar puncture was deferred. In addition, while evidence is poor, current standards suggest that a lumbar puncture should not be performed in patients with platelets $<40,000$.⁵

DR. THOMAS GERMANO: While initially I was leaning toward an infectious etiology or perhaps an autoimmune disorder such as SLE, I am intrigued by the patient's hematologic parameters – she was anemic and had 1+ schistocytes on laboratory exam. Anemia can be due to blood loss, insufficient red cell production, or destruction of red blood cells.

In this case, the patient did not have evidence of blood loss. While failure of red cell production is possible due to EBV, parvovirus, or hepatitis, evidence of schistocytes is suggestive of extrinsic red cell destruction due to a microangiopathic hemolytic anemia (MAHA).

Fragmentation of the red cells occurs due to a number of infectious disorders including rickettsial diseases, HIV, and malaria. It can also be due to diverse disorders such as thrombotic thrombocytopenic purpura (TTP), hemolytic uremic syndrome (HUS), eclampsia, HELLP syndrome, malignant hypertension, scleroderma renal crisis, and drug induced thrombotic microangiopathy (DITMA), as well as mechanical destruction from intravascular devices such as prosthetic cardiac valves and shunts.⁶

DR. BOARDMAN: Hemolysis labs were obtained and the patient was noted to have an elevated lactate dehydrogenase of 1,855 IU/L, low haptoglobin less than 8 mg/dL, an elevated free plasma hemoglobin B of 35.9 mg/dL, elevated fibrinogen of 247 mg/dL, and an elevated D-dimer of 6,219 ng/mL. A direct antiglobulin test (direct Coombs test) was negative, and the patient had a normal complement level. This additional data suggested hemolysis, but it was not consistent with disseminated intravascular coagulation (DIC).

DR. WILLIAM BINDER: Of the non-infectious causes of MAHA noted, the patient does exhibit several features of TTP – she has a low-grade fever, neurologic changes and confusion, thrombocytopenia, and anemia. Was this diagnosis considered?

DR. BOARDMAN: TTP was our leading diagnosis. TTP is a disorder marked by a congenital deficiency of, or acquired autoimmune response against, the ADAMTS13 enzyme, a metalloproteinase that normally cleaves Von Willebrand factor (VWF) into smaller multimers. In patients with decreased ADAMTS13 activity, the accumulation of uncleaved large VWF molecules leads to platelet aggregation and the formation of large microthrombi in blood vessel lumens.⁷ With the generation of these large microthrombi, a consumptive thrombocytopenia occurs. Importantly, the microthrombi shear passing red blood cells and result in intravascular hemolysis and the formation of schistocytes.

From a clinical standpoint, symptoms of TTP are driven by the microvascular thrombi and include fatigue, dyspnea, petechiae, gastrointestinal distress, and easy bruising or bleeding.^{8,9} Neurologic involvement can be present in about 50% of cases of TTP and symptoms can range from transient focal abnormalities to stroke and coma. Facial palsies have been reported.^{10,11} Neurologic imaging is frequently normal and symptoms are often reversible upon effective treatment.^{12,13} The pentad of TTP – MAHA, fever, thrombocytopenia, neurological abnormalities, and renal injury – is infrequently noted and several studies have demonstrated

that the presence of all 5 symptoms occur in less than 10% of cases.¹⁴ Acute renal failure is unusual in TTP, although if present, does not exclude the diagnosis.¹⁴

DR. ELIZABETH SUTTON: How common is TTP? How is the diagnosis made?

DR. BOARDMAN: TTP is a rare hematologic disorder, with an annual incidence of approximately 1–3 case per million people.^{12,14,15} About 90% of cases occur in adults with a median age of 41 years, and there is an increased prevalence in female and black populations.¹⁶

The diagnosis of TTP in the emergency department is based on the patient's clinical and laboratory characteristics. Laboratory testing for ADAMTS13 activity is a critical adjunct but often is not immediately available. Therefore, treatment for TTP must be initiated when there is a high clinical suspicion and should not be withheld while the confirmatory testing is being performed.

DR. SELIM SUNER: Recently, the PLASMIC score has been developed to help guide the clinical diagnosis of TTP. What was the patient's PLASMIC score?

DR. BOARDMAN: The PLASMIC score is a seven-component clinical prediction tool that stratifies patients according to the risk of having a decreased ADAMTS13 activity level ($\leq 10\%$), thereby confirming the diagnosis of TTP.¹⁷ At many institutions there is a lengthy turnaround time for ADAMTS13 testing and this makes it unsuitable for real-time decision making. The PLASMIC score helps to stratify patients into low-, intermediate-, and high-risk categories using readily available history and laboratory results. Like all clinical decision tools, the PLASMIC score can only be used in the patient population for which it was designed. In the original study, the PLASMIC score was validated on patients who were 18 years or older, had thrombocytopenia ($< 150 \times 10^9$ platelets/L), and who had evidence of MAHA. The PLASMIC score awards one point for each of the following criteria: Platelets $< 30 \times 10^9$ /L; evidence of hemolysis; no active cancer; no history of solid-organ or stem-cell transplant; MCV < 90 fL; INR < 1.5 ; creatinine < 2.0 mg/dL. A score of 0–4 were considered low-risk, 5 was intermediate-risk, and 6–7 were high-risk. These risk categories were created based on internal and external validation data, which compared the PLASMIC score against ADAMTS13 testing. Using the data in the case, our patient had a PLASMIC score of 6 (7 after repeat CBC), which would put her in the high-risk category.¹⁸

DR. RACHAEL WIGHTMAN: What is the most effective treatment for TTP and how was this patient managed?

DR. BOARDMAN: Prior to the 1980s, mortality from TTP

was approximately 90%. With the advent of plasma exchange (PEX), which is now standard treatment, mortality has decreased to approximately 10%.¹⁴ A patient should undergo daily PEX sessions until end-organ damage and hemolysis resolves, or confirmatory testing returns as negative for TTP. TTP is considered successfully treated after the patient displays a platelet count greater than 150×10^9 /L for two consecutive days. If there is no response to treatment within 30 days, or if labs do not normalize in 60 days, then the disease is considered refractory. If symptoms return within 30 days of successful treatment, this is considered an exacerbation of the patient's current TTP episode and if symptoms return greater than 30 days after successful treatment, this is considered a relapse of disease. Unfortunately, despite appropriate therapy, about 40% of those with TTP experience one or more relapses.¹⁴

Glucocorticoids are routinely administered to patients with an intermediate or high-risk presentation and PLASMIC score. Rituximab, a humanized anti-CD20 monoclonal antibody, has been studied and used in the treatment of TTP, particularly in cases of refractory or recurrent disease. Several studies have shown shorter hospitalizations and have found that patients have had fewer relapses when rituximab is used in conjunction with PEX. Alternatively, caplacizumab, an anti-von Willebrand Factor monoclonal antibody, can be used in patients with high-risk presentations and in patients with low ADAMTS13 levels.^{14,19,20}

Our patient did receive treatment for TTP upon transfer to the MICU from the emergency department. She received methylprednisolone and after placement of a central line, she received PEX. The following morning, however, her ADAMTS13 activity level resulted and was $> 70\%$, and von Willebrand factor inhibitor level was found to be $< 5\%$. PEX was discontinued.

DR. BINDER: Given the schistocytes and abnormal hematologic studies, are there other possible causes of the patient's MAHA?

DR. BOARDMAN: It would be unusual, although not impossible, to find normal ADAMTS13 activity in patients with TTP, and 3 cases have been described within the Oklahoma TTP-HUS registry.¹² The anti-ADAMTS13 antibody may not tightly bind to its epitope and can be eluted from ADAMTS13 during the incubation phase of the assay, leading to a falsely negative (i.e. normal ADAMTS13 activity) result.^{21, 22} Alternatively, drug-induced TMA (DITMA) is a well-recognized, although infrequent event, and there are sporadic reports of valacyclovir causing a thrombotic microangiopathy.^{23,24} DITMA is either immune-mediated or toxicity-mediated and is usually associated with significant kidney injury, however. Of the primary TMA syndromes, TTP is distinctive in that it rarely causes notable acute kidney injury.²⁵

DR. NAOMI GEORGE: What was the patient's outcome?

DR. BOARDMAN: The patient was admitted to the MICU from the ED and underwent plasma exchange and did well. Her mental status improved within about 24 hours and she was transferred to the medical service on hospital day 3 and discharged on hospital day 6. The patient's thrombocytopenia and anemia slowly improved as well, and her platelets were >150,000 approximately 10 days after discharge. Her fatigue, Bell's palsy, and laboratory abnormalities had completely resolved at follow-up 3 months after her initial admission.

FINAL DIAGNOSIS: Thrombotic Thrombocytopenic Purpura or Drug-Induced Thrombotic Microangiopathy.

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References

1. <https://www.usaid.gov/liberia/fact-sheets/president's-malaria-initiative-liberia>.
2. Scaggs Huang FA, Schlaudecker E. Fever in the Returning Traveler. *Infectious Disease Clinics of North America*. 2018; 32: 163–168.
3. Reich S. Bell's Palsy. *Continuum: Lifelong Learning in Neurology*. 2017; 23: 447–466.
4. Chavez-Bueno S, McCracken GH Jr. Bacterial Meningitis in Children. *Pediatric Clinics of North America*. 2005; 52: 795–210.
5. Ning S, Kerbel B, Callum J, Lin Y. Safety of Lumbar Punctures in Patients with Thrombocytopenia. *Vox Sang*. 2016; 110: 393–400.
6. Phillips J, Henderson AC. Hemolytic Anemia: Evaluation and Differential Diagnosis. *American Family Physician*. 2018; 98: 354–361.
7. Zander CB, Cao W, Zheng XL. ADAMTS13 and von Willebrand factor interactions. *Curr Opin Hematol*. 2015;22:452–459.
8. Brain MC, Dacie JV, Hourihane DO. Microangiopathic haemolytic anaemia: the possible role of vascular lesions in pathogenesis. *Br J Haematol*. 1962;8:358–374.
9. Griffin D, Al-Nouri ZL, Muthurajah D, et al. First symptoms in patients with thrombotic thrombocytopenic purpura: what are they and when do they occur? *Transfusion*. 2013;53:235–237.
10. Aksay E, Kiyani S, Ersel M, Hudaverdi O. Thrombotic thrombocytopenic purpura mimicking acute ischemic stroke. *Emerg Med J*. 2006; 23: e51.
11. Badugu P, Idowu M. Atypical Thrombotic Thrombocytopenic Purpura Presenting as Stroke. *Case Reports in Hematology*. 2019; Jan 14; 2019: 7425320.doi:10.1155/2019/7425320.
12. George JN. The remarkable diversity of thrombotic thrombocytopenic purpura: a perspective. *Blood Adv*. 2018; 2: 1510–1516.
13. Page EE, Kremer Hovinga JA, Terrell DR, Vesely SK, George JN. Thrombotic thrombocytopenic purpura: diagnostic criteria, clinical features, and long-term outcomes from 1995 through 2015. *Blood Adv*. 2017;1:590–600.
14. Joly BS, Coppo P, Veyradier A. Thrombotic thrombocytopenic purpura. *Blood*. 2017; 129: 2836–2846.
15. Mariotte E, Azoulay E, Galicier L, et al. French Reference Center for Thrombotic Microangiopathies. Epidemiology and pathophysiology of adulthood-onset thrombotic microangiopathy with severe ADAMTS13 deficiency (thrombotic thrombocytopenic purpura): a cross-sectional analysis of the French national registry for thrombotic microangiopathy. *Lancet Haematol*. 2016; 3: e237–e245.
16. Terrell DR, Vesely SK, Kremer Hovinga JA, Lammle B, George JN. Different disparities of gender and race among the thrombotic thrombocytopenic purpura and hemolytic-uremic syndromes. *Am J Hematol*. 2010;85:844–847.
17. Bendabudi PK, Li A, Hamdan A, Fry MA, et al. Derivation and Prospective Validation of a Predictive Score for the Rapid Diagnosis of Thrombotic Thrombocytopenic Purpura: The Plasmic Score. *Blood*. 2014; 124: 231.
18. Bendapudi PK, et al. Derivation and external validation of the PLASMIC score for rapid assessment of adults with thrombotic microangiopathies: a cohort study. *The Lancet. Haematology*. 2017; 4(4): e157–64.
19. Jasti S, Coyle T, Gentile T, Rosales L, Poiesz B. Rituximab as an adjunct to plasma exchange in TTP: a report of 12 cases and review of literature. *J Clin Apher*. 2008;23(5):151–156.
20. Scully M, McDonald V, Cavenagh J, Hunt B, Longair I, Cohen H, Machin S. A phase 2 study of the safety and efficacy of rituximab with plasma exchange in acute acquired thrombotic thrombocytopenic purpura. *Blood*. 2011;118(7):1746–1753.
21. Personal Communication, Dr. James George, April 28, 2019.
22. Froehlich-Zahnd R, George JN, Vesely SK, Terrell DR, et al. Evidence for a role of anti-ADAMTS13 autoantibodies despite normal ADAMTS13 activity in recurrent thrombotic thrombocytopenic purpura. *Haematologica*. 2012; 97: 297–303.
23. Bell WR, Chulay JD, Feinberg JE. Manifestations resembling thrombotic microangiopathy in patients with advanced human immunodeficiency virus (HIV) disease in a cytomegalovirus prophylaxis trial (ACTG 204). *Medicine*. 1997; 76: 369–380.
24. Rivaud E, Massiani MA, Vincent F, Azoulay E, Couderc LJ. Valacyclovir hydrochloride therapy and thrombotic thrombocytopenic purpura in a HIV-infected patient. *Archives of Internal Medicine*. 2000; 160: 1705–1706.
25. George JN, Nester CM. Syndromes of Thrombotic Microangiopathy. *NEJM*. 2014; 371: 654–666.

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Tobacco Product Availability Following Point-of-Sale Policy Implementation in Rhode Island

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The substantial decline in cigarette smoking among adolescents is a notable public health achievement. The smoking rate among Rhode Island (RI) high school students fell to a record low of 6.1% in 2017, down 83% since peaking at 35.4% in 1997.¹ This decline, however, is threatened by recent increases in adolescents' use of alternative tobacco products, such as e-cigarettes and cigars, with kid-friendly flavors. In 2014, there were more than 7,700 unique e-cigarette flavors on the U.S. market with new flavors being added each month.² Flavored cigars made up more than half of the U.S. cigar market (52.1%) in 2015.³ While some flavored tobacco products are clearly labeled on their packaging, many products have flavors that do not explicitly reference the flavor used.⁴ Flavored tobacco products are readily available in convenience stores – a public setting frequented by most teenagers at least once a week.⁵ Today 20% of RI youth use e-cigarettes and 7% smoke cigar/cigarillos.¹

Point of sale (POS) refers to any location where tobacco products are displayed, advertised, and purchased. In 2016, a two-year Centers of Disease and Control (CDC) grant awarded to the RI Department of Health (RIDOH) provided funding to six RI municipalities to implement and enforce the RI Model Tobacco Policy (RIMTP) at retail POS. The policy restricts the sale of flavored tobacco products, except in smoking bars, prohibits the redemption of coupons or other price discounting strategies to sell tobacco, and requires tobacco retailers to obtain a local license in addition to the state license. Fees from licensing are used to support enforcement checks conducted by local police, with an escalating fine schedule up to tobacco license revocation.⁶ **Table 1** provides a summary of the policies passed by the funded municipalities: Barrington, Central Falls, Johnston, Providence, West Warwick and Woonsocket. While not funded, the RIDOH Tobacco Control Program partnered with the town of Middletown to monitor the availability and sales of flavored tobacco and price discounting available at POS. RI tobacco laws prohibit the purchase, sale or delivery of tobacco products to persons under age 18. Establishments are required to post signs stating that the sale of tobacco products to minors is prohibited (RI Gen L 11-9-13).⁷ Two cities in RI, Barrington and Central Falls, have raised the minimum legal age to purchase tobacco products to 21. Central Falls was the first city in RI to do so. The RI Superior Court, however, ruled that the town of Barrington lacked authority to

Table 1. Municipality Versions of the RI Model Tobacco Policy (RIMTP)

City/Town	Policy	Date passed	Status
Barrington	RIMTP (Policy excludes retail licensing. Minimum tobacco sale age raised to 21)	June 2017 (Revised November 2017)	On Hold: Litigation
Central Falls	RIMTP (Policy excludes retail licensing. Minimum tobacco sale age raised to 21)	November 2015	Active
Johnston	RIMTP	June 2017	On Hold: Litigation
Providence	RIMTP	January 2012 (Implemented January 2013)	Active
Middletown	RIMTP	June 2017 (Revised December 2017)	Null & Void
West Warwick	Limited RIMTP (All tobacco products must be behind the sales counter. There are no restrictions on price discounting and coupons.)	February 2017 (Revised: June 2018 & July 2017)	Active
Woonsocket	Limited RIMTP (All flavored tobacco products must be behind the sales counter. There are no restrictions on price discounting and coupons.)	November 2017 (Revised June 2017)	Active

pass its tobacco ordinance,⁸ which is likely to be appealed.

This paper measures implementation of retail store observational surveys necessary for evaluating the tobacco landscape in seven RI municipalities with a POS tobacco policy. To our knowledge, this is the first study to evaluate the tobacco landscape in the context of litigation to pre-empt localities from enforcing POS tobacco policies.

METHODS

Data are from the Standardized Tobacco Assessment for Retail Settings (STARS) surveillance tool adapted for RI. RI-STARS was designed to measure the observed availability of tobacco products, their placement, promotion, and price at retail POS. A measure of clearly-labeled flavored products was created by combining five binary variables that asked if a store carried either cigarillos, large cigars, chew, e-cigarettes, or e-liquids that were clearly marked with a flavor. Mint, menthol, and wintergreen were not considered flavors, but any fruit or candy flavors were included. The variable for not-clearly-labeled flavored products was created from a question on the observed availability of Garcia y Vega Game Blue (Game Blue). These cigarillos are known to be vanilla flavored but labeled as “Blue.” If a store had any flavored products, regardless of labeling, it was marked as selling flavored tobacco products. Price discounts were measured using a combination of two variables; availability of Buy-One-Get-One discounts and coupon redemptions in the store.

RI-STARS was administered by community partners in the seven municipalities cited above. Each municipality completed four rounds of store observations over 18 months (2017-2019; **Table 2**). Community partners were provided with a tobacco and e-cigarette retail license store list generated by the RI Department of Revenue Division of Taxation. All local tobacco retail stores were visited in each round except in the City of Providence. Providence has an estimated 300 tobacco retail stores. As such, 100 stores were randomly selected for each of four rounds of RI-STARS. Each new sample drawn excluded stores that had not violated the city's POS tobacco policy in the prior round. This ensured that all stores were surveyed at least once during four rounds of data collection. Permanently closed stores were removed from the retailer list and new stores were integrated in subsequent rounds of data collection.

Community partners provided retailer education at each store visit, shared materials that explained the RIMTP, and

offered retailers clear guidelines for compliance with the policy. RI-STARS was an observational survey only and was separate from enforcement. A store could not receive a fine or penalty for being observed to have a flavored tobacco product, even if the sale of the product was restricted in the local policy.

RESULTS

Observed availability of flavored tobacco products decreased slightly across the seven municipalities, except for the town of Johnston. This change was largely driven by a change in the number of not-clearly-labeled flavored products available. In round one, community partners found a nearly equal number of stores selling clearly-labeled flavored products as selling not-clearly labeled tobacco products. By round 4, some of the cities and towns observed fewer not-clearly labeled products in stores, but the availability of clearly labeled flavored tobacco products showed little change. The decrease in the availability of tobacco products that did not explicitly identify a flavor can be attributed, in part, to the results from the RI-STARS surveys from Providence and Central Falls. These two cities actively enforced their ban on the sale of flavored tobacco products after each round of RI-STARS was completed. In Providence, for example, only one store was observed to have Game Blue cigarillos (a not clearly labeled product) in over 100 store checks in round three. No stores were observed to have this product in round four (data not shown).

The availability of tobacco discounts fluctuated over four rounds of data collection (**Table 2**). In total, 84 stores were found to have a coupon or discount in fall 2017, compared to 106 stores in early 2018, 60 stores in late 2018, and 91 stores during the final round of RI-STARS. The number of stores observed to offer tobacco product discounts in Providence fell by 93%, from 40 stores in round one to three stores in round four. Increases in tobacco price discounting were observed in Johnston, West Warwick, and Woonsocket but not in Barrington or Central Falls.

Table 2. RI-STARS Observed Availability

Town	RI-STARS Flavors Observed				RI-STARS Discounts Observed			
	Round 1	Round 2	Round 3	Round 4	Round 1	Round 2	Round 3	Round 4
	Fall 2017	Winter 2018	Fall 2018	Winter 2019	Fall 2017	Winter 2018	Fall 2018	Winter 2019
Barrington	2	4	4	4	0	0	0	0
Central Falls	17	12	12	10	1	0	1	0
Johnston	26	24	20	28	11	25	1	22
Middletown	9	10	9	8	7	7	9	8
Providence	73	60	56	7	40	40	8	3
West Warwick	20	21	21	20	10	8	18	23
Woonsocket	34	36	36	24	15	26	23	35
Total	181	167	158	101	84	106	60	91

DISCUSSION

This study offers insight into the tobacco product landscape, including the availability and accessibility of flavored tobacco, discounts, and placement of products in seven municipalities across RI. Observational store survey data showed that conventional cigarettes, e-cigarettes, cigars, cigarillos, and other tobacco products were available to underage buyers in every city and town included in this study.⁹ Retailers offered a range of flavored products, which can increase the likelihood of youth tobacco initiation.¹⁰ While the availability of not-clearly labeled flavored products fell during this study, clearly labeled flavored products were still widely available.

During the two-year study period, it was an ongoing challenge to adapt to the ever-changing modifications and pending legal challenges surrounding the implementation and enforcement of each city's POS tobacco policy. Court cases brought by local tobacco retailers challenged the policy in three municipalities. The towns of Barrington and Johnston are not able to enforce flavor or discount restrictions due to ongoing litigation. This meant that any ban on the sale of flavored tobacco products and price discounting could not be enforced until the cases are resolved in court. The town of Middletown's point of sale tobacco policy was struck down in Newport Superior Court in October 2018. There are currently no plans to appeal this decision.

The cities of West Warwick and Woonsocket do not include a ban on the discounting of tobacco products in their local POS policy. In both cities, the observed availability of tobacco price discounting increased over three rounds of store observations. Central Falls and Providence were the only cities able to enforce their local ban prohibiting the sale of flavored tobacco products, excluding menthol products, and tobacco price discounting. As a result, there were notable decreases in the availability of flavored tobacco products and price discounts for tobacco products in their local stores over two years. Thus, study findings must be understood in the context of differences in POS ordinances passed in each of the grant-funded municipalities and litigation.

A second challenge was in the measurement of flavored tobacco products. Community partners could not reasonably assess each store for the presence of flavored tobacco products as new flavored little-cigars and e-cigarettes continue to be marketed and promoted to youth.^{2,3} Instead, Game Blue cigarillos were the only not-clearly labeled product on the RI-STARS survey.

Despite these challenges, this study provides insight into the tobacco environment in RI and the potential for using observational store surveys to assess the effectiveness of retail POS tobacco policies. Health equity is a key issue when implementing POS strategies, and RI is no exception. Evidence supports that low-income and predominately minority communities are more heavily exposed to tobacco advertising and have a higher density of tobacco retailers when

compared to other communities.¹¹ Over two years, seven municipalities established the community infrastructure for passing and implementing POS tobacco policies, providing retailer education, and fining tobacco retailers that did not comply with the policy if enforcement was not subject to litigation. Three of the municipalities – Providence, Central Falls and Woonsocket – are high poverty cities. In these three cities more than one in four children live below poverty (36%) and an estimated 17% live in extreme poverty,¹² reinforcing the justification for their inclusion in the initiative.

Eliminating cancer and other diseases caused by tobacco use is one of the highest public health priorities of our nation. E-cigarettes, which do not burn tobacco, still deliver nicotine, flavor additives, and other chemicals, including flavor chemicals that are potentially harmful to users.⁴ This is of concern since many flavored tobacco products are marketed with flavors that appeal to youth but without naming the flavor used.⁴ In this rapidly changing tobacco landscape, it is critical that physicians and other health care providers are well informed about different tobacco products and their patients' use of these products, particularly by youth.

References

- Centers for Disease Control and Prevention. High School Youth Risk Behavior Survey. Youth Online. Rhode Island 1997-2017 Results. <https://nccd.cdc.gov/Youthonline/App/Results.aspx?LID=RI>
- Zhu S-H, Sun JY, Bonnevie E et al. Four hundred and sixty brands of e-cigarettes and counting: implications for product regulation. *Tob Control*. 2014;23:iii3-iii9.
- Delnevo CD, Giovenco DP, Miller Lo EJ. Changes in the mass-merchandise cigar market since the Tobacco Control Act. *Tob Regul Sci*. 2017; 3(2 Suppl 1): S8-S16.
- Farley SM, Schroth KR, Grimshaw V et al. Flavour chemicals in a sample of non-cigarette tobacco products without explicit flavour names sold in New York City in 2015. *Tob Control*. 2018;27(2):170-176.
- Sanders-Jackson A, Parihk NM, Schleicher NC, et al. Convenience store visits by US adolescents: Rationale for healthier retail environments. *Health Place*. 2015; 34:63-6
- RI Local Tobacco Control Ordinances & Policies. Local Ordinances. <http://tobaccofree-ri.org/local-ordinances.htm>
- 2014 Rhode Island General Laws. Title 11-Criminal Offenses. Chapter 11-9-ChildrenSection 11-9-13-Purchase, sale or delivery of tobacco products to persons under eighteen. <https://law.justia.com/codes/rhode-island/2014/title-11/chapter-11-9/section-11-9-13/>
- State of Rhode Island Superior Court ruling. Town of Barrington <https://www.publichealthlawcenter.org/sites/default/files/Bench-Decision-Barrington-2018>
- Data are from local-level tobacco compliance monitoring and observations at the retail point of sale briefs prepared for the seven RI municipalities with a POS tobacco policy. The briefs are available from Geri Guardino, Tobacco Control Program, Rhode Island Department of Health geri.guardino@health.ri.gov
- McCarthy WJ, Mistry R, Lu Y et al. Density of tobacco retailers near schools: effects on tobacco use among students. *Am J Public Health*. 2009;99(11):2006-2013.

11. Public Health Advocacy Institute at Northeastern University School of Law. 2017. Tobacco Disparities: Evidence Supports Policy Change. Available at: <https://tobaccopolicycenter.org/>
12. 2019 Rhode Island KIDS COUNT Factbook/Economic Well-Being. Children in Poverty. <http://rikidscount.org/Portals/0/Uploads/Documents/Factbook%202019/2019%20FACT-BOOK%20FINAL.pdf>

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Rhode Island Monthly Vital Statistics Report

Provisional Occurrence Data from the Division of Vital Records

VITAL EVENTS	REPORTING PERIOD		
	SEPTEMBER 2018	12 MONTHS ENDING WITH SEPTEMBER 2018	
	Number	Number	Rates
Live Births	984	11,588	11.0*
Deaths	840	10,430	9.9*
Infant Deaths	3	67	5.8#
Neonatal Deaths	3	51	4.4#
Marriages	1,030	6,671	6.3*
Divorces	254	3,078	2.9*
Induced Terminations	200	2,079	179.4#
Spontaneous Fetal Deaths	54	755	65.2#
Under 20 weeks gestation	46	690	59.5#
20+ weeks gestation	8	65	5.6#

* Rates per 1,000 estimated population

Rates per 1,000 live births

Underlying Cause of Death Category	REPORTING PERIOD			
	MARCH 2018	12 MONTHS ENDING WITH MARCH 2018		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	210	2,347	222.0	2,932.0
Malignant Neoplasms	180	2,160	204.3	5,142.5
Cerebrovascular Disease	39	482	45.6	625.0
Injuries (Accident/Suicide/Homicide)	71	889	84.1	12,366.5
COPD	36	517	48.9	467.5

(a) Cause of death statistics were derived from the underlying cause of death reported by physicians on death certificates.

(b) Rates per 100,000 estimated population of 1,056,298 (www.census.gov)

(c) Years of Potential Life Lost (YPLL).

NOTE: Totals represent vital events, which occurred in Rhode Island for the reporting periods listed above.

Monthly provisional totals should be analyzed with caution because the numbers may be small and subject to seasonal variation.

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RIMS NOTES: NEWS YOU CAN USE

This issue sponsored by

Welcome to the current issue of *RIMS Notes*, your concise, bi-weekly bulletin to keep RIMS members up to date on RIMS, the legislature, and highlights of our advocacy efforts.

Volume 1 - Number 21

For more information about our Sponsors, please visit [here](#).

What's New

On October 14 CMS published its Final Rule for implementing MACRA. All physicians must take careful note of the momentous changes in how Medicare will pay starting in little more than 2 months. On October 20, AMA released two new documents to help physicians understand the Final Rule and what it means for their practices. AMA's new [chart](#) provides an outline, while AMA's new [summary document](#) provides detail of MACRA. The Final Rule incorporates a number of improvements that AMA fought for to ease the transition for doctors.

Membership Activities

The Medical Society's new website debuted September 22, 2016. The URL is unchanged: www.rimed.org, but everything else has been rebuilt from the ground up in fulfillment of strategic planning and consulting done last winter. You will like what you see.

December 1 Back by popular demand! [Paint and Wine](#) at the Muse Paint Bar, 117 North Main Street, Providence. Register through the [Member Portal](#) on RIMS' website. Unleash your inner artist.

Keeping You Posted: Opioids

New Prescription Limits are in Effect! By state law effective June 28, 2016, initial opioid prescriptions for outpatient adults shall entail no more than 30 morphine milligram equivalents (MMEs) or 20 total dosages. Review the impact of these important new laws [here](#).

Co-prescribing FDA now requires strong warnings for combined use of opioid analgesics, prescription opioid cough products, and benzodiazepines. The action is part of a national effort led by Rhode Island Director of Health, Nicole Alexander-Scott, MD, MPH, to highlight the dangers of co-prescribing.

Surgeon General to physicians: Take the pledge! Vivek H. Murthy, MD, MBA, calls on America's doctors to [Turn the Tide](#) on the opioid crisis. Read his [letter](#). Take the pledge.

This Date In History - 23 Years Ago

October 21 is National Mammography Day, and October is Breast Cancer Awareness Month. President Bill Clinton designated the third Friday of October as Mammography Day in 1993.

RHODE ISLAND MEDICAL SOCIETY, 405 PROMENADE STREET, SUITE A, PROVIDENCE RI 02908-4811
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Contact Sarah if you've missed an issue, sstevens@rimed.org.



Working for You: RIMS advocacy activities

May 1, Wednesday

Workers Compensation Advisory Committee
Legislative hearings

May 2, Thursday

Legislative hearings

May 3, Friday

Meeting with OHIC regarding Risk-Bearing Providers Organizations (RBPO)
MMJUARI Finance Committee meeting with auditors
RIMS Notes issue production

May 6, Monday

Meeting with Interim CEO of RI Quality Institute
AMA Advocacy Resource Center Conference Call
RIMS Board of Directors Meeting: Peter A. Hollmann, MD, President

May 7, Tuesday

RIMS Physician Health Committee: Herbert Rakatansky, MD, Chair
Meeting with Senate policy staff regarding legislation
Legislative hearings

May 8, Wednesday

Board of Medical Licensure and Discipline
Governor's Overdose Prevention and Intervention Task Force: Sarah J. Fessler, MD, Past President
Legislative hearings
Senate Majority Whip Goodwin fundraiser

May 9, Thursday

Meeting with BCBSRI regarding Oak Street Health Care
RI Academy of Family Physicians (RIAFP) Advocacy Day
American College of Physicians, RI Chapter (ACP RI) Advocacy Day
Legislative hearings
State Innovation Model Steering Committee: Peter A. Hollmann, MD, President

May 11, Friday

New England Delegation to the American Medical Association: Peter A. Hollmann, MD, RIMS President, Chair; Alyn Adrain, MD, Delegate; Nitin Damle, RIMS Past President, ACP Delegate; Yul Ejnes, RIMS Past President, ACP Delegate; RIMS staff

May 13, Monday

Meeting with Senator Goldin regarding Explanation of Benefits privacy issues legislation

May 14, Tuesday

Legislative hearings
Senate HHS Committee member Satchel fundraiser

May 15, Wednesday

Primary Care Physician Advisory Committee/Department of Health meeting
Meeting with Healthcentric Advisors staff regarding pre-diabetes
AMA conference call regarding federal-level issues
Legislative hearings
Senate HHS Co-chair Goldin fundraiser

May 16, Thursday

MMJUARI Annual Meeting and Board meeting
Legislative hearings
House Finance Chairman Abney fundraiser
RIMS networking event with leadership and sponsors

May 17, Friday

RIMS Notes issue production

May 20, Monday

Meeting with Chief Administrative Officer, Board of Medical Licensure and Discipline: Catherine Cummings, MD

May 21, Tuesday

Meeting with OHIC regarding Risk-Bearing Providers Organizations (RBPO) regarding legislation
Meeting with House and Senate sponsors of Naloxone Public Access legislation
AMA ARC Advocacy conference call on Augmented Intelligence
OHIC Health Insurance Advisory Committee
Legislative hearings
RI Medical Women's Association Woman Physician of the Year event, RIMS member Megan L. Ranney, MD, MPH, honoree; Dr. Ranney is a practicing emergency physician

May 22, Wednesday

Youth Physical Education Advocacy Day, American Heart Association, State House
Legislative hearings

May 23, Thursday

Meeting with Attorney General Neronha and staff: Peter A. Hollmann, MD, President
Governor's Overdose Task Force Work Group on Harm Reduction
Legislative hearings
RIMS Nominating Committee: Peter A. Hollmann, MD, President; Norman M. Gordon, MD, President-Elect; Christine Brousseau, MD, Vice President; Sarah J. Fessler, MD, Past President; Peter Karczmar, MD, Past President; Yul D. Ejnes, MD, Past President; Michael E. Migliori, MD, Past President

May 24, Friday

Alpert Medical School Student Award Ceremony

May 28, Tuesday

Rhode Island Health Privacy Advocates meeting regarding EOB legislation
Alpert Medical School MPH Program regarding advocacy: Sarah Fessler, MD, Past President; Thomas Bledsoe, MD, Secretary; Keith Callahan, MD, RI AFP representative to RIMS Council; RIMS staff
Legislative hearings

May 29, Wednesday

OHIC Integrated Behavior Health Work Group meeting
Legislative Hearings

May 30 Thursday

Legislative Hearings
House HEW Chairman McNamara fundraiser

May 31, Friday

RIMS Notes issue production



RIMS CORPORATE AFFILIATES

The Rhode Island Medical Society continues to drive forward into the future with the implementation of various new programs. As such, RIMS is expanding its Affinity Program to allow for more of our colleagues in health-care and related business to work with our membership. RIMS thanks these participants for their support of our membership.

Contact Marc Bialek for more information: 401-331-3207 or mbialek@rimed.org



www.nhpri.org

Neighborhood Health Plan of Rhode Island is a non-profit HMO founded in 1993 in partnership with Rhode Island's Community Health Centers. Serving over 185,000 members, Neighborhood has doubled in membership, revenue and staff since November 2013. In January 2014, Neighborhood extended its service, benefits and value through the HealthSource RI health insurance exchange, serving 49% the RI exchange market. Neighborhood has been rated by National Committee for Quality Assurance (NCQA) as one of the Top 10 Medicaid health plans in America, every year since ratings began twelve years ago.

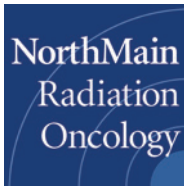


www.ripccp.com

RIPCPC is an independent practice association (IPA) of primary care physicians located throughout the state of Rhode Island. The IPA, originally formed in 1994, represent 150 physicians from Family Practice, Internal Medicine and Pediatrics. RIPCPC also has an affiliation with over 200 specialty-care member physicians. Our PCP's act as primary care providers for over 340,000 patients throughout the state of Rhode Island. The IPA was formed to provide a venue for the smaller independent practices to work together with the ultimate goal of improving quality of care for our patients.



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Self-care resources for
healthcare practitioners



Gov. Raimondo asks Lifespan, CNE, Brown to reconsider plans for integrated academic hospital system

Parties have agreed to reconvene

PROVIDENCE – **GOV. GINA M. RAIMONDO** announced on June 4th she has asked Lifespan, Care New England and Brown University to resume negotiations and determine whether they can come to an agreement that would create a locally-run, academic medical center in Rhode Island.

“A thriving hospital system is critical to the health care of all Rhode Islanders. Over the past several months I have increasingly heard from a number of stakeholders and understand the appeal of a locally-run, academic medical center based in Rhode Island. With that in mind, I have called on Care New England, Lifespan and Brown to sit down once again and consider a joint solution. While I have little control over private hospital systems, I do have the ability to bring these parties together and ask them to reconvene negotiations on a crucial decision that will impact all Rhode Islanders for decades,” said Gov. Raimondo. “Partners is one of the best medical systems in the country, and we appreciate their interest in Rhode Island. Whether or not Rhode Island affiliates with a larger system at some point, I believe creating a more integrated, locally-run, academic structure first is what’s in the best interest of Rhode Islanders now and in the long run.”

“In order to give this effort the best possible chance for success and to provide maximum flexibility to the governor and the leadership of these three institutions, we will be withdrawing our application to acquire CNE. We look forward to reengaging at the appropriate time – especially with a fully integrated local system. We greatly value our relationship in Rhode Island and want to do what’s best for the state and its citizens,” said **ANNE KLIBANSKI, MD**, Interim President and CEO, Partners HealthCare.

“We are pleased that the Governor has taken this important first step to achieve a vision that has eluded the state for more than two decades. We are confident that with the good faith efforts of all the parties involved, we will finally achieve the vision of unified academic health care system for the state of Rhode Island that will have a positive impact on patient care and our economy for years to come. We are excited to get this effort underway,” said **TIMOTHY J. BABINEAU, MD**, president and chief executive officer of Lifespan and **LAWRENCE AUBIN**, chair, Lifespan board of directors.

“Care New England is committed to providing the best health care possible throughout the state. We appreciate the Governor’s dedication and commitment, and respect the importance of a possible Rhode Island Solution involving CNE, Lifespan, and Brown University. To that end, we have

agreed to further explore the feasibility of this option and will begin discussions in earnest immediately because it is simply too important for Rhode Island’s future,” said **JAMES E. FANALE, MD**, President and CEO, Care New England. “I must also acknowledge the hard work and focused energy the staff across CNE has put forward into strengthening our organization and enhancing care provided across all of our facilities. Further, I look forward to the continuation of our existing clinical affiliation with our Partners/Brigham Health colleagues as we explore this opportunity locally in depth. The programs in place already – cardiology, colorectal, thoracic, and vascular surgery - will continue to grow and provide high quality care for our patients.”

“I respect Governor Raimondo’s decision to reconvene Care New England, Lifespan and Brown for discussions about the future of Rhode Island healthcare. Brown has a long history of advocating for an integrated academic medical center that provides exceptional healthcare and medical education, and generates biomedical innovation that fuels job growth in the state. I look forward to these discussions, and I hope we can develop the beginnings of a framework that will serve the best interests of Rhode Islanders for years to come,” said Brown President **CHRISTINA PAXSON**.

The Governor has called on the parties to work quickly over the summer to identify if they can move forward successfully. The Rhode Island Foundation and The Partnership for Rhode Island are providing financial support for consultant work.

“It is encouraging that Brown, Care New England, and Lifespan have agreed to come back to the table to work toward creation of a locally-controlled, integrated academic medical center – one that will provide cost-effective, quality care to all Rhode Islanders. We’ve supported the concept for some time, in alignment with the Foundation’s strategic focus on improving the health of our state’s residents; and we’re glad to provide resources to this effort,” said **NEIL D. STEINBERG**, President & CEO of the Rhode Island Foundation.

“We are excited about the prospect of a local solution that prioritizes quality, affordable care. Rhode Island’s health care institutions are a major driver of our economic future and their success is imperative to attracting and retaining companies. We support a new approach to finding a way to bring Brown, Care New England, and Lifespan together that includes fresh leadership and a renewed commitment to world-class health care for all Rhode Islanders,” said **TOM GIORDANO**, Executive Director, Partnership for Rhode Island. ❖

‘In order to give this effort the best possible chance for success and to provide maximum flexibility to the governor and the leadership of these three institutions, we will be withdrawing our application to acquire CNE.’

*– Anne Klibanski, MD,
Interim President and
CEO, Partners HealthCare*

Southcoast Health announces intent to establish a Trauma Center at St. Luke's Hospital

NEW BEDFORD – **KEITH HOVAN**, CEO of Southcoast Health, announced in May plans to establish a Level II Trauma Center at St. Luke's Hospital.

"We all know how important every minute – every second – counts when someone is badly injured," said Hovan. "No one is more acutely aware of this than our region's EMS providers, which is why I was delighted to share this information with them this morning."



Keith Hovan, chief executive officer of Southcoast Health, shakes hand with Kevin Gallagher, fire chief for the town of Acushnet, at the Southcoast Health annual EMS provider breakfast.

Hovan made the announcement at Southcoast Health's annual EMS provider breakfast, which is held every year during National EMS Week to honor fire chiefs and other leaders of emergency medical services for their work in ensuring that the region has expert and timely emergency care.

"The development of a Level II Trauma Center at St. Luke's will continue our mission of providing world class care close to home for our patients and communities here in Southeastern Massachusetts and Rhode Island," Hovan said.

A Level II trauma center has the capability to see any type of trauma patient and has the same clinical capabilities of a Level I trauma center. A level II center is also not required to conduct research and have academic surgical residency programs. Establishing a Level II Trauma Center, centrally located in the region at St. Luke's Hospital, will meet a critical community need. When completed, this new program will provide more timely, critical access to exceptional trauma care for patients of our region.

Becoming a Level II Trauma Center is a very rigorous and prescribed process which must be verified by the American College of Surgeons and approved by the Massachusetts Department of Public Health. To immediately begin

this important work, St. Luke's Hospital has been actively recruiting leaders and providers who will lead this initiative. Key to this effort will be Southcoast's newly recruited Chief of Trauma Surgery, Dr. Michael Grossman.

"Dr. Grossman is a skilled and experienced trauma surgeon and leader, having established two trauma centers – one in New York and one in Pennsylvania," said **DR. RAYFORD KRUGER**, Chief of Surgery for Southcoast Health. "Building an expert team will be crucial to the formation of a well-designed trauma program that meets the needs of our patients."

"I am very excited to be leading the effort to establish St. Luke's as a trauma center," said **DR. GROSSMAN**. "This is an exciting opportunity for the region and I am thrilled to play a key role at an esteemed organization to make this a reality for the patients of Southeastern Massachusetts."

St. Luke's Hospital will be required to submit data to the National Trauma Data Bank and Massachusetts Department of Public Health regarding treatment of trauma patients to be verified and accredited as a Level II Trauma Center. The process will take approximately 18 months to two years. ❖

CNE releases Fiscal Year 2019 Q2 results

Care New England Health System (CNE) announced in May that in the second quarter of Fiscal Year 2019 (Jan–March 2019), its obligated group (CNE operating units excluding Memorial Hospital) reported a \$4.6 million loss from operations due primarily to a \$5.4 million loss at Women & Infants Hospital, because of volume decline in the neonatal intensive care unit (NICU). However, Butler Hospital, Kent Hospital, and the VNA of Care New England had positive second quarter gains of \$3.2 million collectively. Year-to-date, the obligated group experienced a \$3 million loss from operations, \$0.6 million below budget.

CNE as a whole recorded a loss from operations of \$5.8 million in the second quarter. Year-to-date, CNE incurred a loss from operations of \$5.1 million, which is slightly better than the budget of \$5.2 million. Of note, the Memorial Hospital campus accounts for \$2.1 million of that loss.

"Our focus remains firmly on operational improvement plans including quality, access, and financial performance," said **JAMES E. FANALE, MD**, president and CEO, CNE. "Health care is a volatile industry but we continue to aggressively assess, implement, and amend our turnaround plans to meet these demands head on. We believe with this sharp focus and the commitment of all those here at CNE, we will see further improvement and achieve our overall budget." ❖

AMA announces new resources to train future physicians on health systems science

As part of AMA's initiative to create the medical schools of the future, first-of-its-kind Health Systems Science Review book and online education modules will help ensure physicians learn how to deliver patient care in modern, value-based health systems

CHICAGO – Building on its efforts to ensure future physicians are well-prepared to effectively deliver care to patients within modern health systems, the American Medical Association (AMA) today announced two new resources aimed at integrating Health Systems Science into physician training. Both new resources – the Health Systems Science Review book and AMA Health Systems Science Learning Series education modules – will help physicians-in-training enter practice with a better understanding of how health care is delivered, how health care professionals work together to deliver care, and how they can improve patient care and health care.

“Through our work over the past six years to reimagine medical education, we’ve seen first-hand that physician training has not always kept pace with the changing way that health care is being delivered within health systems. Now, as more medical schools are incorporating Health Systems Science into their curricula, the AMA is offering tools to students and instructors to assess their competencies in this new subject,” said AMA President **BARBARA L. MCANENY, MD**.

The AMA's new Health Systems Science Review book, published by Elsevier, is the first study tool of its kind to help physicians-in-training and other health professionals, as well as their

instructors, evaluate competencies in Health Systems Science and learners' readiness for navigating modern health systems. This includes competencies in value-based care, health care delivery and processes, health care policy and economics, clinical informatics and technology, social determinants of health, patient safety, teamwork and collaboration, and systems thinking.

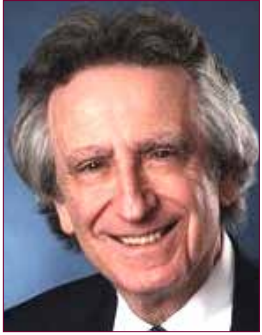
Additionally, the AMA today announced a series of free, online education modules for students to help them develop competencies in Health Systems Science. The first six modules in the new Health Systems Science Learning Series are available for free through the AMA Ed Hub™. The six modules cover the following topics: Health Care Delivery Systems, Patient Safety, Population Health, Quality Improvement, Social Determinants of Health, and Systems Thinking. The AMA plans to offer an additional seven modules as part of the series, which are scheduled to be released in early 2020. Although these were created to support the education of students, the modules will also be useful to residents and practicing physicians who did not receive this foundation as part of their training.

In 2016, Health Systems Science emerged as one of the major innovations developed through the AMA's Accelerating Change in Medical Education

Consortium. Health Systems Science is now considered the third pillar of medical education that should be integrated with the two existing pillars – basic and clinical sciences – and is being incorporated into medical education curricula and exams across the country. To help ensure medical and other health professions students are proficient in Health Systems Science, the AMA is currently working with the National Board of Medical Examiners to develop a standardized exam, which is expected to be available later this year.

The AMA launched its Accelerating Change in Medical Education initiative in 2013 to bridge the gaps that exist between how medical students are trained and how health care is delivered in the modern health care system. Since then the AMA has awarded \$14.1 million in grants to 37 of the nation's leading medical schools to develop innovative curricula that can ultimately be implemented in medical schools across the country. Combining their knowledge, expertise and creativity, these 37 schools are working together as a consortium to share ideas and reinvent how medical students are taught and trained. This work is already supporting training for an estimated 24,000 medical students who will one day care for 41 million patients each year. ❖

When Science and Politics Collide: Support for Enhancing FDA Independence



Eli Y. Adashi, MD

CAMBRIDGE, MA – Earlier this year, twin papers authored by seven former Food and Drug Administration commissioners, published by Health Affairs and the Aspen Institute on the same day, suggested that the FDA should become an independent agency.

A new paper by **ELI Y. ADASHI**¹, **ROHIT RAJAN**², and **I. GLENN COHEN**³ appeared in *Science* in May and picks up where those papers left off. Adashi, Rajan, and Cohen write that the crucial mission of the FDA, which has been to make sci-

ence-based decisions about drug and medical device safety since 1938, has recently been undermined and threatened by politically motivated interference from congressional legislators.

In some ways, the FDA has been vulnerable to politicization from both sides of the aisle since the mid-1960s, resulting in a slow but steady loss of independence. However, write Adashi, Rajan, and Cohen, there has been a recent uptick in political influence on the FDA's decisions, including the recent Plan B debacle. In the long run, the American people are at risk of losing the independent drug safety watchdog they rely on.

While the FDA will never be truly free from political pressure, Adashi, Rajan, and Cohen support the move for a more independent version of the agency, and also suggest some safeguards, which will allow the agency to stay true to its mission. "The hope is, that when values clash, an independent FDA will navigate the conflict with the nation's best interest in mind," they write. Their suggestions include: a six-year term for FDA commissioners, budgetary independence modeled on the Federal Communications Commission (another independent agency), and rule-making authority with selective oversight by the Office of Information and Regulatory Affairs and Office of Management and Budget.

"The fate and stature of the FDA rest in the hands of lawmakers who may be reluctant to alter the status quo for fear of losing leverage," write Adashi, Rajan, and Cohen. "Failure to codify in law the independence of the FDA now or in the near future must be viewed as an opportunity missed." ❖

1 Professor of Medical Science, The Warren Alpert Medical School of Brown University

2 Harvard Law School, Harvard University, Cambridge, MA

3 James A. Attwood and Leslie Williams Professor of Law, Harvard Law School and Faculty Director, Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics at Harvard Law School

URI College of Pharmacy ranked 10th in nation in federal research funding

*The College attracted more than \$12 million
in federal funds in fiscal 2018*

KINGSTON – The University of Rhode Island College of Pharmacy has moved into the top 10 in the country in total federal research grant funding from the National Institutes of Health after securing more than \$12 million in federal research funds in fiscal 2018. The number 10 ranking – among 142 pharmacy colleges in the country – is a record for the College for the second year in a row.

URI is the top ranked pharmacy college in the Northeast, and the only one in the top 20 that is not part of an academic medical center (hospital and medical school), which is ordinarily a significant disadvantage to attracting research funds.

"All credit goes to our amazing faculty members, who continue to make significant scientific breakthroughs that benefit the entire health community," said URI Pharmacy Dean **PAUL LARRAT**. "Every breakthrough, every advancement in scientific knowledge they achieve are even more incentives to fund their work. The discoveries they make every day and bring with them into their classrooms benefit not only the current scientific community, but also the next generation of dynamic researchers and clinicians roaming our halls."

The College has consistently ranked in the 20s among the 142 pharmacy colleges in the country over the last several years before soaring to number 11 last year. Faculty members have made a concerted effort to ramp up research funding, meeting regularly to strategize research efforts, target grant funding and mentor fellow researchers on proper grant writing techniques.

The College of Pharmacy employs a collaborative approach to research and discovery, within the College itself and in association with partner organizations. Pharmacy faculty members and researchers collaborate with such organizations as URI's George & Anne Ryan Center for Neuroscience, the Rhode Island IDEa Network for Excellence in Biomedical Research (RINBRE), which is based at URI, and Advance Clinical and Translational Research (Advance-CTR), a statewide partnership among URI, Brown University, Care New England, Lifespan, the Providence VA Medical Center and the Rhode Island Quality Institute. ❖

New AMA study shows employed physicians outnumber self-employed physicians for first time

CHICAGO – For the first time in the United States, employed physicians outnumber self-employed physicians, according to a newly updated study on physician practice arrangements by the American Medical Association (AMA). This milestone marks the continuation of a long-term trend that has slowly shifted the distribution of physicians away from ownership of private practices.

Employed physicians were 47.4% of all patient care physicians in 2018, up 6% points since 2012. In contrast, self-employed physicians were 45.9% of all patient care physicians in 2018, down 7% points since 2012. Changes of this magnitude are not unprecedented. Older AMA surveys show the share of self-employed physicians fell 14% points during a six-year span between 1988 and 1994.

Given the rate of change in the early 1990s, it appeared a point was imminent when employed physicians would outnumber self-employed physicians, but the shift took much longer than anticipated. The AMA's research notes this example and suggests "caution should be taken in assuming current trends will continue indefinitely."

The majority of patient care physicians (54.0%) worked in physician-owned practices in 2018 either as an owner, employee, or contractor. Although this share fell from 60.1% in 2012, the trend away from physician-owned practice appears to be slowing since more than half of the shift occurred between 2012 and 2014.

Concurrently, there was an increase in the share of physicians working directly for a hospital or in a practice at least partly owned by a hospital. Physicians working directly for a hospital were 8.0% of all patient care physicians, an increase from 5.6% in 2012. Physicians in hospital-owned practices were 26.7% of all patient care physicians, an increase from 23.4% in 2012. In the aggregate, 34.7% of physicians worked either directly for a hospital or in a

practice at least partly owned by a hospital in 2018, up from 29.0% in 2012.

Younger physicians and women physicians are more likely to be employed. Nearly 70% of physicians under age 40 were employees in 2018, compared to 38.2% of physicians age 55 and over. Among female physicians, more were employees than practice owners (57.6% vs. 34.3%). The reverse is true for male

physicians, more were practice owners than employees (52.1% vs. 41.9%).

"Transformational change continues in the delivery of health care and physicians are responding by reevaluating their practice arrangements," said AMA President **BARBARA L. McANENY, MD**. "Physicians must assess many factors and carefully determine for themselves what settings they find professionally

Figure 3. Distribution of physicians by employment status: specialty-level estimates (2018)

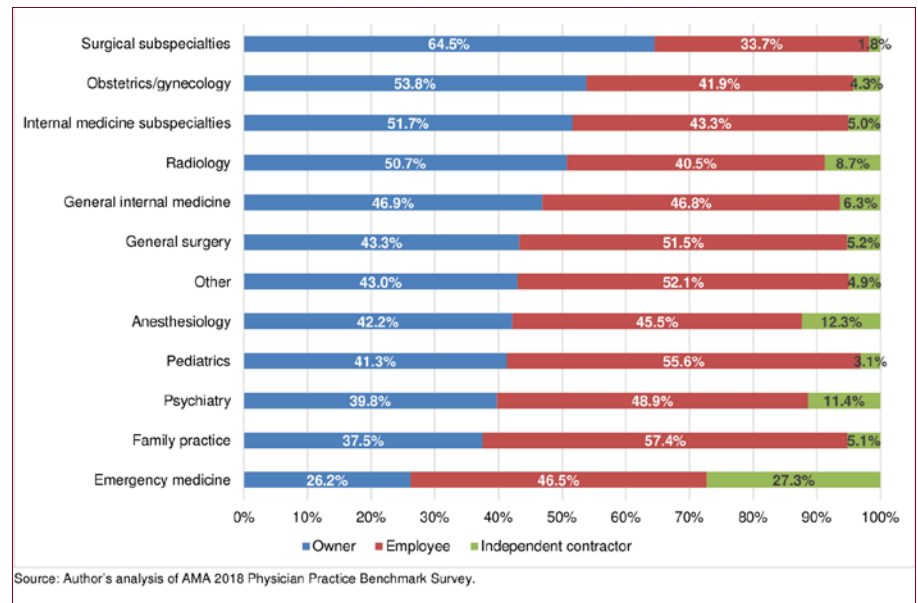
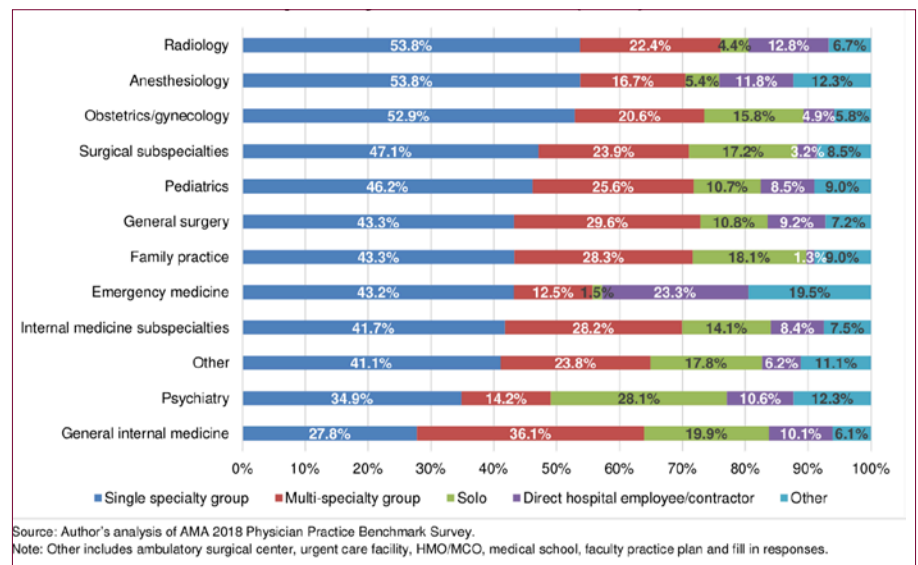


Figure 4. Distribution of physicians by practice type: specialty-level estimates (2018)



rewarding when considering independence or employment. The AMA stands ready to assist with valuable resources that can help physicians navigate their choice of practice options and offers innovative strategies and resources to ensure physicians in all practice sizes and settings can thrive in the changing health environment.”

As in past AMA studies, physicians’ employment status varied widely across medical specialties in 2018. (See **Figures 3 and 4**) The surgical subspecialties had the highest share of owners (64.5%) followed by obstetrics/gyne-

cology (53.8%) and internal medicine subspecialties (51.7%). Emergency medicine had the lowest share of owners (26.2%) and the highest share of independent contractors (27.3%). Family practice was the specialty with the highest share of employed physicians (57.4%).

Despite challenges posed by dynamic change in the health care landscape, most physicians still work in small practices. This share has fallen slowly but steadily since 2012. In 2018, 56.5% of physicians worked in practices with 10 or fewer physicians compared to 61.4% in 2012. This change has been

predominantly driven by the shift away from very small practices, especially solo practices, in favor of very large practices of 50 or more physicians.

The new study is the latest addition to the AMA’s Policy Research Perspective series that examines long term changes in practice arrangements and payment methodologies. The new AMA study, as well as previous studies in the Policy Research Perspective series, is available to download from AMA website. ❖

RIDOH announces funding, support for new Health Equity Zones in East Providence, Cranston, and West End of Providence

The Rhode Island Department of Health (RIDOH) recently announced that it is expanding support and funding to three new communities to establish Health Equity Zones. East Providence, Cranston, and Providence’s West End neighborhood were chosen through a competitive process that drew nearly 20 applicants from communities across the State. These new communities will share approximately \$1.4 million in funding with seven existing Health Equity Zones receiving support to continue their work in local communities.

RIDOH’s Health Equity Zone initiative is an innovative, place-based approach that brings people together to build healthy, resilient communities across Rhode Island. The initiative is grounded in research that shows up to 80% of health outcomes are determined by factors outside clinical settings, such as access to affordable, healthy foods; high-quality education; employment opportunities; and safe neighborhoods. The model encourages and equips community members and partners to collaborate to address factors like these and create healthy places for people to live, learn, work, and play.

“We are thrilled to expand our Health Equity Zones initiative to additional Rhode Island communities,” said Director of Health **NICOLE ALEXANDER-SCOTT, MD, MPH**. “With plans for strong mentorship from existing Health Equity Zones, these communities are taking the forces that shape their health and well-being into their own hands. I can’t wait to see what they accomplish over the next few years as we continue to lift up this initiative as a national model of how such an infrastructure led by community members can create the conditions needed for every person to thrive.”

Each successful application was submitted by a municipal or nonprofit, community-based organization that will serve as the “backbone agency” for the local Health Equity Zone. These agencies, which include East Bay Community Action Program, Comprehensive Community Action Plan, and West Elmwood Housing Corporation, will facilitate a community-led process to organize a collaborative of community partners, conduct a needs assessment, and implement a data-driven plan of action to address the obstacles to health and well-being in local neighborhoods. RIDOH will provide seed funding and support to ensure that communities ground their work in public health principles and best practices, so that measurable outcomes are reached and evaluated.

Existing Health Equity Zone Collaboratives include residents, diverse community-based organizations, youth-serving organizations, educators, business leaders, health professionals, transportation experts, and people in many other fields who are coming together to address the most pressing health concerns in their neighborhoods.

The initial year-long contract period will begin in approximately July 2019 and may be renewed for up to four additional 12-month periods based on HEZ performance outcomes evaluated and based on the availability of funds. To learn more about RIDOH’s Health Equity Zone initiative, see:

www.health.ri.gov/hez

<http://www.health.ri.gov/publications/factsheets/RIsHealthEquityZones.pdf>

To learn more about how to partner with RIDOH to support the Health Equity Zone model in Rhode Island, write to: Ana.Novais@health.ri.gov. ❖

Integra Community Care Network joins Choosing Wisely Rhode Island®

National initiative promotes patients advocating for the right care at the right time

In support of its mission to improve the patient experience of care and the health of populations while reducing the cost of health care, Integra Community Care Network ACO announced it has joined the Choosing Wisely Rhode Island campaign to promote better and more effective communications between patients and their providers in order to advance a dialogue on avoiding unnecessary medical tests, treatments and procedures. The Choosing Wisely Rhode Island campaign is an initiative of the ABIM Foundation and Consumer Reports.

In addition to an ongoing patient educational campaign focused on learning how to more effectively advocate for better health care for themselves and their families, Integra providers will also participate in Choosing Wisely Rhode Island in ways focused on building stronger relationships with their patients to allow for open and honest dialogue about individual health care choices. Researchers at the Dartmouth Institute for Health Policy and Clinical Practice have estimated that 30 percent of all Medicare clinical care spending could be avoided without worsening health outcomes. Integra believes involving patients and their families in care decisions will allow them to make more informed choices.

"It's increasingly clear that an open line of communication between patients and providers is a critical step towards realizing our shared vision of healthier communities," said **JAMES FANALE, MD**, president and CEO of Care New England and chairman of Integra's Board of Directors. "Our goal is to deliver the right care, in the right place, at the right time, and participating in the Choosing Wisely Rhode Island campaign makes sense for health care consumers and for Integra, particularly in today's fluid health care environment."

Rhode Island Business Group on Health (RIBGH) kicked-off phase II of Rhode Island's promotion of the Choosing Wisely campaign in 2018, enlisting organizations including Amica, Brown University, Ocean State Job Lot, Thielsch Engineering, the State of

Rhode Island and the City of Providence.

"As physicians, one of our most important responsibilities is educating our patients and assisting them in negotiating through our complex health care system," said **ALBERT PUERINI, MD**, president of the Rhode Island Primary Care Physicians Corporation and a member of Integra's Board. "The Choosing Wisely Rhode Island campaign provides a platform to assist both our physicians and patients in working together to make the best choices in the important issues of their health. At Integra, we are dedicated to using The Choosing Wisely Rhode Island campaign to achieve these goals."

Rhode Island Business Group on Health is leading the statewide campaign, serving as the licensing agent and providing the resources necessary to partner with the medical community. Thanks to funding from the Rhode Island Foundation and endorsement by the Rhode Island Medical Society, adoption of the national Choosing Wisely Rhode Island campaign continues to increase throughout the state.

"It's clear as part of the shifting health care landscape that an open line of communication between patients and providers is increasingly important to achieving the best health outcome," said **JOHN MINICHELLO**, executive director of Integra Community Care Network. "Patients working in partnership with clinicians when making health care decisions is to everyone's benefit, and Choosing Wisely Rhode Island gives both patients and providers the tools to start these important conversations."

About Integra Community Care Network, LLC

Integra Community Care Network, LLC is the Accountable Care Organization (ACO) within Care New England Health System and is the largest ACO in Rhode Island. The Integra network, responsible for the population health of more than 120,000 residents, includes Rhode Island Primary Care Physicians Corporation (RIPCPC), the Care New England entities and medical group, South County Health, and

other affiliated community physicians. Integra participates in the CMS ACO program, is a certified Rhode Island Medicaid Accountable Entity (AE), and has ACO arrangements with several Rhode Island insurers. For more information, visit integracare.org.

About ABIM Foundation

The mission of the ABIM Foundation is to advance medical professionalism to improve the health care system. We achieve this by collaborating with physicians and physician leaders, medical trainees, health care delivery systems, payers, policy makers, consumer organizations and patients to foster a shared understanding of professionalism and how they can adopt the tenets of professionalism in practice. To learn more about the ABIM Foundation, visit www.abimfoundation.org, connect with us on Facebook or follow us on Twitter.

About Choosing Wisely Rhode Island®

First announced in December 2011, Choosing Wisely Rhode Island is part of a multi-year effort led by the ABIM Foundation to support and engage physicians in being better stewards of finite health care resources. Participating specialty societies are working with the ABIM Foundation and Consumer Reports to share the lists widely with their members and convene discussions about the physician's role in helping patients make wise choices. Learn more at www.ChoosingWisely.org.

About the Rhode Island Business Group on Health

The Rhode Island Business Group on Health (RIBGH) is a voluntary non-profit organization with over 90 member companies, consisting of large and small businesses, payers, brokers, physician groups, and hospital systems. The mission of RIBGH is to promote better care delivery, transparency and healthier outcomes at affordable, predictable costs. The scope of RIBGH, through its affiliate the Worksite Wellness Council of Rhode Island (WWCRI), also includes educating members and sharing best practices on building and sustaining healthy productive workforces. Visit: www.ribgh.org. ❖

The Miriam awarded \$2.5M to trial intervention for children with obesity

CDC funds research into community program for low-income families

The Miriam Hospital, thanks to the support of Rhode Island's congressional delegation, has received a major federal grant to study the effectiveness of a community-based intervention program to help children from low-income families whose health is challenged by obesity.

The U.S. Centers for Disease Control and Prevention (CDC) has awarded a five-year, \$2.45 million grant for a trial to be led by **ELISSA JELALIAN, PhD**, a senior research scientist at The Miriam Hospital and professor of psychiatry and human behavior at the Warren Alpert Medical School of Brown University. The project will be conducted through The Miriam's Weight Control and Diabetes Research Center.

The grant will allow Jelalian, the study's principal investigator, to evaluate new settings for implementing a family-based intervention program, JOIN for ME, which was developed by UnitedHealth Group and which Jelalian has previously studied.

The program will help children and their families to adopt a healthier lifestyle, with greater consumption of nutritious foods and beverages, increased physical activity, and decreased screen time. To achieve these goals, parents are taught to be role models for their children and families are connected to community resources to help support changes in lifestyle behaviors. The goal is to improve weight and health-related quality of life and to understand whether the intervention can be successfully implemented in novel settings.

The new trial, which will recruit 128 children ages 6 to 12, will evaluate the effectiveness of running the program out of two community settings that provide services to low-income families – housing authorities and physician offices that have been designated patient-centered medical homes (primary care practices that coordinate a patient's treatment in a manner they can understand and that ensure care is provided when and where they need it).

"Although evidence-based interventions have been developed to address obesity in children, the vast majority of youth do not have access to such programs," said Jelalian. "The most pressing need is in children from low-income families, who are at greatest risk for obesity and least likely to have access to care. Delivering interventions through community settings offers one strategy for increasing access. "This work extends our research on healthy weight, nutrition, and physical activity that has been funded as part of the Hassenfeld Child Health Innovation Institute."

The CDC estimates that nearly one in five children and adolescents have obesity. Obesity in childhood can cause immediate health problems and lead to obesity-related problems in adulthood, such as sleep apnea and diabetes. The grant reflects mounting evidence that comprehensive family-based lifestyle approaches are effective and U.S. Preventive Services Task Force recommendations that clinicians refer youths with weight issues to such programs. ❖

CONVIVIUM

SAVE THE DATE SEPTEMBER 20

2019 RIMS Membership Convivium and Awards Dinner

Good food, good music, and good company in a relaxed and beautiful setting at the Roger Williams Park Casino in Providence

WATCH YOUR EMAIL FOR DETAILS



Pasteurized donor human milk program now offered at Kent Hospital



Kent Hospital's Women's Care Center team.

This May, Kent Hospital's Women's Care Center launched the first pasteurized donor human milk program in the state. This program supports breastfeeding families by allowing them the option of providing their infant with pasteurized donor human milk, if supplementation is needed, as a bridge until a mother's own milk is available.

Exclusive breast milk feeding is considered a public health imperative by multiple professional organizations. According to the American Academy of Pediatrics (AAP), it is recommended that infants be exclusively breastfed for the first six months with continued breastfeeding alongside the introduction of appropriate complementary foods for one year or longer.

KRISTINE RIMBOS, MS, RNC-OB, interim director at the Women's Care Center at Kent said, "We are thrilled to offer donor milk as a safe, evidence-based alternative that supports our breastfeeding families. The nursing and medical team at Kent is committed to supporting feeding choices and

ensuring high quality outcomes. This program is a win-win for our community and the patients that we serve."

On Monday, May 6, the first infant received pasteurized donor human milk at Kent Hospital. Prior to being discharged home, the infant received donor milk for a total of three days, in addition to nursing, and the mother was encouraged to pump in order to maximize her own milk production.

The donor milk comes from Mother's Milk Bank Northeast, the premier non-profit milk bank in the Northeast. Mother's Milk Bank carefully screens all their donors, who are mothers with excess pumped breast milk, to share with other infants. The milk is then carefully processed, tested, and distributed to hospitals and families in need.

SUSAN BRYANT, MSN, RN, IBCLC, lactation consultant at the Women's Care Center at Kent, said, "Kent Hospital's commitment to a pasteurized donor human milk program, as a bridge to exclusive breastfeeding, will help our postpartum mothers achieve their

breastfeeding goals, and ensure that our babies get off to their best start. Since our first recipient, two other families have been able to benefit from our donor milk program, and we anticipate many more in the future. Our families have been extremely thankful for this option, which allows them to provide their infant with an exclusive breast milk diet, when supplementation is necessary."

Offering pasteurized donor human milk will further support breastfeeding mothers by increasing their confidence and helping them to achieve their breastfeeding goals. The National Institute of Child Health and Human Development (NIHCD) lists numerous benefits of exclusive breast milk feeding, such as essential nutrition, protection against common childhood infections, reduced risk for certain allergic diseases and asthma, childhood obesity, and type 2 diabetes. It also may help improve an infant's cognitive development. ❖

Appointments

Dr. C. James Sung appointed to leadership roles in Pathology And Laboratory Medicine at Women & Infants, Care New England, Brown



C. JAMES SUNG, MD, FCAP, has been appointed chief of pathology and laboratory medicine at Women & Infants Hospital of Rhode Island, executive chief of pathology and laboratory medicine at Care New England, and vice chair of pathology and laboratory medicine at The Warren Alpert Medical School of Brown University. Dr. Sung has served as interim chief since 2017.

“Dr. Sung has been an integral member of the leadership team of the Department of Pathology and Laboratory Medicine for 20 years. For the past two years, he has led the entire department in an interim role, further stabilizing its operations, and modernizing and consolidating laboratory service across Care New England,” said **JAMES E. FANALE, MD**, president and chief executive officer, Care New England. “We are very pleased that he has accepted this most important role as we continue our work to best serve the needs of our communities.”

“Dr. Sung has done a wonderful job expanding the Department of Pathology and Laboratory Medicine’s national reputation for excellence in diagnostic pathology,” said **JONATHAN KURTIS, MD, PhD**, Chair, Department of Pathology and Laboratory Medicine and Stanley M. Aronson Professor of Pathology and Laboratory Medicine, The Warren Alpert Medical School of Brown University. “We look forward to continued growth in the department under Dr. Sung’s leadership, including ongoing investments in research and academic medicine.”

Previously, Dr. Sung served as vice chief of pathology and director of clinical pathology at Women & Infants and director of clinical pathology and laboratory informatics at Care New England. He is a professor of pathology and laboratory medicine at the Warren Alpert Medical School, program director of the Stuart C. Lauchlan and International Visiting Fellowships in Women’s Pathology at Women & Infants/Brown, faculty liaison



Heather A. Smith, MD, MPH, reappointed to AMA legislative Council

The American Medical Association Board reappointed **HEATHER A. SMITH, MD, MPH**, a member of the AMA Foundation Board, to the Council on Legislation (COL). Her new one-year term begins July 1. An obstetrician/gynecologist affiliated with Women and Infants Hospital, she is a graduate of the University of Virginia and the Boston University School of Public Health.

Dr. Smith earned her medical degree at the University of Massachusetts Medical School and a certificate of health sciences research at Yale University. She completed a residency in obstetrics and gynecology at Brigham and Women’s Hospital – Massachusetts General Hospital and is a graduate of the Robert Wood Johnson Foundation Clinical Scholars Program at Yale. ❖

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for the Brown University-National Cheng Kung University College of Medicine Exchange Program, and division commissioner for Rhode Island and Connecticut for the College of American Pathologists (CAP) Commission on Laboratory Accreditation.

A graduate of Chung Shan Medical University in Taiwan, Dr. Sung completed an internship at National Taiwan University Hospital and a pathology residency at Brown University. He was the first Stuart C. Lauchlan Fellow in Developmental and Gynecologic Pathology under the tutelage of Drs. Don B. Singer and Stuart C. Lauchlan at Women & Infants/Brown. Board certified in anatomic pathology and clinical pathology, Dr. Sung joined the staff at Women & Infants and Brown in 1990.

Dr. Sung has authored or co-authored more than 90 publications and book chapters. An award-winning educator, Dr. Sung lectures locally and internationally and has been recognized by medical students, residents and fellows through a number of awards including the Dean’s Teaching Excellence Awards, Calvin Oyer Teaching Award, and Outstanding Teacher Awards. ❖

Recognition

Alpert Medical School Class of 2019



On the cover: The Class of 2019 Warren Alpert Medical School Procession paused for a group 'selfie' as they marched down to the First Unitarian Church, where the Medical School Commencement Ceremony and awarding of degrees took place on May 26th. Dr. Jack A. Elias, senior vice president for health affairs and dean of medicine and biological sciences, presided.

[PHOTOS: DAVID DELPOIO/BROWN UNIVERSITY]



[Above] The Medical School Procession marched down to the First Unitarian Church, where the Medical School Ceremony and awarding of degrees took place on May 26.



Members of the Class of 2019 exiting the First Unitarian Church after graduating.



Abigail Cope Davies, MD, a recipient of the Rhode Island Medical Society **Herbert Rakatansky Prize**, and a member of the Gold Humanism Society, will pursue a career in ob/gyn in Providence at Women & Infants Hospital. She is shown here with RIMS Executive Director Newell E. Warde, PhD.



Jonathan A Staloff, MD, the Rhode Island Medical Society **Amos Throop Award** recipient, and a member of the Gold Humanism Society is congratulated at this year's commencement ceremony by RIMS Executive Director Newell E. Warde, PhD.

[PHOTOS: RHODE ISLAND MEDICAL SOCIETY]



Aaron Maury Shapiro, MD, MPH, Founder of Citizen Physicians, a 501(c)(3) and recipient of the US Public Health Service **Excellence in Public Health Award**, celebrates graduation day. He will continue his residency training in Primary Care/Internal Medicine at Montefiore Medical Center in the New York City.

Recognition

Twenty-three from Care New England graduate from RN to BS Program

In 2014, Care New England committed to the 80/20 plan for nurses with bachelor of science (BS) in nursing degrees in its workforce. The goal of this plan is to ensure that 80% of CNE's nursing community holds a BS or higher by 2020. Later that year, CNE introduced an "RN to BS Program" in cooperation with the University of Rhode Island.

Recently, 23 nurses from across Care New England graduated from the URI College of Nursing. **DEBORAH M. O'BRIEN, BS, RN, MPA**, senior vice president of nursing for Care New England and president and chief operating officer at The Providence Center, offered opening remarks at the graduation. She told the graduates, "As the health care system transforms, it will breed new opportunities. And you will be able to shape the future with the skills you have learned in this program."

She asked some of the graduates what they learned from the program, and found that many learned more than they thought they would, even those who have been a nurse for many years. They found that topics for new, unexpected learning included evidence-based practice, research, social justice, diversity, patient engagement, effective leadership skills, and an interest in developing new opportunities to better serve patients.

She concluded by saying, "Remember that during this era of health care transformation, you will be at the forefront of nurses and nurse leaders who will help to imagine new opportunities that revolutionize how we understand the health of our patients and how we can transform our communities." ❖

Below is the list of this year's graduates from CNE:

- Lenna Bailey, Butler Hospital
- Melissa Blais, Women & Infants Hospital
- Nancy Braga, Women & Infants Hospital
- Michele Casavant, Women & Infants Hospital
- Lori-Ann Cook, Women & Infants Hospital
- Sandra Cook, Women & Infants Hospital
- Brenda Dolan, Kent Hospital
- Amy Fraser, Kent Hospital
- Elizabeth Gallagher, Butler Hospital
- Eric Gallagher, Butler Hospital
- Bianca Garnett, Women & Infants Hospital
- Melissa Imondi, Women & Infants Hospital
- Annmarie Izzo, Women & Infants Hospital
- Susan Lamora, Women & Infants Hospital
- Jennifer MacBain, Women & Infants Hospital
- Pamela McConnell, VNA of CNE
- Malgorzata Raczkowska, The Providence Center
- Nancy Sabetta, Women & Infants Hospital
- Carine Saint Felix, Butler Hospital
- Knarik Sarkisian, Kent Hospital
- Yunxia Toolan, VNA of CNE
- Toni Vale, VNA of CNE
- Elisa Vieira, Women & Infants Hospital



Kent Hospital RN to BS graduates [L-R] Amy Fraser, Knarik Sarkisian, and Brenda Dolan.



[L-R] URI College of Nursing Dean and Professor Barbara Wolfe, Women & Infants RN to BS graduate Jennifer MacBain, and Deb O'Brien.



VNA of Care New England RN to BS graduates [L-R] Yunxia Toolan, Pamela McConnell, and Toni Vale.



[L-R] The Providence Center's Jillian Pastina, Judy Salome, RN to BS graduate Malgorzata (Maggie) Raczkowska, and Deb O'Brien.



Butler Hospital RN to BS graduates [L-R] Eric Gallagher, Elizabeth Gallagher, and Carine Saint Felix.

PHOTOS: CNE

Recognition

Sarah Fessler, MD, receives CDC Childhood Immunization Awards

SARAH FESSLER, MD, received the CDC Childhood Immunization Champion Award, given jointly by the Association of Immunization Managers (AIM) and CDC, during National Infant Immunization Week, April 27–May 4, 2019.



Dr. Fessler, Medical Director at East Bay Community Action Health Services, volunteers on Rhode Island's Vaccine Advisory Committee to provide guidance on issues related to vaccine policy and other activities related to the control of vaccine-preventable diseases. ❖

Women & Infants Fertility Center named Nursing Center of Excellence

The Fertility Center at Women & Infants Hospital of Rhode Island has been named a Nursing Center of Excellence by the Nurses' Professional Group of the American Society for Reproductive Medicine (ASRM).

The Fertility Center is the only such program in Rhode Island to achieve this recognition for nursing care.

"Nurses play a key role in providing compassionate, comprehensive care to patients, not to mention their importance in patient and family education and satisfaction," said **MATT QUIN, RN**, interim chief operating officer and chief nursing officer at Women & Infants. "We are so proud of the nurses in our Fertility Center on this achievement."

A center may achieve center of excellence designation if at least 50 percent of the practice's registered nurses and/or nurse practitioners are experienced in reproductive endocrinology nursing and have completed additional training through ASRM. At Women & Infants' Fertility Center, 70 percent of their nursing staff – 14 out of 20 registered nurses – completed the certificate examination. Additional nurses have already begun the coursework and preparation for the exam.

Women & Infants' Fertility Center is a full-service reproductive endocrinology and fertility clinic. The Center's experts have an international reputation for excellence, with more than 10 decades of combined experience dealing with complex fertility issues. ❖

EPA honors Rhode Island Asthma Control Program with top leadership award

WASHINGTON – The U.S. Environmental Protection Agency (EPA) recently recognized the Rhode Island Department of Health as one of only three national winners of the 2019 National Environmental Leadership Award in Asthma Management. Each year during Asthma Awareness Month, EPA honors programs delivering excellent environmental asthma management as part of their comprehensive asthma care services to improve the lives of children and families with asthma.

"I am honored to award and congratulate the winners of the 2019 National Environmental Leadership Award in Asthma Management on behalf of EPA," said EPA Assistant Administrator for Air and Radiation **BILL WEHRUM**.

The Rhode Island Department of Health Asthma Control Program, based in Providence, RI, serves children with asthma ages 0–17 in high poverty, urban cities throughout the state. The program partners with organizations including Hasbro Children's Hospital, St. Joseph Health Center, New England Asthma Regional Council, United HealthCare and the Green and Healthy Homes Initiative to deliver care. The evidence-based Home Asthma Response Program (HARP), which uses certified asthma educators and community health workers, conducts up to three intensive in-home sessions, including tailored environmental services. HARP's community health workers reported reductions in environmental triggers including mold, pests, dust, pets, tobacco smoke and chemicals. In addition, using hospital claims data, the program was able to show a 75 percent reduction in asthma-related hospital and emergency department costs for HARP participants. And, for every dollar invested in HARP participants, the program realized a \$1.33 return on investment. The program recently expanded to provide HARP home visiting services statewide for Medicaid-enrolled children.

"We are grateful for EPA's recognition of the work we do with our partners to improve the lives of families affected by asthma," said **JULIAN DRIX**, Manager of the Rhode Island Department of Health's Asthma Control Program. "The Rhode Island Department of Health prioritizes health equity by addressing the socioeconomic and environmental factors that impact health. Together we are demonstrating how to reduce asthma emergencies by removing asthma triggers in homes and schools, helping to improve indoor and outdoor air quality, and ensuring high quality asthma services in both healthcare and community settings."

Through AsthmaCommunityNetwork.org, EPA supports an online network of more than 1,100 community-based asthma programs with powerful, innovative tools and technical assistance to drive best practices, learning, and ongoing improvement of asthma care. EPA is committed to improving the lives of people with asthma by integrating sound science into effective public health programs around the country.

The other two 2019 award recipients are Mobile Care Chicago (Illinois), and the Omaha Healthy Kids Alliance (Nebraska). ❖

Recognition

Dr. Christian Arbelaez, Dr. Brian Clyne recognized by Society for Academic Emergency Medicine

The Society for Academic Emergency Medicine (SAEM) recognized two faculty members from Brown Physicians, Inc. (BPI) during its 30th SAEM annual meeting in Las Vegas. Selected from a pool of candidates nationally, **DR. CHRISTIAN ARBELAEZ** and **DR. BRIAN CLYNE** were selected as recipients of the prestigious awards for their contributions in the field of emergency medicine.



Christian Arbelaez, MD

Dr. Arbelaez, an Associate Professor of Emergency Medicine at the Alpert Medical School of Brown University and Vice Chair of Academic Affairs at Brown Emergency Medicine, received SAEM's Marcus L. Martin Leadership in Diversity and Inclusion Award. This award distinguishes an emergency physician for their extraordinary leadership contributions to the advancement of diversity and inclusion in emergency medicine.

For more than 15 years, Dr. Arbelaez has worked to enhance the academic mission of clinical sites with a special emphasis on promoting diversity, inclusion, and equity. "I am honored to receive this award from SAEM," Dr. Arbelaez said. "The issues of diversity, inclusion,

and equity continue to be of the utmost importance across our faculty and trainees and will help address the disparities we see in our communities in the emergency department."

Dr. Arbelaez, who also serves as the co-chair of BPI's Diversity and Inclusion Committee, holds clinical appointments at Rhode Island Hospital, The Miriam Hospital, Newport Hospital, and Hasbro Children's Hospital. A renowned leader whose scholarly work includes over 70 publications, Dr. Arbelaez has also

helped build emergency care systems and public health policies in over 10 countries.

Dr. Brian Clyne, an Associate Professor of Emergency Medicine and Medical Science as well as the Vice Chair for Education in the Department of Emergency Medicine at Lifespan and the Alpert Medical School of Brown University, received the SAEM's Hal Jayne Excellence in Education Award. This award honors a SAEM member who has made outstanding contributions to emergency medicine through the teaching of others and the improvement of pedagogy.



Brian Clyne, MD

During his 20-year career, Dr. Clyne has earned national praise for teaching hundreds of medical students and

residents and helping shape training programs for aspiring emergency physicians.

"The Society for Academic Emergency Medicine recognizes that education is directly related to the quality of patient care. I am very honored to receive this award, especially considering the impact prior recipients have had on our specialty," Dr. Clyne said.

Dr. Clyne practices emergency medicine at Rhode Island Hospital, The Miriam Hospital, Newport Hospital, and Hasbro Children's Hospital. He has published extensively on medical education, leadership development, career planning, and healthcare workforce issues. ❖

Hospital Association of Rhode Island honors 'Hospital Heroes'

Individuals from throughout the state were recently honored at the Rhode Island Nursing Education Center for the Hospital Association of Rhode Island's "Hospital Hero: Award for Excellence in Hospital Care" event.

The annual event was hosted by the Hospital Association of Rhode Island (HARI) and sponsored by the University of Rhode Island and President David Dooley at the Rhode Island Nursing Education Center. Nine employees from HARI's member hospitals were recognized by the HARI Board of Trustees for exemplary performance and dedication to healthcare. ❖

Recipients of the HARI "Hospital Hero: Award for Excellence in Hospital Care" include:

- **MELISSA BURT**
Nurse Manger
Butler Hospital
- **CHRISTINE KETTELLE**
Behavioral Specialist
Eleanor Slater Hospital
- **JANICE COLVIN**
Registered Nurse
Kent Hospital
- **NICOLE ALLARD**
Certified Nursing Assistant
Landmark Medical Center
- **AMY FIGUEIRA**
Registered Nurse
Providence VA Medical Center
- **NANETTE DOAN**
ED Clinical Leader
South County Health
- **THOMAS HOY**
ED Clinical Leader,
South County Health
- **STEPHEN MCCARTHY**
Public Safety Supervisor
Westerly Hospital
- **DHAMARYS MURILLO**
Registered Nurse
Women & Infants Hospital

Recognition

Butler Hospital Foundation raises nearly \$70,000 to support Senior Specialty Program

Approximately 150 attend 'A Masterpiece of Hope II' event to celebrate 175th Anniversary

PROVIDENCE – Butler Hospital Foundation raised nearly \$70,000 through sponsorships, ticket sales, and silent auction at *A Masterpiece of Hope II*, hosted at the historic Providence Art Club on May 8, 2019. The gathering generated awareness for Butler Hospital's services and research, and raised funds to support highly-skilled and individualized mental health care for adults ages 65 and older in the Senior Specialty Program. Approximately 150 community members and staff were in attendance to honor **KELLY DOERN** as Corporation Member of the Year, and **DR. BARBARA VAN DAHLEN** with the Lila M. Sapinsley Community Service Award.

President and Chief Operating Officer **MARY MARRAN, MS, OT, MBA**, said, "Both Kelly and Dr. Van Dahlen are truly deserving of this special recognition. Their compassion and dedication to reducing the stigma associated with mental illness and to helping change the lives of our most vulnerable citizens is unparalleled."

Doern has volunteered as a member of the hospital's Community Development Committee and as a corporator since 2013. In 2014, she became a director of the Butler Hospital Foundation and is currently serving as secretary. For the past three years, Kelly has shared her expertise with hundreds of patients at Butler partnering on their annual Job Search: Resume Building and Interview Preparation workshops assisting those who are planning to get back into the work force. In addition she has served as co-chair with John Sinnott for the hospital's Signature Event, *A Masterpiece of Hope*, in 2018 and 2019, helping to raise thousands of dollars.

Dr. Van Dahlen, named to *TIME's* 2012 list of the 100 most influential people in the world, is the president of Give an Hour™, a non-profit she founded in 2005 to provide free mental health services to the military and veteran community. Give an Hour's nearly 7,000 mental health professionals have given more than 284,000 hours of care valued at over \$28 million. Dr. Van Dahlen also developed the Campaign to Change Direction®, a global initiative focused on changing the culture of mental health, which launched in 2015 with former First Lady Michelle Obama as keynote speaker.

Proceeds from the signature event will help support the Senior Specialty Program at Butler Hospital, which provides critically important treatment for adults age 65 and older with Alzheimer's disease, memory disorders, depression, anxiety, and other conditions that may cause behavioral difficulties. ❖



Kelly Doern was recognized as the Corporation Member of the Year, and is shown here with Butler President and Chief Operating Officer **Mary Marran**.



Dr. Barbara Van Dahlen received the Lila M. Sapinsley Community Service Award at the event. She is shown here with **James Fanale, MD**, President of Care New England.

Recognition

David Portelli, MD, recognized by peers with 'Service to Hospital Award'

PROVIDENCE – **DAVID PORTELLI, MD**, medical director of Rhode Island Hospital's Andrew F. Anderson Emergency Center, was recently honored by his colleagues in the Rhode Island Hospital Medical Staff Association with the "Service to Hospital Award." The award recognizes a physician who has demonstrated outstanding contributions to the hospital above and beyond the call of duty, distinguished by professionalism, leadership, excellence, and innovation.

"The role of medical director of the Rhode Island Hospital Emergency Department is unrelenting: we are open 24/7/365, and there is always an emergency – literally," says **JEREMIAH SCHUUR, MD**, Lifespan chief of emergency medicine, in his nomination letter. "Anyone who has worked with (Dr. Portelli) can attest, he is fully committed to his job... and to improving patient care and operations in the ED. Dave leads in his service by example. He works the hardest clinical shifts, is one of our most efficient physicians, and never asks for credit...(He) is an advocate for all patients. He expects the best...of himself, the ED faculty, residents and staff as well as of the rest of the hospital."

Rhode Island Hospital's emergency department is not only the busiest in the state, but the second busiest ED in New England, and 35th in the country in terms of adult patient volume. In 2018, the department had more than 100,000 patient visits. With the region's only Level One Trauma Center, only Comprehensive Stroke Center, and highest level of cardiac care, among other specialized services, the Anderson Emergency Center sees the region's most critical injuries and most acutely ill patients.

"Dr. Portelli is incredibly deserving of this recognition by his physician colleagues," said **MARGARET M. VAN BREE, MHA., DRPH**, president of Rhode



Award winner **David Portelli, MD** (center) is pictured with Rhode Island Hospital Medical Staff Association President **Charles McCoy, MD** (left) and Lifespan Chief of Emergency Medicine **Jeremiah Schuur, MD**. [PHOTO: LIFESPAN]

Island Hospital. "He works tirelessly, and has been a key leader not only in the emergency department but in heading the hospital's quality improvement committee. His dedication to his patients and his colleagues is clear, as is his commitment to advancing emergency medicine."

Portelli is a Clinical Professor of Emergency Medicine at the Warren Alpert Medical School of Brown University; he is a fellow of the American Academy of Emergency Physicians and of the American Academy of Emergency Medicine, and a member of the American College of Emergency Physicians. He has received numerous awards for his commitment to safety and quality improvement, as evidenced in not only his own practice but his service leadership of departmental and hospital committees. He has been recognized with several teaching excellence

awards as well, and was the University Emergency Medicine Foundation's "Outstanding Physician" in 2010.

Portelli earned his undergraduate degree at Cornell University, Ithaca, NY, followed by medical school at State University of New York – Stony Brook. He completed his residency in internal and emergency medicine at Henry Ford Hospital, Detroit, MI, where he remained on staff for six years as a practicing physician and co-director of the emergency/internal medicine residency program. There, he also developed the nation's first six-year emergency/internal/critical care combined training program. Portelli came to Rhode Island in 2003, serving as an attending emergency physician at Rhode Island Hospital and The Miriam Hospital, until assuming his current role in 2014. ❖

Recognition

Newport Hospital attains Magnet® nursing recognition for fourth time

Newport Hospital has received notice that it has once again attained Magnet® recognition for nursing excellence, joining a select group of hospitals that have received the four-year designation four consecutive times.

The honor, bestowed upon the hospital by The American Nurses Credentialing Center's Magnet Recognition Program®, is considered the gold standard for nursing excellence and provides consumers with the ultimate benchmark for measuring quality of care. Only hospitals that meet the rigorous standards for high-quality nursing excellence can achieve Magnet recognition, the highest national honor for professional nursing practice.

Newport Hospital has continuously maintained Magnet recognition since 2004. This year, the hospital was further commended for demonstrating exemplary nursing in four specific areas: nursing professional development, behavioral health screening, emergency nursing and infection control.

"I'm not sure people understand what a tremendous accomplishment it is to attain Magnet designation four times in a row," said **CRISTA DURAND**, Newport Hospital president. "There are only 498 hospitals in the entire world that are Magnet certified, and only 53 globally that have achieved four-time Magnet status. It really is the highest possible standard for nursing excellence. As a hospital president, it makes me immensely proud to see our outstanding nursing staff recognized in this way. And for our community, it brings home that our patients and family members can rely on some

of the best nursing care in the country."

According to the Magnet Recognition Program® Commission, the designation provides benefits to hospitals and their communities, including the following:

- Higher patient satisfaction with nurse communication, availability of help, and receipt of discharge information
- Lower risk of 30-day mortality and lower failure to rescue rates
- Higher job satisfaction among nurses

"This is really a credit to every member of our nursing staff, who bring such dedication and commitment to excellence to their work," said **ORLA BRANDOS**, vice president of patient care services and chief nursing officer. "We have more than 95 nurses on staff who hold specialty certification, and such a deep pool of talent, skill and compassion throughout our entire nursing team. I'm so proud to lead these extraordinary professionals, and to have the exceptional care they provide to our patients recognized by the Magnet Commission."

To achieve Magnet recognition, organizations must pass a rigorous and lengthy process that demands widespread participation from leadership and staff. This process includes an electronic application, written patient care documentation, an on-site visit, and a review by the Commission on the Magnet Recognition Program®. ❖

Obituaries



EDWARD F. ASPRINIO, MD,

93, of Warwick, died on May 9, 2019. He was the husband of 61 years of Anna (Keegan) Asprinio whom he met at St. Joseph's Hospital while completing his medical residency.

He was a longtime communicant of St. Rose and Clement Parish and was an active member of the Knights of Columbus.

He served in the US Navy from 1944 to 1946 aboard the USS John R. Pierce. Upon returning to the United States, he earned his undergraduate degree from the University of Rhode Island and his medical degree from the University of Bologna, Italy. While in Italy, he was the pitcher for the Calsalecchio Calze Verdi (Green Sox).

He practiced family medicine in Warwick, Rhode Island for over 50 years. He also served as an emergency department physician at Kent County Memorial Hospital, as an associate medical examiner for the state of Rhode Island, as a physician in the University of Rhode Island infirmary and as a team physician for University of Rhode Island athletic department.

He was an active member of the Rhode Island chapter of the Bologna University Alumni Association, past president of Kent County Memorial Hospital Medical Staff and past president of the Rhode Island Chapter of the American Academy of Family Physicians.

His continued love for baseball was evident in his coaching activities in the Continental Little League and Warwick Police Athletic League.

He was an avid fan of the New England Patriots, New York Yankees and the University of Rhode Island Rams. Being all about faith, family and friends, his favorite pastimes were conversation and participating in events with his loved ones.

In addition to his wife, he is survived by his son and daughter-in-law Drs. David and Kimberly Asprinio; his daughter and son-in-law Dr. Jane and Edward O'Brien; his son Mark Asprinio; his son and daughter-in-law Steven and Jeannine Asprinio; his daughter and son-in-law Karen and John Tobin. And his most prized possessions: his grandchildren: Elizabeth Asprinio, Edward Tobin, Michael Asprinio, Eric Asprinio and Frederick Asprinio. He is also survived by his brother Donald Asprinio, his sister Barbara Piccirilli, brother-in-law Anthony Piccirilli, sisters-in-law Dorothy Asprinio, Jean Asprinio and Rose Asprinio and brother-in-law and sister-in-law Thomas and Eileen Keegan.

He was predeceased by his son John, his brothers Alfred, Paul and Carl Asprinio and his brothers-in-law Joseph, Bernard and Vincent Keegan. ❖



ALAN RICHARD COTE, MD, 67, of Barrington, passed away at home on May 5, 2019. He was the loving husband of Leslie L. (Lipp) Cote. They were married for 37 years.

Born in Providence and raised in Pawtucket, Dr. Cote is survived by their five children: Tyler L. Cote and his wife Stephanie of Barrington, Parker L. Cote of Boston, Jamison L. Cote of San Francisco, Hollyn V. Cote of Charleston, and Hunter L. Cote of San Francisco. He was the adoring "Pop-Pop" to two grandchildren, Walker Alan and Harper Claire of Barrington.

Dr. Cote is also survived by his brother, Dr. Norman A. Cote and wife Joyce of Portsmouth and his sister Cheryl L. Soucy and husband Roger of Hopkinton, MA. Dr. Cote is survived by several nieces and nephews and their children.

Dr. Cote graduated from Tolman High School, where he starred on the football and baseball teams. A skilled martial artist and blackbelt in Taekwondo, he was disciplined and reflective. He developed an appreciation for knowledge and was a lifelong learner. These qualities served him in his educational pursuits. He graduated at the top of his class from the University of Rhode Island and later Brown Medical School. After completing his surgical residency at Yale University, he was a resident in Neurology at the Brigham and Women's Hospital. He then completed a residency in Ophthalmology at Tufts Medical Center. Dr. Cote completed his training as a Neuro-Ophthalmology fellow at Mass General Hospital.

Dr. Cote opened his Ophthalmology practice in Fall River, MA in 1987. For 32 years, he faithfully served his staff and patients, many of whom became close friends and family.

Dr. Cote was the epitome of a family man and devoted himself fully to the people he loved. He was happiest when surrounded by his family, on family vacations, celebrating holidays or at home. He was known for his unrelenting loyalty to his wife, siblings, and friends. The great lengths he would go to ensure the happiness and comfort of those around him became the stuff of family legend. He enjoyed visiting baseball parks with his children and taking nature walks with his grandchildren. He was soft-spoken and quick-witted. He taught us to be generous, to love and look out for each other, and to appreciate the time we share. He will be forever remembered and deeply missed by his family and friends. ❖





FREDERICK S. CRISAFULLI, MD, 76, passed away peacefully on May 5, 2019 with his loving family by his side. He was the husband of Bettina (Miraglia) Crisafulli; they had been married for 53 years.

Dr. Crisafulli was a graduate of NYU Medical School and held numerous leadership positions at the Miriam Hospital. He practiced medicine locally for 40 years, during which time he was honored to care for generations of patients and to serve as a clinical teacher to Brown University medical students.

Throughout his distinguished career, Dr. Crisafulli received numerous awards, including the Irving Addison Beck Laureate Lifetime Achievement Award of the American College of Physicians.

His intellectual curiosity knew no bounds and was perhaps only exceeded by his generosity of spirit and unique sense of humor. He loved life and his family passionately.

Besides his wife, he is survived by his loving children Laura Kennedy and her husband John, Marc Crisafulli and his wife Melissa, Christopher Crisafulli and his wife Janine, and Rachel Toncelli and her husband Andrea. He was the adoring grandfather of Gabriella Crisafulli, Tyler Kennedy, Samuel Crisafulli, Jacob Crisafulli, Matthew Crisafulli, Silvia Toncelli, Hannah Kennedy, Sara Toncelli, Sophia Crisafulli, Jack Toncelli, and Tristan Kennedy. He was the brother of Santo Crisafulli, Jr. and Pietrina McCormack and beloved uncle of many nieces and nephews.

In his memory, donations may be made to St. Jude Childrens Hospital, 501 St. Jude Place Memphis, TN 38105-1942. ❖



FRANK M. DETORIE, MD, 80, of Morgan Lane, died Saturday, May 11, 2019 at home. He was the beloved husband of Margaret "Maggie" (Nalevanko) Detorie. Dr. & Mrs. Detorie had been married for fifty-four years.

Born in Baltimore, MD, a son of the late Frank and Anna (Franco) Detorie, he had lived in Lincoln for forty-six years, moving to Smithfield in 2018.

A graduate of Loyola University and the University of Maryland Medical School, Dr. Detorie was the former Chief of Surgery at Landmark Medical Center, Woonsocket, and had his own surgical practice in Cumberland, retiring three years ago.

An avid golfer, he was a member of Kirkbrae Country Club for 44 years, and a member of the American College of Surgeons, and past President of the Woonsocket Medical Society. He served in the Public Health Service from 1967–1968.

Besides his wife Maggie, he is survived by two daughters, Maura Robbins of Chicago, IL, and Katie Carrano of Needham, MA; three sons, Frank Detorie of Canton, CT, Thomas Detorie of North Attleborough, MA, and Casey Detorie of Sterling,

VA; one sister, Connie Meyer of Baltimore, MD; and twelve grandchildren. He was the brother of the late Peter Detorie and Anna Detorie.

Contributions in his memory to the John P. Burke Memorial Fund, 1 Button Hole Drive, Suite 2, Providence, R.I. 02909-5750, or to the St. Ambrose Church Maintenance Fund, 191 School Street, Albion, RI 02808 would be appreciated. ❖



MARIO TAMI, MD, FACP, 90, passed away peacefully on Monday, April 15, 2019 after a long and wonderful life. He was the husband of the late Ella (Holmes) Tami. Mario was born in Gaeta, Italy, to Merchant Marine Captain Tullio and Carmen (Mitrano) Tami.

Mario graduated from the University of Genoa, Summa Cum Laude, before immigrating to the U.S. in the 1950s. A kind and patient man, his patients respected him immensely. He was a dedicated physician and patient advocate. He became the Chief of Medicine at Fogarty Memorial Hospital from 1966–1978, where Mario was instrumental in organizing the I.C.U. He was also affiliated with Roger Williams Hospital, and had his private practice in Providence and North Smithfield. Mario was well respected in Rhode Island. He was always interested in travel, the fine arts, and science. After his retirement, he spent time on his computer everyday, sharing his knowledge with many people.

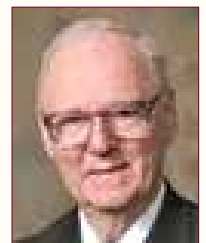
He leaves behind his daughters, (Elizabeth) Kay Tami, (Patricia) Ann Cahir, and her children, Ian and Dylan Cahir. He also leaves his older brother, Livio Tami and his family. He was predeceased by his son, Paul. He will be greatly missed by many. ❖



JOHN J. WALSH, JR., MD, 97

of South Kingstown died peacefully at South County Hospital on May 3, 2019. He was the loving husband of Agnes (Farrell) Walsh for sixty years.

Dr. Walsh graduated from Boston College High School and Boston College and went on to receive his medical degree from Tufts University Medical School in 1947. Dr. Walsh served in the Navy honorably during World War II and the Korean War. He remained a member of the Navy reserves and retired with the rank of Commander. Dr. Walsh began his civilian medical career at City Hospital in Boston. He arrived at South County Hospital in 1953 where he spent 57 years of his 63-year medical career. He was the hospital's first board-certified surgeon and also served as the hospital's Chief of Surgery. Dr. Walsh practiced general surgery until the age of 65 when he put away his scalpels. His retirement was short-lived and he spent the next



24 years in the emergency department at South County Hospital until the first day of his final retirement which coincided with his 89th birthday on January 1, 2011.

Dr. Walsh provided pro bono medical services to the De La Salle Christian Brothers at the Christian Brothers Center in Narragansett as well as to the students at the Ocean Tides School. As a result of his charitable work, Dr. Walsh was named an honorary member of the Christian Brothers community in 1975. His dedication to the community extended beyond his medical career as evidenced by his membership in the Wakefield Rotary Club for more than 30 years. He was president of the Wakefield Chapter from 1968 to 1969 and was named Rotarian of the Year in 1981.

Jack was also a founding member of the Dunes Club in Narragansett. In his down time Jack could be found satisfying his voracious appetite for reading and completing crossword puzzles.

His quiet nature was only interrupted by his dry wit and well-timed sense of humor. His one true love was always his wife, Aggie, whose well-being was his concern until the end.

He is survived by his four children, Patrick R. McNulty (Evon), Kevin J. Walsh (Debra), J. Timothy Walsh and Kerry F. Walsh (Darlene). Dr. Walsh was the proud grandfather of eight grandchildren, Kathleen, Kendra, Sarah, Eric, Jack, Ryan, Kaitlin and Lindsey and the great grandfather of Kayla, Kasey, Emerson, Lisette, Ariana, Charlie and Caroline. He is also survived by his sisters, Cecelia, Mary and Theresa and many loving family members. He was predeceased by his daughter Karen Vendetti and his brothers William and Thomas and his sister Helen.

Donations in his memory can be made in Dr. Walsh's name to Hope Health Hospice and Palliative Care, 1085 North Main Street, Providence, RI 02904, www.hopehealthco.org. ❖