RHODE ISLAND MEDICAL JOURNAL

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DRUG AND ALCOHOL DISORDERS AND TREATMENT

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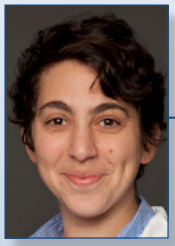

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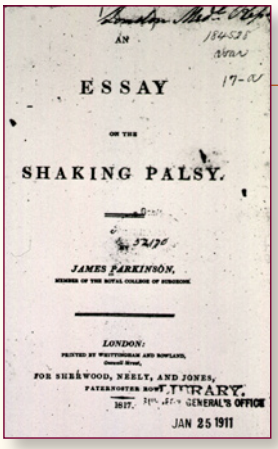
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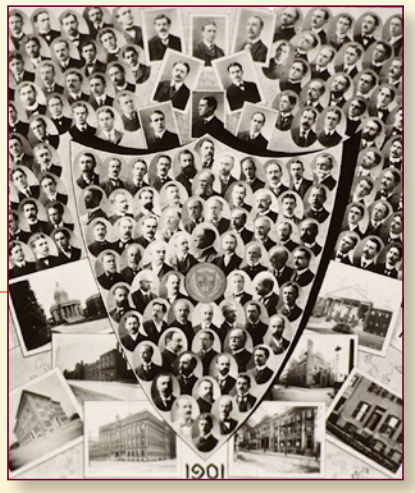

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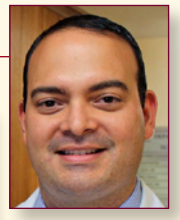

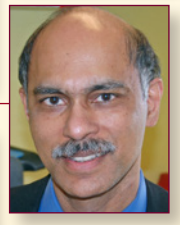

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Self-perception and insight

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The poet Robert Burns' most famous lines probably were:

O would some power
the giftie gie us
To see ourselves as
others see us.

Whenever I think of these lines, I think of a Twilight Zone episode in which a pair of old eyeglasses turns up one day, with the word, *veritas,* engraved on the bridge. The glasses at first provided the wearer with the ability to read superficial thoughts of the people he interacted with. He starts using the glasses when playing poker and stops losing because he knows when he's being bluffed. He then starts seeing a bit deeper into others' thoughts and getting feedback on himself, which is, of course, not always pleasant. At the end of the story he looks into a mirror and sees a monster.

Insight, up to a point, is probably a good thing. Aristotle opined that, "the unexamined life is not worth living," and how can one examine one's life without having some insight? Obviously some of us have more insight than others and those with less often don't mind, precisely because they may be insulated from some of the effects of their actions. If I interact with someone pompous and a bit bombastic, I may say some mildly unpleasant things, but later start to worry that I've insulted the person. As I think about it more, I console myself with the thought that the person is bombastic because he doesn't have the sensitivity to pick up social cues. His insight into my responses to his utterances and actions, both vocal and covert, are missed.

Psychologists have studied these sorts of things for many decades, and, to be honest, I'm not terribly interested in the topic, being low on the insight/sensitivity rating scale myself, but what is intriguing to me is the parallel between "insight," as we usually think of it, that is understanding our behavior, especially as it is reflected off the people we interact with, and physical perception of ourselves, which is another form of insight.

In the movement disorders field it has been observed for a very long time that people with chorea, a random, jerky, involuntary movement disorder; athetosis, a smoother, continuous, writhing sort of continuous movement disorder, and their combined form, "choreo-athetosis," are often under-perceived by those with it. On the other hand, people with tremor almost always are aware of it and are bothered by it. It is common for patients with chorea to say that they don't know how long it's been present. They came to see me because they were hounded by their family to find out what that twitching was due to. Patients with tardive dyskinesia, usually a choreo-athetoid movement disorder induced by anti-psychotic drugs, hence seen primarily in people with schizophrenia, often deny that they have any involuntary movements, although any observer would guess that they were chewing gum. Many of these patients are assumed by their doctors to be under-recognizing their disorder because they're schizophrenic, but this is not true. Children with Sydenham's chorea, adults with Huntington's disease and Parkinson's disease patients with L-Dopa-induced dyskinesias, similarly under-perceive the movements. When mild, they deny having the movements; when moderate they think them mild and when severe, they think them moderate. A common observation by the Parkinson patient is to say, "I always thought my dyskinesias were very mild, but then I saw the videotape that was made at my nephew's wedding. I was really surprised how bad they are."

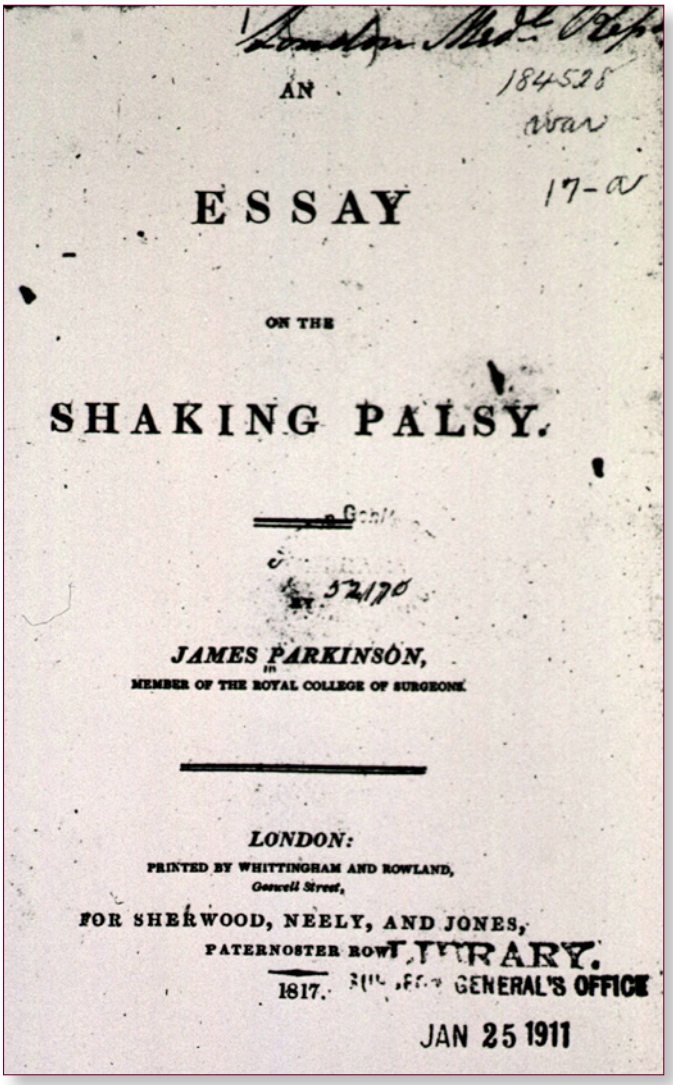
Children with Sydenham's chorea, adults with Huntington's disease and Parkinson's disease patients with L-Dopa-induced dyskinesias, similarly under-perceive the movements.

Until recently I've assumed that there is something special about chorea and related disorders, to make them

under-perceived. And, to be honest, I think that's true and intend to do a small study to confirm this. But I started thinking about other "under-perceptions." As you know, the "official name" of Parkinson's disease (ICD 9, 10) is "Paralysis Agitans," and James Parkinson called the disease, The Shaking Palsy. Agitans was the old British term for tremor. Both names encompass tremor and weakness. In an interesting aside, Parkinson, and many later, great and famous neurologists also thought the illness caused weakness as well as tremor, but this turns out not to be true. PD patients are not weak. However, they often feel weak, generally in the legs, sometimes all over. In fact, in Rhode Island, about 40% of PD patients perceive themselves as weak although they actually are not. PD patients sometimes have difficulty perceiving "up" and may lean to one side, or backwards, without concern. They may look terribly uncomfortable, but are not. And recently I've been asking my hypo-phonic patients if their speech seems normal or soft. They often report that while others frequently ask them to repeat what they've said, their speech sounds normal to them. Speech therapy aims to teach them to speak louder than they think is necessary.

I assume that everyone who has observed the phenomenon of under-perception of a physiological or observable event thinks either that the patient is suppressing or denying the experience, perhaps for psychological reasons, to preserve their self-perception of normality. However, those of us in the movement disorders field see this so frequently that we have come to believe these impaired perceptions are part of the physiology. When the brain perceives limbs moving in an abnormal fashion, under impaired control, it registers a feeling of "weakness." When the tongue, fingers, or feet are writhing, it may not perceive anything amiss. Yet, patients with tremors or tics almost always register these as abnormal and describe each tic and each tremor. And, to make life even more challenging, there are patients who have sensations of movements, even without the movements, like patients who have lost a limb but perceive an abnormal, uncomfortable movement in that limb, or patients who sense tremors which are not present.

The seemingly "hard-wired" nature of these impaired physical insights makes me suspect that much of what makes for the variations we encounter in social insight, to be similarly hard wired, more nature than nurture, and, perhaps less amenable to modification than we'd like to think. ❖


AN

ESSAY

ON THE

SHAKING PALSY.

BY

JAMES PARKINSON,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS.

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Title page of an essay on the shaking palsy, published by James Parkinson (1755–1824) in London in 1817.

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Author

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The Road from Bethlehem to Bedlam to Compassion

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Bethlehem – the middle East home of the tribe of Benjamin, Rachel's tomb, the city of David and the birthplace of Jesus – had undergone much upheaval in its lengthy history. In 1244, the Kwarezmian armies overran Judah and deliberately destroyed Bethlehem, its buildings, shrines and churches. The Kwarezmians were a Sunni-Moslem sect from Afghanistan and eastern Persia, their capitol, Samarkand.

European Christians considered Bethlehem a holy site; and even kingdoms as remote as England regularly collected alms and endowments to sustain Bethlehem's churches and monasteries. And so, in 1247, a small shelter in the London parish of St. Botolph, called The New Order of St. Mary of Bethlehem, collected funds to rebuild the holy places in Bethlehem; and none considered it amiss if itinerant pilgrims also found shelter there.

By the 14th Century the Papacy had moved to Avignon, France; and the periodic wars between Britain and France then discouraged any resolve to gather further alms for Bethlehem. The name of the London hostel persisted, however, although now shortened to Bethlem. And as its spiritual ties to the original Bethlehem withered, its mission was broadened, now to be known as a retreat for pilgrims and other poor migrants particularly those "whose sense of reason had departed."

In the succeeding centuries, Bethlem moved its site to Moorfields in the 17th Century, to London's Southwark in the 19th Century, and to Croydon by 1930. Its management ceased to be a royal prerogative and was supervised, and often shamefully exploited, by various boards of overseers and governors. The original sanctuary for pilgrims became an enlarged shelter for the ailing poor and thus, also, a hospital.

The Bethlem Hospital, now pronounced Bedlam, survived England's dissolution of its monasteries. It became increasingly secular, altering its mission as a shelter for the homeless, the wandering beggars and "… as a place where many men that be fallen out of their wit." The registry of Bethlem's tangibles now listed manacles, neck braces, and chains; and its inmates were referred to variously as the witless poor, the morally insane or, in some documents, just prisoners. The care of the inmates had deteriorated so drastically that its common name, Bedlam, became a synonym for chaos. Treatments were "injudicious and unnecessarily violent" and the buildings "loathsomely filthy, uninhabitable and wanting in humanity."

The early 17th Century saw Bethlem Hospital as an institution for lunatics and "criminals bereft of sanity." A name

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Public Architecture South-West View of Bethlem Hospital and London Wall/ Drawn and etched by J. T. Smith.

was appended to the typical inmate: he was called Tom O'Bedlam; and an anonymous poem by that name was widely read, and even referred to in Shakespeare's King Lear. A fragment of the poem:

The moon's my constant mistress,
And the lowly owl my marrow;
The flaming drake and the night crow make
Me music to my sorrow.

By 1676 the institution was enlarged to contain 136 cells arranged in linear fashion, with a long corridor for viewing each room in a design more suitable for prisons or zoos. Bethlem Hospital was then high on a list of places of holiday amusement which included the Tower of London, Bartholomew Fair, the Zoo and the Royal Gardens at Kew. An admissions charge of one penny was exacted from each of the many thousands who came to be entertained by "the raving lunatickes of Bedlam." Bethlem Hospital, of course, was not the only public institution that offered an entertaining spectacle for its visitors; there also was the Magdalen Hospital for Penitent Prostitutes to fill one's holiday afternoon.

It was presumed that one who "lost his wit" also relinquished his humanity; and such insane souls were treated aggressively with debilitating purges, blood-letting, painful blistering, manacles and a diet fit solely for feral beasts. "Babylon," said Scrope Davies (1783–1852), "in all its desolution, is a sight not so awful as that of a human mind in ruins."

The early 19th Century saw the emergence of an enlightened form of therapy for the mentally disturbed. Under the guidance of William Tuke, a Yorkshire Quaker, a safe home was established for those emotionally ill-equipped to survive in the turmoil of 19th Century Britain. It was called the York Retreat and it emphasized such therapies as occupational retraining, tranquil surroundings and personal counseling.

And Bethlem Hospital? It too underwent radical changes, dispensing completely with its ancient madhouse regimen of punishment, shame and abuse. It is now the Bethlem Royal Hospital in South London, in academic partnership with King's College Institute of Psychiatry and at the forefront of humane institutions striving to understand and treat the mentally stressed. ❖

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Stanley M. Aronson, MD, is Editor emeritus of the *Rhode Island Medical Journal* and dean emeritus of the Warren Alpert Medical School of Brown University.

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Rhode Island Medical Journal Submissions

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CONTRIBUTIONS
Contributions report on an issue of interest to clinicians in Rhode Island. Topics include original research, treatment options, literature reviews, collaborative studies and case reports. Maximum length: 2000 words and 20 references.

JPEGs (300 ppi) of photographs, charts and figures may accompany the case, and must be submitted in a separate document from the text. Color images preferred.

CREATIVE CLINICIAN
Clinicians are invited to describe cases that defy textbook analysis. Maximum length: 1200 words. Maximum number of references: 6.

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The writer shares a perspective on any issue facing clinicians (eg, ethics, health care policy, patient issues, or personal perspectives). Maximum length: 600 words.

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Authors discuss a new laboratory technique. Maximum length: 1000 words.

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Authors submit an interesting image or series of images (up to 4), with an explanation of no more than 500 words, not including legends for the images.

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Note: PHP Perspectives is a new column bringing you news and information from the Rhode Island Medical Society's Physician Health Program (RIPHP)

When a Physician is Afflicted with Addiction

KATHLEEN BOYD, MSW, LICSW

It may be hard to accept that a trusted physician could suffer from the disease of addiction but it does appear that doctors are just as likely as the general public to have a substance use disorder in their lifetime. While precise estimates of the prevalence of addictive disorders among doctors are difficult to ascertain due to probable underreporting, studies have indicated that the lifetime rate of addiction among physicians is estimated to be between 10% and 15%, which is roughly the same as or slightly higher than the rate in the general population.[1-3] Further, although alcohol has been identified as the primary abused substance in nearly half of all cases, physicians are seen as having more likelihood than others to abuse prescribed medications.[4] Dealing with a physician who exhibits impairment can be a very challenging experience for colleagues, administrators, patients and family members; yet, help and recovery for these physicians often depends on the timely response or intervention of these peers, coworkers, and family members.

Many healthcare providers are reluctant to confront a colleague they suspect may be impaired. In 2010, the *Journal of the American Medical Association* (JAMA) published a survey in which 17% of nearly 1900 responding physicians reported having had direct personal knowledge of an impaired or incompetent physician in their hospital, group or practice in the three preceding years. Of those, one-third did not report the individual. Those who kept silent said they did so because they believed someone else was taking care of the problem (19%); they did not think reporting the problem would make a difference (15%); they feared retribution (12%); they did not see this as their responsibility to report (10%), or they worried that the physician would end up being excessively punished (9%).[5] The American Medical Association's (AMA) code of ethics underscores the ethical and legal obligation of physicians to identify, confront, refer or report any suspected impaired colleague in order to protect patient safety (www.ama-assn.org).

The best scenario would be a physician who self-reports and seeks appropriate assessment and treatment in the absence of any harm to patients. We know that there are many barriers to seeking help: guilt, stigma, shame, denial of problem, career fears, to name a few. While it is true that there can be dire consequences for a physician who continues to practice while actively abusing substances, there are well-developed mechanisms in place to support physicians who find themselves in need of assistance.

Formal efforts to deal with physician impairment existed as far back as 1958 when the Federation of State Medical Boards in the United States identified drug addiction and alcoholism among doctors as a disciplinary problem. Ten years later, the Federation approved a resolution calling for nationwide programs. In 1973, in the *Journal of the American Medical Association*, a landmark policy paper was published entitled: "The Sick Physician: Impairment by Psychiatric Disorders, Including Alcoholism and Drug Dependence," in which the AMA publicly acknowledged physician impairment. The outcome was to establish a therapeutic alternative to discipline for physicians. This really marked the beginning of the "physician health field." During the 1970s and early 1980s, almost every state had developed some sort of committee or program to deal with affected physicians. This was the situation in Rhode Island when, in 1978, through efforts spearheaded by Herbert Rakatansky, MD, the "Impaired Physician Committee" of the Rhode Island Medical Society (RIMS) was formed and became an official resource for the medical community. Today this program is known as the Rhode Island Medical Society's Physician Health Program (RIPHP).

RIPHP is one of 46 state physician health programs (PHPs) designed to assist in the early identification,

treatment, documentation, and monitoring of ongoing recovery of physicians with an illness that impacts or potentially impacts the care rendered to patients. Our overarching goal is to assist physicians with issues of personal health and addiction to receive proper evaluation, treatment and aftercare that will enable them to preserve their health and medical careers. Early reporting and intervention are key factors. Reporting to a PHP can be an alternative to reporting directly to a licensing board, hospital or medical practice administration, and can lead to confidential help for the physician. We try to distinguish between "illness" and "impairment" during this process. Some physicians who enter the RIPHP may be suffering from an addictive illness, but not be impaired in terms of the performance of their medical duties. While there is always the potential for impairment, many seek our services and treatment prior to crossing that line. The priority, however, will always be patient safety.

So what does the RIPHP do? A member of the RIPHP's Physician Health Committee conducts an initial assessment of the physician with the assistance of the program director, who is a licensed mental health professional. As appropriate, we generally obtain a specialized addiction evaluation done by an outside, independent evaluator. We routinely request an updated comprehensive general medical examination. Several identifying risk factors in physicians with emerging substance use problems are: not having an identified primary care physician, not having regular recommended preventative medical care, and generally not attending to one's own health status. We often find that a physician does not have an identified primary care physician and has not had an updated physical in many years. After completion of the evaluations, we meet again with the physician to review the findings and recommendations. As is the case with most PHPs, if a substance use disorder is diagnosed, we request that the physician enter into a five-year monitoring contract. The elements of the contract include random urine drug screens, attendance at 12-Step meetings, counseling and medication management if indicated, and attendance at a physician recovery support group. According to a study published in 2009, physicians who undergo treatment and participate in an ongoing monitoring program have a far lower rate of relapse, with only 22% testing positive at any point during a five-year monitoring period and 71% still licensed and employed after five years.[6]

Anyone can make a referral to the RIPHP and we encourage self-referrals. We are not obligated to inform the Rhode Island Board of Medical Licensure and Discipline (BMLD) of all referrals and we strive to keep our work with physicians confidential. However, it is our established policy to inform the BMLD when there is a continuing threat to patient safety. Also, while we do receive many referrals from the BMLD, we receive no funding from the Department of Health. We are fully separate and distinct from State government and are a formal program of the Rhode Island Medical Society. If you are concerned about yourself, a colleague, or a family member, you can contact us through the Medical Society website at www.rimed.org (click on "Physician Health" link) or call 401-528-3287 for confidential assistance.

The Physician Health Committee (PHC) is a standing committee of the Rhode Island Medical Society, comprised of approximately 25 volunteer physicians, physician assistants, dentists and podiatrists, who meet monthly to review new referrals and ongoing cases. If you have an interest in joining the PHC, please contact Herbert Rakatansky, MD, committee chairperson. ❖

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PHOTO BY KRISTJÁN PÉTURSSON

SAN FRANCISCO, CALIFORNIA **Alekist Quach**, Brown '04, currently a student at the UCSF School of Medicine (MD'17), read the September RIMJ medical education section on a sunny afternoon in Golden Gate Park.

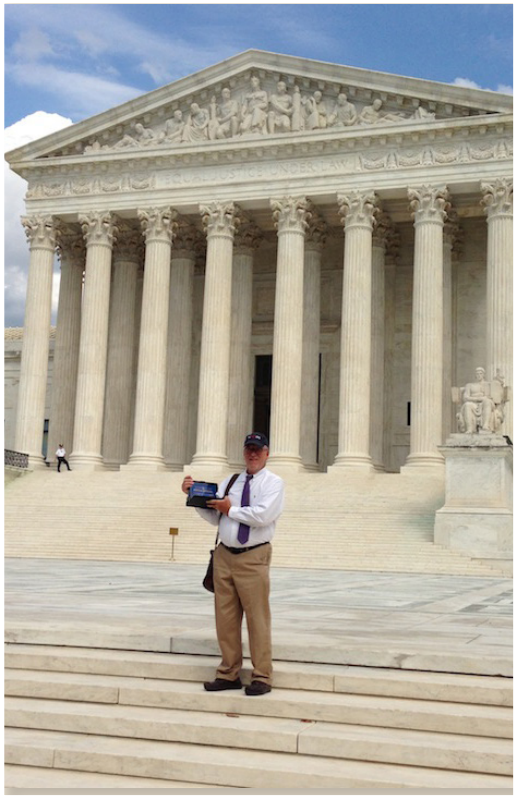

PHOTO BY MICHAEL MIGLIORI, MD

WASHINGTON, DC RIMS **Steven DeToy**, in front of the US Supreme Court, in Washington, DC to meet with members of the RI Congressional Delegation.

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PHOTO BY MARIANNE MIGLIORI

MOUNT DESERT ISLAND, MAINE [right] Former AMA President **Robert McAfee, MD**, viewed the September issue during the 161st Annual Session of the Maine Medical Association in Bar Harbor. Dr. McAfee was President of the MMA in 1980–1981. [left] RIMS Graphic Designer **Marianne Migliori** brought RIMJ to the windy, pink granite summit of Cadillac Mountain in Acadia National Park.

Drug Overdose, Addiction and Binge Drinking: Medical Problems with Public Health Consequences

DAVID C. LEWIS, MD
GUEST EDITOR

The inexorable link between the practice of medicine and the fostering of public health is especially clear when dealing with severe drug and alcohol problems. Therefore, this focus section of the *Rhode Island Medical Journal* (RIMJ) addresses both clinical concerns like pain management and addiction treatment and also the ways in which the medical profession is joining with public health specialists and the community.

This is not the first issue of the RIMJ to deal with opioids. RI Health Director, Dr. Michael Fine, the leader in combating the current overdose epidemic, coordinated a special section of the RIMJ issue of November 2013 (Vol. 96, No. 11) which examined opioid prescribing. It is an excellent complement to this issue. (See http://rimed.org/rimedical-journal/2013/11/2013-11-17-integrity+opioids.pdf)

The ways in which Rhode Island has approached the overdose epidemic exemplifies the benefits of the medicine-public health connection. Public health authorities, community groups and the medical profession have reached out proactively to those in need of treatment and support. Projects were launched to make naloxone widely available. For example, the Rhode Island Medical Society successfully advocated for the passage of the Good Samaritan Law in Rhode Island to protect anyone who calls 911 or who administers naloxone in good faith from criminal or civil liability. Implementation of the Good Samaritan law has successfully gained the necessary cooperation of EMTs and the police. Pharmacists have implemented a collaborative practice agreement with the medical profession allowing pharmacists to furnish naloxone without requiring an individual prescription. In addition, the RI Health Department has launched a new FDA-supported opioid prescriber education project. (See http://medicine-abuseproject.org/searchandrescue/ri-start)

Incorporating the diagnosis and treatment of addictive diseases into mainstream medicine has been a painfully slow process. Fortunately, that is changing. Now there is both public and medical recognition that addiction is a disease and that treatment is both necessary and effective. Both the federal parity legislation and the Affordable Care Act mandate that substance use disorders (and mental illness) are entitled to the same essential benefits as other medical and surgical conditions. This can only enhance the cooperation between medicine and public health advocates.

GUEST EDITOR'S COMMENTARY ON THE ARTICLES

Medications for Addiction Treatment: An Opportunity for Prescribing Clinicians to Facilitate Remission from Alcohol and Opioid Use Disorders

In spite of professional skepticism, research shows that treatment for addictive disorders is as effective as that for other chronic diseases. However, these disorders have been widely under-diagnosed and their treatment with medication underutilized. Perhaps this is because the usual interventions focused on non-medical approaches like the 12 step programs AA and NA. Now, research makes it clear that coupling medication with 12 Step or other counseling approaches results in the best outcomes.

Long-term Opioid Therapy for Chronic Pain and the Risk of Opioid Addiction

Using opioids to manage chronic pain is problematic, so attention must be paid to distinguishing between the management of acute and chronic pain. The pharmacological fact that opioids can produce extraordinary degrees of tolerance and that the current overdose epidemic is related to the use of opioids for pain makes this paper a crucial component of this issue of the RIMJ.

Responding to Opioid Overdose in Rhode Island: Where the Medical Community Has Gone and Where We Need to Go

The opioid epidemic has triggered the new and widespread use of naloxone to save lives. The cooperation of pharmacists and the development of community-wide education have made naloxone distribution in Rhode Island one of the most effective examples of harm reduction in the nation. That Rhode Island has been a leader in this development in no small way due to the efforts of the authors of this paper.

The Rhode Island Community Responds to Opioid Overdose Deaths

This article documents the extraordinary breadth of response to the overdose epidemic. The way in which community leaders joined the RI Department of Health and the Department of Behavioral Health, Developmental Disabilities and Hospitals was indeed impressive. An excellent example of preventing death from overdose is the pioneering program launched by the Miriam Hospital in 2006 to distribute naloxone kits and training to opioid users and the people close to them.

Emergency Department Naloxone Distribution: *A Rhode Island Department of Health, Recovery Community, and Emergency Department Partnership to Reduce Opioid Overdose Deaths*

Emergency Departments usually stick to their hospital bases but this changing. The article describes the innovative way that physicians from the Emergency Department at Rhode Island Hospital have this year begun providing naloxone and education about its use to at-risk patients and also working with the Anchor Recovery Community Center to prevent deaths from overdose. This kind of alliance of hospital and community organizations will become commonplace as Accountable Care Organizations develop under the Affordable Care Act.

Response of Colleges to Risky Drinking College Students

Although the opioid drug epidemic makes the headlines, alcohol abuse is our most pervasive drug problem. This paper describes advances in the prevention of risky drinking by college students. The use of social media, texting and the development of apps will become even more prominent in communicating directly with individual students about the risks of their drinking behavior.

Guest Editor

David C. Lewis, MD, is Professor Emeritus of Community Health and Medicine; Donald G. Millar Distinguished Professor Emeritus of Alcohol and Addiction Studies, and Founder, Brown University Center for Alcohol and Addiction Studies.

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The RI Society of Addiction Medicine is the incorporated state chapter of the American Society of Addiction Medicine, the largest physician professional organization dedicated to the treatment of addictive disorders. We are proud to provide support to this edition of the *RI Medical Journal* as we recognize that untreated substance use disorders are a major factor in the current epidemic of opioid overdoses and the largest public health problem in the United States. The RI Medical Society provides medical specialty society support services for RISAM and coordinates educational, advocacy, and referral requests.

For further information, please contact Megan E. Turcotte at 401-331-3207 or visit: http://rimed.org/risam.asp.

Medications for Addiction Treatment: An Opportunity for Prescribing Clinicians to Facilitate Remission from Alcohol and Opioid Use Disorders

TAE WOO PARK, MD; PETER D. FRIEDMANN, MD, MPH, FASAM, FACP

ABSTRACT

Substance use disorders are a leading cause of morbidity and mortality in the United States. Medications for the treatment of substance use disorders are effective yet underutilized. This article reviews recent literature examining medications used for the treatment of alcohol and opioid use disorders. The neurobehavioral rationale for medication treatment and the most common ways medications work in the treatment of substance use disorders are discussed. Finally, the medications and the evidence behind their effectiveness are briefly reviewed. Physicians and other prescribing clinicians should take an active role in facilitating remission and recovery from substance use disorders by prescribing these effective medications with brief medical management counseling.

KEYWORDS: Substance use disorders, addiction, addiction treatment, medication

INTRODUCTION

Substance use disorders are common cause of morbidity and mortality,[1] and costly to society.[2] Medications are effective tools in the contemporary treatment of alcohol and opioid use disorders. Despite their effectiveness, these medications are greatly underutilized, particularly for alcohol use disorders.[3] This article reviews the rationale for the use of medications in addiction treatment and the currently available options for clinical use.

Neurobehavioral Rationale for Medications in Addiction Treatment

People typically misuse substances initially to activate the brain's reward centers to make themselves feel good. Abusable substances produce euphoria or other pleasurable sensations rapidly and reliably, the ideal situation for operant conditioning. With chronic use, behavioral conditioning from the reinforcing effects of these substances produce long-lasting, quasi-permanent changes in the limbic and cortical systems that manage drives, reward and motivation, learning and memory, judgment, emotion and impulse control. These neurophysiological changes preserve memory of the euphoria and a basic drive to re-experience it, leading to the learned compulsive use behavior, loss of control, craving, and use despite adverse consequences that characterize addictive disorders. The rapid onset and short-acting nature of most substances of abuse means that dosing, and the often-antisocial behaviors associated with drug procurement, must occur multiple times per day. In addition, many substances (e.g., opioids) produce dysphoria, craving and other adverse withdrawal symptoms when the substance is absent, a form of negative reinforcement for drug cessation. Over time, the development of tolerance means that larger doses, more potent compounds or more bioavailable routes of administration (i.e., injection) must be employed to stave off withdrawal and achieve euphoria. For example, chronic opioid users commonly reach a point where they are no longer getting high and only use to prevent withdrawal and "feel normal" – a common impetus to seek treatment.

How Medications Work In Addiction Treatment

Contemporary medication addiction treatment (MAT) generally works in one or more ways. MAT:

(1) Attenuates the euphoria reward, helping to extinguish drug use and associated antisocial/dysfunctional behaviors;

(2) Reduces withdrawal symptoms and thereby the negative conditioning that deters cessation of drug use; or

(3) Produces aversive symptoms with use of the substance (i.e., punishment).

Commonly heard concerns about "substituting one addiction for another" arise from a misunderstanding of the behavioral definition of addiction. Although some medications (e.g., long-acting opioids like methadone or buprenorphine) do maintain physical dependence (i.e., tolerance and withdrawal on cessation), it should not be confused with the behavioral disorder of addiction. Most contemporary addiction medications work by attenuating the reinforcing (i.e., addicting) effects of substances. Pure antagonists like naltrexone block the positive reinforcement from euphoria, but do not address the dysphoria and other symptoms of withdrawal. The substitution of long-acting oral agonist medication like methadone reduces both the positive reinforcing euphoria of short-acting opioids like heroin or oxycodone, and withdrawal, thereby mitigating the negative reinforcement of drug use associated with its cessation. Buprenorphine works similarly, blocking the positive reinforcement and preventing withdrawal's negative reinforcement. The impact of these medications is to decrease and ultimately

Table 1. FDA-Approved Medications for Alcohol Use Disorders

	Action	Precautions	Adverse Reactions and Common Side Effects	Adult Dosage
Oral naltrexone	Blocks opioid receptors; reduces reward in response to alcohol use	Must be opioid-free 7 to 10 days. If opioid analgesia needed, larger doses required and respiratory depression deeper and prolonged. Monitor liver function.	Precipitates severe withdrawal if concurrently taking opioids; hepatotoxicity at supratherapeutic doses. Nausea, vomiting, and somnolence.	50 mg PO daily.
Naltrexone depot injection	Same as oral naltrexone but effects last 30 days.	Same as oral naltrexone.	Same as oral naltrexone, plus site reaction and greater somnolence.	380 mg gluteal IM injection monthly.
Acamprosate	Mechanism unknown but believed to reduce glutamatergic hyperexcitability.	Evaluate renal function. Moderate Kidney Disease (adjust dose for CrCl 30-50 mL/min).	Mild diarrhea.	666 mg PO TID. If creatinine clearance 30-50 mL/min: 333 mg PO TID.
Disulfiram	Inhibits intermediate metabolism of alcohol which can cause flushing, nausea, dizziness, and tachycardia if patient uses alcohol.	Monitor liver function. Warn patient to avoid alcohol in diet, OTC medications, toiletries. Psychosis or severe myocardial disease relatively contraindications	Disulfiram-alcohol reaction, hepatotoxicity.	250 mg PO daily (range 125 mg to 500 mg)

extinguish the compulsive and dysfunctional behaviors characteristic of addiction. Disulfiram, described below for alcohol use disorders, is the only currently available pharmacotherapy that works though punishment upon use of alcohol.

Medications For Alcohol Use Disorder

Oral Naltrexone

Naltrexone is an antagonist of the μ-opioid receptor. Opioid receptors are believed to mediate some of the rewarding effects of alcohol. By blocking the effects of endogenous opioids released by alcohol use, naltrexone is believed to reduce the rewarding effects of alcohol use. Naltrexone is generally well tolerated. Potential side effects include nausea, vomiting, somnolence and reversible elevations of liver transaminases.

The efficacy of naltrexone for alcohol use disorders has been examined in multiple large meta-analyses. The most recent meta-analyses found that naltrexone, particularly at a daily dose of 50 mg, was associated with improvements in multiple alcohol consumption outcomes, including return to any drinking, return to heavy drinking, and the number of drinking days.[4] The number needed to treat (NNT) to prevent one person from returning to any drinking or heavy drinking was 12, though it is important to note that most studies evaluated were short-term in duration (12 weeks). Only one long-term trial (12 months or greater) exists for naltrexone and it found no difference between naltrexone and placebo.[5] There is convincing evidence that the effectiveness of naltrexone is dependent on genetic factors[6] and adherence.[7]

Naltrexone Depot Injection

Because good adherence to oral naltrexone has been associated with improved effectiveness in treating alcohol dependent patients, an extended-release injectable form of naltrexone was developed. The rationale for this formulation was that a monthly injection would increase adherence to the medication compared to daily oral administration. Aside from a greater sedating effect and injection site reactions, the side effect profile of injectable naltrexone is comparable to oral naltrexone.

A recent meta-analysis found that injectable naltrexone was associated with a reduction in the number of heavy drinking days but was not associated with reductions in return to any drinking or heavy drinking.[4] In one study, among patients sober four or more days prior to the injection, injectable naltrexone tripled continuous abstinence.[8]

Acamprosate

Acamprosate's mechanism of action is poorly understood, but it is believed to reduce the glutamatergic hyperexcitability that occurs during protracted alcohol withdrawal. By reducing this hyperexcitability, acamprosate may attenuate symptoms of protracted withdrawal such as anxiety and insomnia that negatively reinforce alcohol use. Acamprosate is generally well tolerated. The most common side effect associated with acamprosate is mild, transient diarrhea.

The efficacy of acamprosate has been examined in numerous clinical trials. A recent meta-analysis found that acamprosate was associated with improvement in the return to any drinking with a NNT of 12.[4] Another meta-analysis

of 22 randomized, placebo-controlled trials found that acamprosate increased abstinence days by 10% and complete abstinence almost two-fold.[9] Of note, earlier European trials of acamprosate showed efficacy in maintaining abstinence but subsequent trials conducted in the United States did not show a significant effect.[10]

Disulfiram

Disulfiram is used as an aversive agent and a deterrent to alcohol use. Disulfiram inhibits the enzyme aldehyde dehydrogenase. When taken with alcohol, disulfiram causes an elevation of serum acetaldehyde concentration. This buildup of acetaldehyde produces an adverse reaction characterized by flushing, increased heart rate and hypotension and may lead to nausea, vomiting, and dizziness. Disulfiram is relatively contraindicated in those with psychosis and those with severe myocardial disease. It can interact with alcohol found in everyday products like perfume and aerosols, and can cause hepatotoxicity in rare cases.

Randomized placebo-controlled clinical trials suggest that oral disulfiram has limited efficacy for alcohol use disorders. A recent meta-analysis of four well-controlled trials of disulfiram found no overall reduction in alcohol use.[4] Disulfiram might be more effective when medication is administered in a supervised manner. A systematic review of 11 randomized trials found improved short-term abstinence among alcohol dependent patients for whom administration of disulfiram was supervised.[11]

Other Alcohol Pharmacotherapies

Other medications have some evidence to support their off-label use for the treatment of alcohol use-disorders. Topiramate, an anti-convulsant with GABA-ergic properties, has been found to reduce alcohol consumption in a small number of randomized clinical trials.[4] The opioid receptor antagonist nalmefene reduced alcohol use in a few clinical trials and may have less risk of hepatotoxicity than oral naltrexone.[12]

Medications For Opioid Use Disorder

Methadone

Methadone is a μ-opioid receptor agonist with excellent oral bioavailability and a long half-life. Methadone maintenance treatment, or the daily administration of methadone to those with opioid use disorders, can reduce opioid craving, prevent symptoms of opioid withdrawal and reduce the effects of shorter-acting opioids such as heroin through cross-tolerance. These actions free patients from the need to seek illicit opioids and help normalize daily functioning. The use of methadone to treat opioid addiction is highly regulated and limited to licensed opioid treatment programs. Methadone is generally well tolerated, though overdose can occur, especially when taken in combination with sedative-hypnotics. Methadone has been linked with QTc interval prolongation but recommendations for regular screening with electrocardiogram at time of methadone initiation have been controversial.[13] Constipation and sweating are common side effects.

Multiple randomized clinical trials over 30 years have demonstrated that methadone maintenance treatment is highly effective in retaining patients in treatment and reducing opioid use.[14] Recent meta-analyses of observational studies affirm that methadone maintenance decreases mortality[15] and HIV transmission.[16] Doses of 60-100 mg/day of

Table 2. FDA-Approved Medications for Opioid Use Disorders

	Action	Precautions	Adverse Reactions and Common Side Effects	Adult Dosage
Methadone	Full opioid agonist. Long half-life allow for daily dosing which reduces need to seek illicit opioids.	Can be lethal in overdose. Has been linked with QTc interval prolongation.	Constipation and sweating.	Starting dose no more than 30 mg depending on patient tolerance to opioids. Maintenance doses of ≥ 60 mg daily more effective.
Buprenorphine	Partial opioid agonist which reduces need to seek illicit opioids. Most common formulation includes naloxone which discourages injection.	Should be opioid-free 12-24 hours prior to induction, maybe longer if using long-acting opioids. Monitor liver function.	Constipation, dizziness, nausea and vomiting	Start 4mg/1mg of sublingual buprenorphine/naloxone, total of 8 mg/2 mg in first day. Typical maintenance dose between 16-24 mg daily.
Naltrexone depot injection	Blocks opioid receptors and effects of opioids.	Must be opioid-free 7 to 10 days. If opioid analgesia needed, larger doses required and respiratory depression deeper and prolonged. Monitor liver function.	Precipitates severe withdrawal if concurrently taking opioids; hepatotoxicity at suprathera-peutic doses. Nausea, vomiting, and somnolence, site reaction.	380 mg gluteal IM injection monthly.

methadone are more effective than lower doses in increasing treatment retention and decreasing opioid use.[17] Because the risk of relapse after methadone discontinuation is high, long-term treatment is necessary for many patients.

Federal law restricts the use of methadone to licensed opioid treatment programs for the treatment of opioid use disorders. Such programs are required to provide addiction counseling and directly supervise dosing such that, for example, weekly take-home dosing cannot occur among stable patients for the first nine months.

Buprenorphine

Buprenorphine, a partial μ-opioid receptor agonist, is approved for opioid maintenance treatment in office-based settings. The most common formulation is taken sublingually and includes naloxone, an opioid receptor antagonist with poor bioavailability when taken orally or sublingually. This formulation was designed to discourage misuse via injection. Buprenorphine has a long duration of action due to its high opioid receptor affinity and slow dissociation from the receptor. Buprenorphine's partial agonist properties block euphoria from other opioids, reduce craving and prevent withdrawal, while the ceiling on its agonist properties reduces the risk of respiratory depression. Because it is a partial agonist and has strong opioid receptor affinity, buprenorphine may precipitate opioid withdrawal symptoms if taken too soon after ingestion of other opioids. Possible side effects include constipation, dizziness, nausea and vomiting. It has also been linked to rare cases of hepatitis.

In randomized clinical trials buprenorphine maintenance treatment is as effective as methadone in reducing opioid use.[18] However, buprenorphine may be less effective than methadone in retaining patients in long-term treatment, particularly in studies that utilized dosing protocols that closely reflect clinical practice.

In order to prescribe office-based buprenorphine, physicians must have completed an approved 8-hour course and requested an amended controlled substance license from the federal Drug Enforcement Administration. Buprenorphine prescribers are limited to 30 active buprenorphine patients in the first year and 100 patients thereafter. Counseling services must be available, but are not required.

Naltrexone Depot Injection

Naltrexone is a long-acting opioid antagonist that produces a dose-dependent blockage of all opiate effects. When administered orally, it effectively improves treatment retention and abstinence in patients with opioid use disorders only when adherence can be assured.[19] Extended-release injectable naltrexone was developed to improve adherence.

Two randomized clinical trials of injectable naltrexone for the treatment of opioid use disorders demonstrated improvement in treatment retention and the number of negative urine drug tests for opioids.[20,21] An ongoing effectiveness trial is testing injectable naltrexone against treatment as usual in a group of recently released parolees with an opioid use disorder and early findings are similarly promising.[22]

Medication Management Counseling

Much evidence suggests that pharmacotherapy and office-based medication management counseling by a doctor or nurse in generalist settings is as effective as more extensive counseling interventions.[23] For opioid use disorders, medications even without counseling can have substantial benefits.[24] Medical management counseling includes direct advice to stop substance use; monitoring and feedback of improvements in medical conditions and other consequences to enhance motivation; regular visits to monitor and encourage adherence to the pharmacotherapy; and recommending participation in mutual help groups.[25]

DISCUSSION

A growing number of medications for alcohol and opioid use disorders have been found to be effective in reducing substance use and in some cases, mortality related to substance use. Additionally, several of these medications have been found to be cost-effective.[26,27] Despite these findings, medication treatments for addiction continue to be underutilized. Physicians and other prescribing clinicians can take an active role in facilitating remission and recovery among their recovering patients by prescribing these effective medications and delivering brief medical management counseling.

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Long-term Opioid Therapy for Chronic Pain and the Risk of Opioid Addiction

HARRISON J. BURGESS, AFREEN SIDDIQUI, MD; FREDERICK W. BURGESS, MD, PhD

INTRODUCTION

There has been a constant struggle to define the role of opioids in medical therapy, due to their potential for misuse, overuse, and addiction since pain is a completely subjective sensation, not amenable to objective measurement, and is intimately tied to emotion and the patient's psychological well-being. Thus the medical decision to administer an opioid analgesic is an attempt to balance the potential for pain relief, and the reliability of the patient's reporting, against the potential for harm. The decision-making process is less complicated when dealing with acute traumatic injury or surgical trauma. However, with many chronic pain conditions, the etiology or severity of the patient's pain is less obvious. In the majority of situations, a physician does not initiate opioid therapy with the intention of continuing it for months or years, but many patients will continue to seek opioids for relief of pain which becomes chronic.

Until 1990, chronic use of opioid analgesics was widely discouraged, with most physicians trained to taper their patients off opioid medication after an acute treatment trial. The paradigm began to shift as the movement to improve cancer pain treatment became successful with aggressive opioid prescribing. The success of aggressive opioid therapy for cancer pain treatment led to a spill over into chronic non-cancer pain treatment, spurred on by industry-supported continuing medical education programs. As high-dose opioids became more available in the community, it was accompanied by a pattern of escalating drug diversion, opioid misuse, accidental opioid overdose, and deaths that continued to climb through the past decade. (**Figure 1**)[1] Accidental opiate overdose deaths from prescription opioids began to far exceed deaths attributed to illicit drugs of abuse, such as heroin and cocaine. Nationally, accidental drug overdose deaths surpassed deaths from motor vehicle accidents, reaching a peak of 16,917 deaths from prescription opioids in 2011 (http://www.cdc.gov/homeandrecreationalsafety/overdose/facts.html). During the period from 2009–12, Rhode Island experienced 645 accidental prescription opioid deaths, and in 2008 the state's accidental opioid overdose death rate of 17.2/100,000 people ranked as the sixth highest in the nation. (**Figure 2**) CDC analysis of opioid prescribing rates

Figure 1. Rates of opioid pain reliever (OPR) overdose death, OPR treatment admissions, and kilograms of OPR sold – United States, 1999–2010.[1]

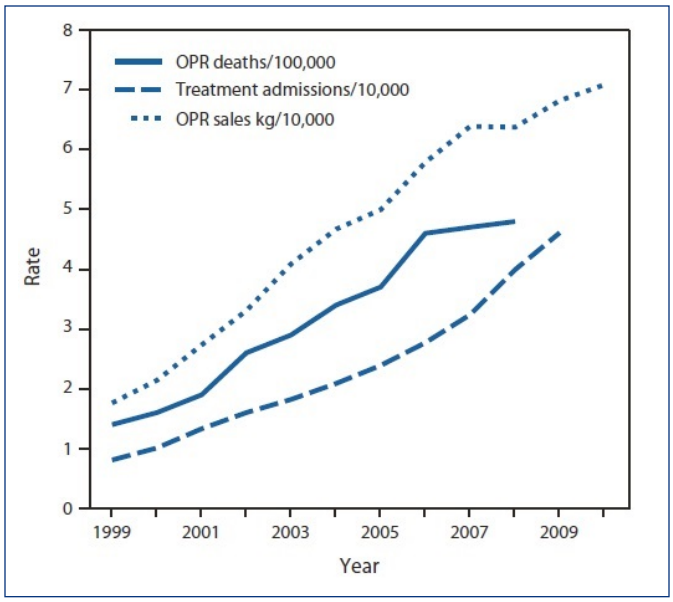
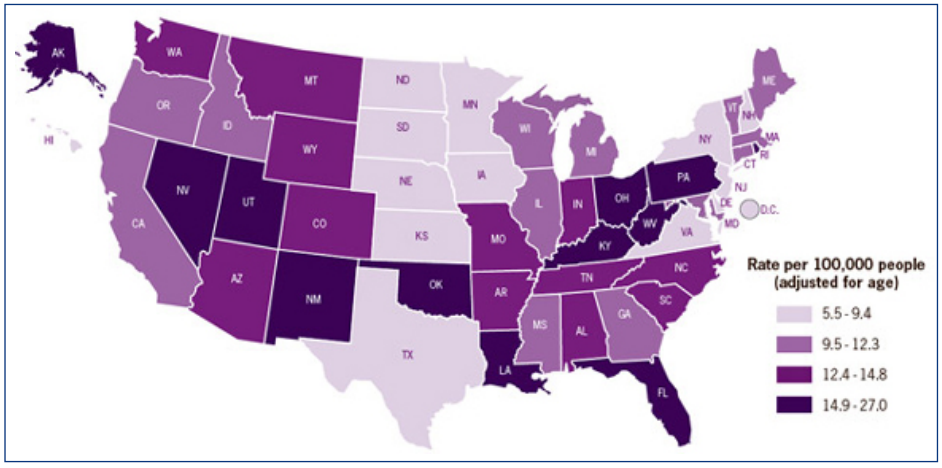


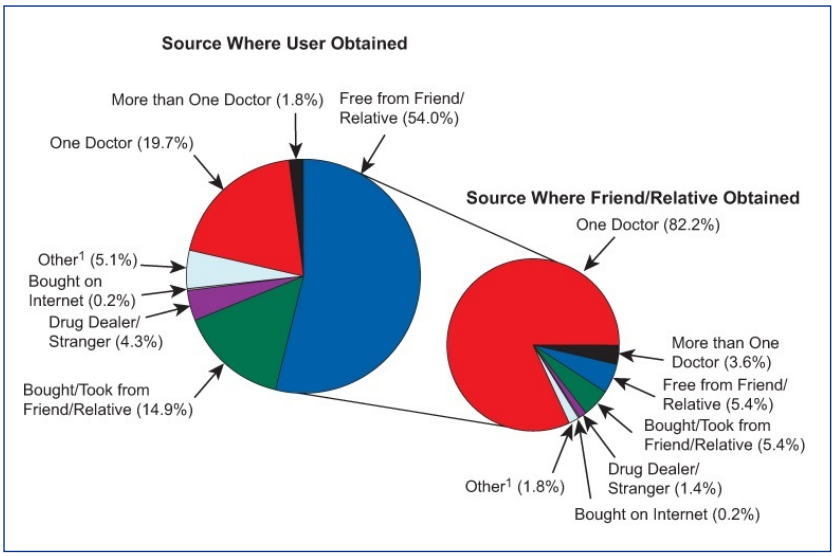
Figure 2. Drug overdose death rate in 2008 and rate of kilograms (kg) of opioid pain relievers (OPR) sold in 2010 – United States.[1]



for the year 2012 ranked Rhode Island at 19th nationally, with 89.6 opioid prescriptions per 100 persons; however, this does not imply that 90% of the population are receiving an opioid prescription, as most are repeat prescriptions going to a small percentage of the population. Nationally, the CDC suggests that enough opioid prescriptions are dispensed annually to provide every citizen in the U.S. with a month supply of medication.

What role do prescribing physicians play in this national crisis? CDC statistics have indicated that fewer than 20% of patients dying from accidental prescription opioid overdoses have a legal prescription for the opioid medication involved in their demise. National drug surveys conducted have consistently found that the majority of nonmedical opioid users obtain access to the medication through family and friends, with only a small percentage via drug dealers or Internet sources. (**Figure 3**) This initially suggests that physicians are a minor source of misused medication; however, when you consider that a physician prescribed the opioids to the family and friends of the unintentional overdose victims, physicians appear to contribute an additional 60% of the misused opioid supply. Overall, physician prescribing provides more than 80% of the misused opioid supply, through their direct intent and through unintended diversion.

Figure 3. Opioid pain reliever sources for nonmedical use among users: 2009–2010. (www.samhsa.gov/data/NSDUH/2k10MH_Findings/2k10MHResults.pdf)



ARE CHRONIC PAIN PATIENTS PRESCRIBED LONG-TERM OPIOID MEDICATION AT RISK FOR ADDICTION?

Despite their documented efficacy in treating acute and cancer pain, there is no strong evidence to support long-term prescribing of opioids for common pain problems, such as low back pain.[2] Recent efforts by the American Academy of Pain Medicine and the American Pain society to establish guidelines for opioid prescribing for chronic pain found little high-level evidence of efficacy, and mostly based their recommendations on expert opinion. (http://www.americanpainsociety.org/uploads/pdfs/Opioid_Final_Evidence_Report.pdf) Long-term randomized, controlled trials are difficult, if not impossible to design due to the inherent actions of the opioid class, such as obvious sedative or euphoric effects when administered, the development of tolerance, and the development of withdrawal symptoms when stopped. Even more confusing is the limited evidence of efficacy seen in open trials, where "significant" reductions in pain ratings are limited to 1–2 points on the 10- or 11-point rating scale. The self-reinforcing effects seen with opioid analgesics are often confusing to patients, who may interpret the withdrawal pattern (often manifested as pain and achiness) between doses as evidence of efficacy. Despite patient reports of subjective improvement, global measures of pain relief and improved function are modest or lacking.

Opioid-related side effects and lack of efficacy results in treatment discontinuation by as many as 30% of patients enrolled in opioid trials.[3] Another major reason for discontinuation of opioid therapy in clinical trials includes addiction, medication misuse, and suspicion of diversion. Definitions of aberrant drug-related behavior (ADRB) and addiction are quite varied in the literature, and are continually being redefined in the chronic pain setting. Most chronic pain patients treated with long-term opioids will develop evidence of tolerance and physical dependence, a pattern of drug-seeking behavior, craving, and even evidence of continued use despite harm (as in significant side effects). Advocates of long-term opioid treatment have argued that these parameters, typically associated with addiction, are the consequence of inadequate pain treatment and not addiction. Controversy exists over what behaviors should be classified as ADRB. Some of the more widely accepted ADRB's include: lost or stolen prescriptions, early visits without appointments seeking refills, not following the prescribed dosage pattern, seeking medications from multiple physicians, forging prescriptions, use of illicit drugs or detection of non-prescribed opioid medications with urine drug testing, and legal action related to opioid medications.[4] Unfortunately, there is no uniformity in defining ADRB's or addiction in the chronic pain literature. Recognizing this difficulty, several structured evidence–based reviews have attempted to examine the risk of addiction in populations treated with long-term opioids.[4,5] Fishbain et al. reviewed the published literature in 2008, evaluating studies reporting on patients treated with opioids for a period ranging from 2 to 240 months, for an average exposure time of 26.2 months.[5] After reviewing 67

published reports, they identified 24 studies that measured abuse/addiction, involving 2,507 chronic pain patients, and found an estimated abuse/addiction rate of 3.27%. In studies that excluded patients with a history of abuse or addiction, the rate of reported abuse/addiction dropped to 0.19%. In 17 studies focusing on ADRB, the calculated ADRB incidence was 11.5%, and in patients without a prior history of abuse or addiction, the rate dropped to 0.59%.

A Cochrane Review on long-term opioid management for chronic noncancer pain published in 2010 reported similar findings, with an estimate of opioid addiction of 0.27%, leading the authors to conclude that the risk of iatrogenic opioid addiction is low.[4] Individual studies have estimated drug abuse/addiction to range between 0-50% of their population. This wide range is due in part to non-standardized definitions of abuse/addiction, as some included any controlled substance, not just misuse or abuse of the prescribed opioid. There is also a built in selection bias depending on the referral pattern of the treatment program. Many pain treatment programs accumulate high-risk patients with a history of substance abuse, or current abuse concerns.

One of the most consistent risk factors predicting opioid abuse/addiction, is a history of opioid abuse (odds ratio of 3.81).[6] Patients with a history of severe dependence or abuse had an odds ratio of 56 for developing abuse/addiction.[6] Weisner *et al* surveyed patients receiving long-term opioids in two large group health plans and found that patients with a history of opioid abuse had a prevalence rate of opioid use approaching 50%, compared to patients without a prior opioid abuse history of 2–3%. In their study, patients with an abuse history tended to use higher doses, averaging 100mg of morphine equivalent dose (MED), were prescribed more schedule II opioids, and were prescribed more long-acting opioids.[7] Gwira-Baumblatt *et al.* identified using more than 100mg MED daily had an adjusted odds ratio of 11.2 for unintentional overdose deaths.[8]

Recognizing the shortcomings of the current literature, and the fact that most long-term opioid trials were conducted over three months or less, it would appear that the risk of developing opioid addiction is low in a prescreened population using low to modest opioid doses. However, in patients with a history of prior substance abuse or high-dose opioid use (≥100mg of morphine equivalent dose), the risk of addiction/abuse is substantially higher.[9]

LESSONS LEARNED

Most data dealing with the benefits and risks of long-term opioid therapy for chronic noncancer pain are based on studies of 8-12 weeks, or deal with highly selected populations. There is a general belief that there is still insufficient evidence to clearly define the safety or efficacy of long-term opioids. Tools for predicting opioid aberrancy and addiction have been studied over relatively brief periods, and are based on testing in at-risk populations, but have only modest predictive value of treatment success or addiction/abuse when applied to more global pain populations. While some screening tools, such as SOAPP and the Opioid Risk Tool are helpful, they cannot be applied in isolation, are probably most useful as an indicator of who should be more closely monitored, and should not be used to determine who should receive long-term opioids.

Based on current evidence, the following approach to long-term opioid prescribing may be helpful. Most opioid dependent and accidental overdose patients have the following characteristics in common: 1) patients at high risk for overdose or abuse tend to be doctor shoppers, often visiting 5 or more practitioners for opioid prescriptions; 2) accidental overdose deaths are associated with prescriptions of more than 100 mg of MED daily (8.9 fold increase in risk with a 1.7% annual overdose risk); 3) male sex; 4) patients with a history of substance abuse; 5) concurrent psychiatric diagnoses; 6) use of 3 or more different pharmacies.[6-11] Given this, it is critical that any physician intending to prescribe long-term opioids for chronic pain review their state prescription monitoring program (for RI see: http://www.health.ri.gov/programs/prescriptionmonitoring/) for evidence of their patient receiving opioids from multiple prescribers or pharmacies. This program is not fool-proof, as patients accessing controlled substances across state lines can avoid scrutiny, but it demonstrates a good faith effort on the part of the physician and due diligence. Careful scrutiny and review of medical records for evidence of a past history of substance abuse will help to identify patients at risk for dependence, misuse, or addiction. A history of addiction does not necessarily preclude opioid therapy; if warranted, but definitely identifies a need for close monitoring. An opioid pain treatment agreement may also be of value, as it clearly defines the expectations for continued opioid treatment parameters, and may serve as a formal informed consent, depending on the design of the document. Finally, avoid prescribing high-dose or large quantities of opioids. The efficacy of prescribing dosages higher than 100mg of MED are associated with a greater risk of diversion, abuse, overdose, and a general lack of efficacy. Unfortunately, there are no completely reliable means to ensure success or failure. Only thoughtful prescribing with an understanding of the risks and benefits can improve treatment success and patient safety.

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Responding to Opioid Overdose in Rhode Island: Where the Medical Community Has Gone and Where We Need to Go

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ABSTRACT

The number of opioid overdose events in Rhode Island has increased dramatically/catastrophically in the last decade; Rhode Island now has one of the highest per capita overdose death rates in the country. Healthcare professionals have an important role to play in the reduction of unintentional opioid overdose events. This article explores the medical community's response to the local opioid overdose epidemic and proposes strategies to create a more collaborative and comprehensive response. We emphasize the need for improvements in preventing, identifying and treating opioid addiction, providing overdose education and ensuring access to the rescue medicine naloxone.

KEYWORDS: Opiate addiction, overdose, opioid, healthcare professionals

INTRODUCTION

Opioid Overdose

Over the last two decades, drug overdose has emerged as the leading cause of adult injury death in the United States (US).[1] In 2011, there were 41,340 deaths nation-wide resulting from drug overdose, up from 4,030 in 1999.[2,3] Prescription drugs were the most common drugs involved in overdose fatalities (22,810) and nearly three-quarters of these fatalities involved opioids (16,917).[1]

In Rhode Island drug overdose deaths outrank deaths caused by motor vehicle crashes.[4] With roughly four drug overdose deaths weekly, Rhode Island has the 13th highest overdose mortality rate nationally, and the highest overdose mortality rate in New England.[5] From 2010 to 2012, nearly all cities and towns (36/39) in the state experienced an accidental overdose death.[6] Although Providence reported the largest number of overdose deaths in the state (72), two towns, Central Falls and Woonsocket, reported the highest per capita rate with 77 and 73 overdose deaths per 100,000, respectively.[6]

From 1999 to 2010, Rhode Island mirrored national trends in overdose deaths, reporting a 182% increase in drug overdose mortality;[4] however, more recent trends indicate a disturbing pattern. During the spring of 2013, acetyl-fentanyl tainted heroin was linked to over a dozen unintentional overdoses. This was followed by a doubling of the overdose mortality from November 2013 to March 2014,[7] this time traced to fentanyl-laced heroin and cocaine. These two "outbreaks," investigated by the Centers for Disease Control and Prevention (CDC) and other partners, suggest an increasing overlap in populations misusing prescription opioids and using illicit drugs. Whereas from 2009 to 2012, 53% of Rhode Island's 646 drug overdoses were attributed to prescription drugs and only 21% resulted from illicit drugs, an uptick in illicit drug overdoses that began in 2013 indicates a complete reversal in prior trends: overdoses attributed to illicit drugs now comprise 56% of these deaths.[5,8] Regardless of the cause, the death toll stands as a call to arms to the medical community to slow the death rate through prevention, treatment, reducing the stigma of addiction, and harm reduction.

Opioid Prescribing Practices, Non-medical Use, and Treatment

Increases in both the prescribing of opioids and self-reported non-medical use of opioids are two key drivers of the rise in drug overdose fatalities nationally and at the state-level.[9] In 2010, there were enough pain relievers prescribed nationally to medicate every American continuously for one month.[10] In 2012, Rhode Island had the 19th highest number of pain-reliever prescriptions; there were 90 pain-reliever prescriptions per every 100 people in the state.[9]

Availability and accessibility of pain relievers are associated with their increased non-medical use.[4] In 2010, more than 12 million people in the US reported using prescription pain relievers non-medically.[10] In that same year in Rhode Island, 5.2% of adults (≥ 12 years) reported nonmedical use of prescription pain relievers, amongst the highest state rates in the country.[4]

Despite the growing need, the availability of addiction treatment has not expanded rapidly enough. There is a shortage of healthcare professionals trained to provide substance abuse treatment services.[4] Notably, in Rhode Island, there were only eight medical professionals per every 100,000 people approved to treat opioid-addicted patients with buprenorphine.[4] While Rhode Island fares better than two-thirds of all states (who have fewer than six prescribers per every 100,000 people), the high prevalence of opioid misuse and the alarming increase in overdose events necessitate a broader treatment response, accessible throughout the state.

ADDRESSING OPIOID OVERDOSE IN RHODE ISLAND

In response to the growing overdose epidemic, Rhode Island has instated several laws, programs, and policies designed to prevent the misuse of opioids and reduce the number of overdose events. Below we focus on interventions that directly have an impact on healthcare professionals including: the Prescription Monitoring Program, access to naloxone, an opioid overdose antidote; "Good Samaritan" laws, and the Collaborative Practice Agreement for Naloxone.

The Prescription Monitoring Program

In 2012, Rhode Island launched an electronic Prescription Monitoring Program (PMP),[5] a database used to track the dispensing of controlled prescription drugs to patients.[4] Information obtained from PMPs can be used to identify high-risk patients, problem prescribers and identify trends in opioid use and misuse[4]; their utility in helping to reduce overdose deaths is yet unproven. Research examining the effectiveness of PMPs remains a relatively new area of inquiry; however, preliminary evidence suggests that PMPs are effective at changing prescribing practices and reducing "doctor shopping" (i.e., seeking out multiple providers to acquire controlled substances), and prescription drug abuse.[11] PMPs may also be most effective for overdose prevention by facilitating a discussion about prescribing naloxone, medication-assisted therapies, and other drug treatment options.[12]

There are limitations to Rhode Island's PMP program. As of January 2014, only 18% of all prescribers were registered to use the PMP.[5] Furthermore, the database has been consulted for less than 10% of all controlled-substance prescriptions written statewide.[13] Legislation signed in May 2014 requires healthcare providers to register for the PMP when they obtain or renew their controlled substance license. Though this legislation targets increasing prescriber registration, it does not require that prescribers consult the PMP prior to prescribing a controlled substance.[13] The CDC and other organizations have identified PMPs as a key strategy for improving patient safety and reducing prescription drug misuse and diversion when they are universal (i.e., used by all healthcare providers for all controlled substances) and are actively managed.[10]

To improve our response to the increasing number of opioid overdose events, licensed prescribers in Rhode Island should register with the PMP and routinely consult it prior to prescribing controlled substances. **Figure 1** (next page) presents screenshots of Rhode Island's PMP registration page (which can be found at ripmp.com) and a sample patient prescription history report. Detailed instructions of how to register and use Rhode Island's PMP can be found on the Department of Health's website (www.health.ri.gov/programs/prescriptionmonitoring/). Another novel Rhode Island resource specifically designed for prescribers is the *Physician Consult* program, which provides primary care physicians with immediate assistance to assess (within 1 hour of call) and facilitate drug treatment entry for patients who are using illicit drugs or misusing prescription drugs and seek help (see links on health.ri.gov or call 401-781-2700/TTY 401-354-7640).

Naloxone Access and Good Samaritan Laws

Naloxone is an opioid antagonist used to counter the effects of opioid-induced respiratory depression.[14] Once administered intramuscularly, intranasally, intravenously, or subcutaneously, its effects occur within minutes and can last anywhere between 20 to 90 minutes.[14] Though naloxone is a prescription drug, it is not a controlled substance and has no abuse potential.[14] Naloxone has been routinely used in healthcare settings to reverse opiate overdose;[15] however, naloxone prescriptions can also be provided to at-risk patients or their caregivers (a practice known as "third-party prescribing").[15]

Although opioid antagonists are legal, there are barriers that may prevent healthcare professionals from prescribing naloxone to at-risk patients or their caregivers (i.e., fear of criminal liability).[16] State laws, known as "Good Samaritan" laws, have been implemented to encourage increased prescribing of naloxone and to protect those who call 911 or administer the drug to an individual who is overdosing.[15] Rhode Island's Good Samaritan law provides partial immunity for individuals who summon medical help during an overdose event.[4]

Given that most overdose victims typically are unable to self-administer naloxone, providing overdose education and a prescription for naloxone to caregivers is an essential component of overdose prevention efforts.[17] Community-based overdose education and naloxone distribution (OEND) programs for lay individuals have proven successful at reducing community-level overdose mortality. Since 1996, US OEND programs have distributed naloxone to 53,032 persons nationwide; resulting in the reversal of 10,171 opioid overdoses.[2] Good candidates for naloxone prescriptions include individuals who are taking opioids for long-term pain management or who have a suspected or confirmed history of substance abuse, or their caregivers.[15]

The Substance Abuse and Mental Health Services Administration's "Opioid Overdose Toolkit," provides additional guidance on who may be best suited to receive overdose education and naloxone prescriptions (http://store.samhsa.gov/product/Opioid-Overdose-Prevention-Toolkit/SMA13-4742).[15] An additional resource is the website *prescribetoprevent.org* which demystifies the prescribing and dispensing of naloxone for healthcare professionals. Prescribers are encouraged to work with community-based OEND programs to improve naloxone access in their state.[2] A more detailed description of Rhode Island's community-based OEND programs can be found elsewhere in this issue.

Pharmacists and Collaborative Practice Agreement

Pharmacists are the most accessible healthcare provider in the community, working in highly visible and convenient

Figure 1.

State of Rhode Island
Department of Health

New Registration

Registration Instructions
Welcome to the PMP registration process.
To begin the registration process, please select your job type that best describes your profession.
1. Enter the form of identification requested:
   a.DEA Number, if you're a Pharmacist or Practitioner
2. Click the Next button. The system will display your information if found. Please make necessary corrections and fill in any missing information. If no information is returned, please fill out the information requested.
3. Click the Register button and follow the on screen instructions If you have any questions please contact the PMP help desk at (866)-683-2476.

- **Please enter DEA Number for practitioner**

Job:
Prescriber

DEA Number:
*

Next Go Back

RHODE ISLAND DEPARTMENT OF HEALTH

RI Dept of Health: Prescription Monitoring Program

3 Capitol Hill, Room 205, Providence, RI 02908

Phone :866-683-2476 Fax :(614) 547-0063 Email :rixreport@otech.com

Patient RX History Report

Mary Smith

Date: 04-01-2014

Page: 1 of 1

This report may contain another person's controlled substance information. Please review the "Patients that Match Search Criteria" section located below to ensure all prescriptions belong to the requested individual.

Search Criteria: ((Last Name Begins 'smith' AND First Name Contains 'mary') AND (D.O.B = 'XX/XX/XXXX' AND State = 'RI')) AND Request Period = '01/01/2009' To '04/01/2014'

Patients that match search criteria

Pt ID	Name	DOB	Address
4297	Smith, Mary	xx/xx/xxxx	anywhere

Prescriptions

Fill Date	Product, Str, Form	Qty	Days	Pt ID	Prescriber	Written	Rx #	N/R	Pharm	Pay
04/28/2011	AP AP/HYDROCODONE BITARTRATE, 750 MG-7.5 MG, TAB	10	5	4297	DOC ID	04/28/2011	1443926	N	AP9086869	

N/R: N=New R=Refill
Pay:01=Private Pay 02=Medicaid 03=Medicare 04=Commercial Ins. 05=Military Inst. and VA 06=Workers Comp 07=Indian Nations 99=Other

Total Prescriptions: 1

Prescribers for prescriptions listed

Doc ID # Doctor name

Pharmacies that dispensed prescriptions listed

AP9086869 P DRUG INC; NULL PO BOX 20250 1300 OAKLAWN AVE CRANSTON RI 02920

Disclaimer: Department of Health does not warrant the above information to be accurate or complete. The Report is based on the search criteria entered and the data entered by the dispensing pharmacy. For more information about any prescription, please contact the dispensing pharmacy or the prescriber.

Source: McDonald, J.V. (2014) "How to Use the Rhode Island Prescription Drug Reporting Program (PMP): The Very Basics." Retrieved August 10, 2014, from http://www.health.ri.gov/publications/guides/HowToUseThePMP.pdf

locations. Nationally, pharmacists already participate in harm-reduction activities for people at risk of opioid overdose, including over-the-counter needle sales, prescription monitoring program review, and counseling patients on buprenorphine.[18] Evidence shows that pharmacists who participate in these activities are more likely to accept the notion of providing naloxone to caregivers of potential overdose victims.[19] Since pharmacists dispense the prescription opioids that result in 60% of all reported opioid overdose deaths,[20] they are key stakeholders in harm-reduction activities, including stocking naloxone, promoting naloxone co-prescription by prescriber, and initiation of naloxone through collaborative practice agreements. Collaborative practice agreements (CPA) are formal agreements in which a licensed provider makes a diagnosis, supervises patient care, and refers patients to a pharmacist under a protocol that allows the pharmacist to perform specific patient-care functions.[21]

Rhode Island has implemented a CPA, where pharmacists can furnish naloxone without an individual prescription, alongside overdose prevention, identification, and response training;[5] a practice supported by the American Pharmacists Association.[22] As of August 2014, approximately 300 people accessed naloxone using the CPA, nearly doubling community-based naloxone efforts for the year.[23] Healthcare professionals should educate and refer their at-risk patients to Walgreens, CVS, or other CPA-participating pharmacies, to realize maximum public health impact.

FUTURE DIRECTIONS

The strategies outlined above represent an important step forward, but, as noted, the current approaches can be better utilized and interconnected. Below we suggest two promising strategies that can be adopted to enable a more comprehensive healthcare response to opioid overdose prevention efforts in Rhode Island: improving prescriber education and adequately treating opioid addiction.

Prescriber Education

Prescriber education is critical to reduce the incidence of prescription drug abuse and misuse,[4] however, most health professional schools do not provide comprehensive training on substance abuse or provide limited training on treating pain.[4] On average, medical students receive only 11 hours of training in pain management.[24] Rhode Island does not currently require or recommend education for pain medication prescribers.[4]

To address this gap in prescriber education, the Food and Drug Administration approved the Risk Evaluation and Mitigation Strategy, requiring drug manufacturers to offer free or low-cost training programs to licensed prescribers in the US.[4] Recommended training components include: knowledge and awareness of holistic approaches to pain treatment, appropriate opioid prescribing practices, use of PMPs, addiction identification, and referral to treatment.[5] To these national recommendations, we urge the explicit addition of overdose prevention and prescribing of naloxone as critical topics in prescriber education.

Addiction Treatment

Treatment for opioid addiction typically combines counseling and behavioral therapies with the provision of medications (e.g., methadone, buprenorphine, and naltrexone) designed to ease/eliminate withdrawal symptoms or block the effect of opioid drugs; an approach known as Medication-Assisted Treatment.[25]

Special authorization is needed for healthcare professionals seeking to treat addiction using controlled substances (i.e., methadone and buprenorphine).[4] Therefore, in addition to ensuring that individuals in need of treatment are identified and referred to treatment, an adequate number of healthcare providers trained and licensed to provide addiction treatment is also needed.[4] Given local trends in opioid addiction and overdose events, more medical professionals approved to treat patients for addiction are needed.

CONCLUSION

Opioid overdose casualties in Rhode Island continue to increase at an alarming rate. Healthcare providers are in a unique position to significantly reduce the number of opioid overdose events. In order to affect long-lasting change in this epidemic, the response from Rhode Island's healthcare professionals needs to be collaborative, comprehensive, and consistent, with a focus on preventing, identifying and treating opioid addiction, providing overdose education, and ensuring timely access to rescue medications.

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The Rhode Island Community Responds to Opioid Overdose Deaths

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ABSTRACT

The challenge of addressing the epidemic of opioid overdose in Rhode Island, and nationwide, is only possible through collaborative efforts among a wide breadth of stakeholders. This article describes the range of efforts by numerous partners that have come together to facilitate community, and treatment-related approaches to address opioid-involved overdose and substance use disorder. Strategies to address this crisis have largely focused on increasing access both to the opioid overdose antidote naloxone and to high quality and timely treatment and recovery services.

KEYWORDS: Opiate addiction, overdose, opioid, naloxone

INTRODUCTION

Rhode Island experienced a dramatic increase in opioid-involved overdose deaths in the first half of 2014. Prior to the first broad acknowledgment of opioid overdose as a public health crisis, statewide collaborations were underway to reduce opioid overdose deaths and address the crisis of opioid addiction.

The Drug Overdose Prevention and Rescue Coalition, convened in 2012 by The Rhode Island Department of Health (HEALTH), has grown from a handful of advocates to more than 100 members. Active members represent the state public health and behavioral health agencies, Department of Corrections, law enforcement, treatment providers, recovery organizations, healthcare providers, researchers, prevention councils, and other affected community members. The charge for the Coalition was to establish, and now implement, a state-wide strategic plan (see **Table 1**).[1] Strategic priorities were informed by national and local research and published best practices.[2-6]

This article outlines the context, and efforts to date, to implement six community and treatment-related aspects of the strategic plan (other elements of the plan are addressed elsewhere in this issue).

1) Establish statewide overdose surveillance mechanisms

Data is essential in guiding intervention efforts. Understanding the scope and breadth of the epidemic includes examining non-fatal, as well as fatal, overdoses. Until recently, EMS data could not be accessed from a centralized source and ED, hospital, and death data had a two-year lag time.

- Beginning in January 2014, the RI emergency medical system started collecting real-time, electronic data on drug overdose incidents and naloxone administration in the pre-hospital setting. The report form includes pre-hospital naloxone administration data (if administered and by whom).
- In April 2014, HEALTH passed emergency health regulations requiring all hospitals and emergency departments to report any opioid overdose-related events to the health department within 48 hours. The reporting form includes naloxone administration data (if administered and by whom) and whether the patient was referred to treatment or recovery services.[7]
- The Medical Examiner reports all confirmed accidental drug overdose deaths on the 15th of the month for the prior month. The data is posted on the HEALTH website: http://www.health.ri.gov/data/drugoverdoses/. The Medical Examiner also provides more detailed updates on accidental drug overdose death data at quarterly Coalition meetings.

Table 1. 2011–2016 Injury Prevention Strategic Plan Drug Overdose Prevention and Rescue Recommendations

1. Establish statewide overdose surveillance mechanisms
2. Increase usage and effectiveness of the Prescription Monitoring Program (PMP).
3. Increase access to naloxone training and distribution programs.
4. Increase licensed healthcare worker and institutional responsibility
5. Implement and expand disposal units throughout the state.
6. Support prevention policies that work.
7. Increase general public awareness of drug overdose as a preventable public health problem.
8. Support and affirm people at risk for drug overdose.
9. Increase access to substance abuse treatment.
10. Build state capacity to implement drug overdose prevention and rescue programs.

2) Increase access to naloxone training and distribution programs

Naloxone, an opioid antagonist, reverses opioid overdose by blocking the opioid receptors. Bystander use of naloxone began over a decade ago, through the pioneering efforts of physicians in the harm-reduction field. Expanded prescription and distribution of naloxone for bystander use is recognized as a best practice in response to the epidemic of opioid overdose fatalities.[8-10]

As a prescription medication, each state's prescribing and dispensing guidelines govern naloxone access. HEALTH issued emergency regulations, in March 2014, expanding naloxone access, by authorizing the following: Any licensed prescriber can issue a non-patient-specific order to certain organizations, such as police departments and treatment facilities; naloxone can be prescribed to a family member or friend of an individual at risk of experiencing an opioid-related overdose; and any licensed prescriber may dispense naloxone to family members or others on site, during an office or emergency department visit.[11] These regulations expand providers ability to reach individuals at highest risk of opioid overdose.

- The Miriam Hospital PONI Program (Preventing Overdose and Naloxone Intervention) began in 2006 as a pilot program in collaboration with HEALTH.[12] Since 2012, PONI has trained almost 700 individuals in overdose prevention, recognition and intervention and distributed a corresponding number of naloxone kits at no cost to the client. The program relies on clients to contact the program to report naloxone use and request a refill. To date, 60 clients have reported using naloxone to reverse an opioid overdose.
- Since 2007 PONI has collaborated with the Rhode Island Department of Corrections (RIDOC) to provide overdose prevention training (without naloxone distribution) to inmates prior to release from incarceration. Distribution of naloxone at release has been piloted (see below), but lack of resources to purchase naloxone has been a barrier to implementation.
- In 2011, researchers at Rhode Island and Miriam hospitals launched a pilot program to train inmates approaching release from RIDOC and to dispense naloxone kits upon release. This research effort included creation of "**Staying Alive on the Outside**," a video geared toward overdose prevention and response immediately following release from incarceration. Results of the study concluded implementation of a naloxone training and distribution program is a feasible component of pre-release training and skills building.[13-14] Participants were able to effectively able to recognize an overdose and administer naloxone, based on pre-post intervention evaluation, including simulating response to an overdose one month post-release from incarceration.
- In 2012, with the leadership of the Rhode Island Medical Society, the Good Samaritan Overdose Prevention law was passed to promote naloxone use by lay responders and calling 911 in case of an overdose. The law protects anyone who administers naloxone in good faith from civil or criminal liability. It also protects the victim of overdose, and bystanders who call 911, from prosecution for minor drug charges. Similar legislation has passed in 20 states. Efforts are underway to reauthorize the law (due to sunset in 2015).
- In 2012, Walgreens Pharmacy entered into a **Collaborative Practice Agreement** with Dr. Josiah Rich to distribute naloxone, on a walk-in basis. A Collaborative Practice Agreement allows pharmacists to furnish naloxone without an individual prescription. Along with the medication, pharmacists provide overdose prevention, recognition, and response training. (Also, see elsewhere in this issue).
- Butler Hospital initiated a naloxone program in 2013 for patients treated for opioid dependence. At-risk patients watch an instructional video and receive individual education from physicians, nursing staff, and pharmacists on the safe administration of naloxone. From October 2013 through June 2014, naloxone was distributed in the Partial Hospital Alcohol and Drug Treatment Program to 119 (69% of eligible patients) patients with opioid dependence. The program was expanded to inpatients in April of 2014. Naloxone was

distributed to 45 inpatients (12% of eligible inpatients).

- The RI Disaster Medical Assistance Team and Medical Reserve Corps developed the Naloxone and Overdose Prevention Education Program of Rhode Island (NOPE-RI) in 2013 to address the opioid overdose epidemic. This program recruits, trains, and deploys volunteer medical professionals to educate community members about addiction, overdose prevention, and the use of naloxone. NOPE-RI trainings target the medical community and public safety professionals. NOPE-RI also serves as a clearinghouse for naloxone and overdose prevention educational resources in the state, and supports efforts to expand access to naloxone. www.nopeRI.org.
- Early 2014 the Department of Behavioral Health, Developmental Disabilities and Hospitals (BHDDH) issued emergency regulations requiring all staff in state- licensed behavioral health organizations to be trained in overdose prevention, recognition and intervention. At least one staff person from each organization is certified as a Trainer, who is responsible for training other staff, who train at-risk patients. Residential and detox facilities are responsible for distributing naloxone to at-risk patients before discharge. BHDDH purchased 500 naloxone kits for provision to uninsured, indigent patients.[15]
- Law enforcement and other non-medical public safety professionals are often first on the scene when 911 is called. NOPE-RI, with Coalition support, created and delivered a training curriculum and toolkit to facilitate engagement with law enforcement agencies. Over 500 law enforcement officers in RI have been trained and many more trainings are planned. The State Police and some municipality police have begun carrying naloxone. www.nopeRI.org/law.html.[16]
- Emergency Department distribution of naloxone began in August 2014 (see elsewhere in this issue).

3) Implement and expand disposal units throughout the state

In the last 15 years, availability of prescription opioids for pain relief has exponentially expanded. One outcome has been the proliferation of prescription opioids in medicine cabinets, which has contributed to increased non-prescription use. In an effort to curb this access, law enforcement agencies, prevention councils, and municipalities have collaborated to provide safe disposal sites for unused opioids. Many police stations in the state have 24/7 disposal sites. For a complete list, see http://nopeRI.org/drugdisposal.html. Another strategy for safe disposal is "Prescription Drug Take Back Days." On April 26, 2014, 45 sites in Rhode Island collected prescription drugs in 36 cities and towns.

4–5) Increase general public awareness of drug overdose as a preventable public health problem and support and affirm people who are risk of overdose

The purpose of public awareness campaigns is to: inform the community regarding the extent and impact of opioid overdose and addiction; educate the public regarding its role in preventing addiction and overdose; and informing affected individuals, family members and loved ones of resources available to them. Reducing stigma associated with the disease of addiction is interwoven in all these efforts. Anchor Recovery Community Centers (http://www.anchorrecovery.org/) and Rhode Island Addiction Recovery Efforts (http://ricares.org/) are leaders in this effort and have been key in ensuring that addiction treatment and recovery support are integral messaging in all public awareness efforts. Additionally, local media have been present and conscientious in informing the public regarding opioid addiction and overdose.

- Rhode Island Hospital researchers, in collaboration with BHDDH and HEALTH, created and distributed "If you let her sleep it off she might not ever wake up" poster. Walgreens utilized this poster in its efforts to promote naloxone distribution through the Collaborative Practice Agreement.[17]
- Community forums have occurred across the state in 2014 to educate the public about the extent of the opioid overdose and addiction, steps taken by authorities to address the problem and steps that the public can take to protect themselves and their loved ones. These forums have also been an opportunity for the public to give feedback and guidance.[18]
- In collaboration with HEALTH, CVS pharmacy donated three prominent, highway billboards in early 2014. The billboards featured the tagline: "Addiction is a Disease, Treatment is Available, Recovery is Possible."
- HEALTH is developing a communications campaign targeting healthcare providers, first responders and drug users, and their families and friends. HEALTH will host grand rounds (CMEs) for prescribers in fall 2014 on the disease of addiction and safe prescribing practices. Focus groups were held with drug users and their families/friends to develop messaging and placement of a public education campaign on drug overdose awareness and prevention.[19]
- BHDDH, HEALTH and other state leaders recently participated in SAMSHA's 2014 Prescription Abuse Policy Academy. BHDDH and HEALTH have partnered to devise and implement innovative responses to the prescription abuse epidemic, including building on existing public awareness campaigns and ways to improve utilization of the Prescription Drug Monitoring program.

6) Increase access to substance abuse treatment

Coalition members recognize that opioid overdose deaths are happening in the context of dramatic increases in prescription opioid addiction. Current efforts to increase access to substance use treatment include:

- BHDDH and The Providence Center are administering a pilot program providing hospital emergency rooms with peer recovery coaches to meet with drug overdose survivors. Recovery coaches train patients on overdose and naloxone

and engage patients in discussions about treatment and recovery services. Recovery coaches are on call all weekend. The program is underway at Kent Hospital, and will expand it to emergency departments statewide.

- BHDDH, HEALTH, and Bridgemark partnered to offer The Physician Consult Program, a program to provide physicians immediate assistance with patients who may be at high risk for misuse of opioid medication. Interested physicians may call 401-781-2700. Also see http://www.health.state.ri.us/healthrisks/addiction/for/providers/.
- United Way's 211 is well known throughout the state by people looking for assistance with social service needs. BHDDH, HEALTH and United Way partnered to have 211 as a resource for substance use treatment referrals.
- With the passage of the Affordable Care Act, access to affordable health coverage and Medicaid expansion to low-income adults, access to addiction treatment services has increased considerably. Addiction treatment services can serve as primary prevention in reducing future incidence of overdose events and fatalities.

CONCLUSION

This crisis has prompted collaboration among state agencies and integration of a broad range of community members. These efforts are ongoing and building. Nonetheless, opioid-overdose fatalities remain a public health crisis. While we are poised to make a considerable impact on the epidemic, adequate resources are a barrier to realizing that potential. A next important step is to work with our state leaders and law makers to recognize the pandemic of addiction as a funding priority.

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Emergency Department Naloxone Distribution:
A Rhode Island Department of Health, Recovery Community, and Emergency Department Partnership to Reduce Opioid Overdose Deaths

ELIZABETH SAMUELS, MD, MPH

ABSTRACT

In response to increasing rates of opioid overdose deaths in Rhode Island (RI), the RI Department of Health, RI emergency physicians, and Anchor Community Recovery Center designed an emergency department (ED) naloxone distribution and peer-recovery coach program for people at risk of opioid overdose. ED patients at risk for overdose are offered a take home naloxone kit, patient education video, and, when available, an Anchor peer recovery coach to provide recovery support and referral to treatment. In August 2014, the program launched at Kent, Miriam, and Rhode Island Hospital Emergency Departments.

KEYWORDS: opioid overdose prevention, naloxone, peer coaching, emergency medicine

INTRODUCTION

The Rhode Island (RI) Department of Health (HEALTH)'s naloxone emergency regulations released in March 2014 provided new opportunities for naloxone access through direct provider distribution and third party prescribing to family members or friends of an individual at risk for opioid overdose. Community opioid education and naloxone distribution programs have been shown to decrease opioid overdose deaths in Massachusetts[1] as well as Chicago.[2] Nationally, naloxone distribution programs have shown that lay people, including intravenous drug users, can reliably administer naloxone,[3-8] and research evidence has also suggested that these programs are cost effective.[9]

HEALTH's Overdose Prevention and Rescue Coalition (OPRC) identified the ED as an underutilized arena to prevent opioid overdose deaths as RI emergency department (ED) visits for non-fatal opioid overdoses were growing alongside increasing opioid overdose mortalities. Currently, only a few EDs distribute naloxone to patients at risk for opioid overdose. Rhode Island Hospital (RIH) emergency medicine physician members of OPRC collaborated with Lifespan Pharmacy and Anchor Recovery Community Center to finalize a protocol for direct distribution of a naloxone rescue kit (NRK) to patients at risk for opioid overdose (see **Table 1**) paired with overdose prevention education, addiction counseling and referral to treatment.

Each NRK contains two doses of intranasal naloxone (1mg/ml 2ml luer-lock needleless prefilled syringes), one nasal atomizer, and instructions in English and Spanish on what to do in the event of an opioid overdose and how to use naloxone. Individuals who receive an NRK are shown an educational video[10] and, when available, an Anchor Recovery Community Center recovery coach is consulted to provide patients with support, naloxone education, and referral to addiction treatment. The recovery coaches also follow up with patients 24-48 hours after their ED visit. Coaches are trained, certified, and hired through Anchor Recovery Community Center, a peer-to-peer recovery support organization in RI. They are paid through state funding from the RI Department of Behavioral Healthcare, Developmental Disabilities and Hospitals, another partner in the OPRC. In August, Rhode Island, Miriam, and Kent County Hospitals started ED naloxone distribution and consulting Anchor recovery

Table 1: Patients at Risk for Opioid Overdose

1. Have suspected substance abuse or non-medical opioid use.
2. Are currently being prescribed methadone or buprenorphine through a prescriber or program.
3. Are receiving an opioid prescription for pain and:
   a) Given higher-dose (>50 mg morphine equivalent/day).
   b) Rotated from one opioid to another because of possible incomplete cross tolerance.
   c) Have poorly controlled COPD, emphysema, asthma, sleep apnea, or respiratory infection where the provider is concerned concurrent opiate use will compromise their respiratory status.
   d) Have pre-existing renal dysfunction, hepatic disease, cardiac illness.
   e) Have known or suspected concurrent excessive alcohol use or dependency.
   f) Concurrent usage of a benzodiazepine or other sedative prescription.
   g) Suspected poorly controlled depression.
4. Patients who fall into categories listed above and may have difficulty accessing emergency medical services (distance, remoteness).
5. Recent abstinence from use and/or incarceration/release from prison.

coaches to provide needed services to patients presenting with an opioid overdose.

Key steps to program establishment were finding funding for NRK purchase, engagement of community and institutional stakeholders, provider and staff engagement and education, and protocol review and approval by institutional risk management, legal, and pharmacy departments. Moving forward, funding will be the primary obstacle. While prescribed naloxone is billable to insurance, an NRK given in the ED is not reimbursable since the first dose of the medication is not administered in the ED. At RIH, whose ED treats approximately 11 overdoses a week (40-50 a month), the Lifespan leadership chose to cover the cost of the NRKs as a community service. The OPRC is pursuing other avenues of funding, from state or private grants, to allow other hospitals to provide direct naloxone distribution without incurring additional cost.

Provider and staff reception of the program has been generally positive, which is a departure from prior surveys of provider attitudes.[11] This may be due to general attitude change over time, or may reflect a more recent shift related to the recent dramatic rise in opioid overdose mortality in combination with high profile deaths.[12]

CONCLUSION

In addition to decreasing deaths to overdose, our program's ultimate is goal to help make recovery an option for anyone in RI who may need or want it. By bringing together representatives from different state departments, community organizations, and local hospitals, the OPRC designed and implemented a forward-thinking initiative to decrease opioid overdose deaths, create jobs for individuals in the recovery community, and prioritize the health and future wellbeing of people struggling with addiction or at risk for opioid overdose.

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Response of Colleges to Risky Drinking College Students

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ABSTRACT

Heavy drinking and related consequences continue to affect college campuses due to fatalities, assaults, serious injuries, and arrests that occur among students. Several approaches aimed at reducing the harm incurred by students and the college communities as a result of heavy drinking are being used with varying success. A review of interventions including educational, individual, and environmental approaches are described, as well as new, promising, strategies. Despite some success, elevated and risky drinking patterns continue. As such, concerns over implementation of evidence-based treatments and areas in need of further study are discussed.

KEYWORDS: College, alcohol, heavy drinking, interventions

INTRODUCTION

Alcohol is the most pervasively misused substance on college campuses.[1] National studies of college students[2] continue to document significant prevalence rates of alcohol consumption (68% consumed alcohol in the past 30 days) and alcohol misuse (40% report having "been drunk" in the past month). Even more concerning are the rates of extremely heavy drinking within the past two weeks: 37% of college students had five or more drinks in a row, 13% had 10 or more, and 5% had 15 or more.[2] The association between heavy drinking in college and alcohol use disorders later in life is well established,[3,4] yet the primary goal for colleges is the need to reduce immediate alcohol-related harm. Alcohol use is linked to sexual aggression and assault, impaired academic performance, vandalism, physical assaults and injuries, motor vehicle crashes and fatalities, and transmission of sexual diseases.[5,6] A large number of students are brought to the attention of their institution following arrests, medical transports, or campus citations after violating alcohol policies.[7,8] As the majority of students consume alcohol,[9] research efforts have continued to evaluate prevention and intervention approaches to reduce consumption and related harms in the college environment. While effective strategies have been identified,[10-12] challenges exist in implementing and maintaining such approaches. This article will present and discuss the research evidence behind various levels of campus responses, including general prevention efforts, personalized interventions, and environmental strategies.

General Prevention

At the most primary level, colleges are charged with educating students about campus rules and regulations and the effects of alcohol. The most common approach to educating students is through the implementation of basic awareness and education programs. This type of prevention work on most college campuses is typically delivered at orientation sessions for new students, alcohol awareness weeks and other special events, and, in some instances, instructors infusing alcohol-related facts and issues into regular academic courses.[13] Although this approach has the potential to reach a large number of students at a relatively low per-student cost, this category of prevention has been found ineffective when conducted in isolation[1]; however, further research is needed to investigate the way in which these programs can be used in conjunction with and contribute to the impact of a more comprehensive prevention program.

Personalized Interventions

As noted, the majority of college students have consumed alcohol within the past semester,[9] therefore colleges typically focus on ways in which to affect current drinkers, using harm reduction models of intervention. The National Institute for Alcohol Abuse and Alcoholism (NIAAA) has identified Tier 1 interventions as those with favorable outcomes among college students in independent evaluations (NIAAA, 2002). Two of the example programs, Brief Alcohol Screening and Intervention for College Students BASICS[14]; and Alcohol Skills Training Program ASTP,[15] are commonly used on college campuses. Both the group ASTP and one-on-one BASICS programs incorporate educating students on basic alcohol information relevant to their experience; building motivation to change drinking; challenging expectancies about alcohol's effects; correcting misperceptions through normative feedback; providing cognitive-behavioral skills training, including how to monitor daily alcohol consumption and stress management; and developing a tailored plan for reducing alcohol use or harm. Most often, these approaches are used to intervene with college students sanctioned for violating campus alcohol policies. These motivational interventions have shown the ability to reduce alcohol use among heavy drinking college students[16,17,18];

however, the implementation of such programs can be costly and therefore limits the number of college students who may receive such intervention approaches. Additionally, the support for delivering the interventions with fidelity has become a concern as universities use published evidence-based interventions.[19] The training and supervision needed to implement intervention approaches as they were designed for research is challenging, which has the potential to reduce effective execution of evidence-based treatments.

Given the importance of reaching a large number of students while minimizing financial and clinical burdens within overextended departments, universities have implemented computer and web-based intervention approaches aimed at reducing drinking among heavy drinking students.[12] Students receive personalized normative feedback (PNF) about their own drinking behaviors, which then compares their drinking to normative drinking rates of students on campus. Suggestions also include ways to reduce consumption and minimize harm if the student chooses to make changes. Results have identified students receiving the PNF report have significantly fewer drinking days and significantly less heavy drinking compared to those who do not.[10,12] These findings suggest web-based alcohol interventions with personalized feedback is an effective way to reach large populations of college and university students with minimal cost and personnel effort needed for implementation. Challenges to this approach are decisions about implementation methods and the potential for mandatory participation by various student sub-groups (e.g., first-year students, athletes, Greek Life). More recently, PNF interventions have been extended for Event Specific Prevention (ESP) high-risk and predictable situations, including 21st Birthday celebrations and Spring Break.[20,21] Preliminary evidence suggests support for this approach but more research is needed to clarify the potential reach and limitations of this strategy.

Environmental Strategies

Finally, various strategies seek to reduce consumption and related harms through altering the environment or changing expectations of acceptable behaviors. These strategies include increasing enforcement of the minimum, legal drinking-age laws, implementation and enforcement of other laws to reduce alcohol-impaired driving, restrictions on alcohol outlet density, increased prices and excise taxes on alcoholic beverages, and responsible beverage service policies have also been evaluated as ways in which to curb high risk college student drinking.[22,23,24] These approaches have the potential to be highly effective; however, the challenges of instituting and then evaluating these methods has reduced support for wide-scale implementation. In Rhode Island (RI), the potential implementation of these approaches has the ability to reduce drinking rates at a limited number of colleges, given the relatively small size of the state. As such, making a statewide policy change may be more feasible than in other states. However, the proximity to neighboring states could undermine those efforts if students have options to circumvent RI laws by obtaining or consuming alcohol in bordering states. Regardless, RI faces the same challenges as other states and communities regarding policy change and implementation of new or adjusted local laws. As a result, at the national level, there have been fewer attempts to reduce drinking and associated harm using these approaches.

In RI, in one study (Common Ground) conducted at the University of Rhode Island, officials reached out to specific constituencies in Narragansett and South Kingstown to implement environmental prevention strategies. This included a public media campaign identifying the addition of greater police enforcement and a cooperating tavern program. There were two phases to the implementation. In Phase 1 of the media campaign, investigators targeted potential student resistance to environmentally focused prevention. This was done through reporting majority student support for the alcohol policy and enforcement initiatives. During Phase 2, students were informed about state laws, university policies, and Common Ground's environmental initiatives. Annual student telephone surveys showed increases in awareness of formal efforts to address student alcohol use, perceived likelihood of apprehension for underage drinking, and perceived consequences for alcohol-impaired driving. When examining the potential impact on reduced drinking and alcohol related incidents, police reports of student incidents in the target community decreased by 27% over the course of the project; however, there were no significant reductions in reported alcohol use or alcohol-impaired driving.[25]

SUMMARY

Despite decades of research and targeted intervention approaches, high-risk drinking and related consequences continue to be problems on the majority of college campuses. There is good evidence of promising approaches toward reducing alcohol-related harm and the efficacy of interventions, yet the implementation of these approaches on college campuses remains a challenge due to limited resources (e.g., staffing) and execution within individual colleges. Although individual level interventions have been strongly supported in the literature, environmental approaches and the integration of multiple approaches are more challenging. Traditional education programs have consistently had limited success as stand-alone interventions, yet they are often used by colleges to affect large numbers of students. As new intervention approaches are being developed (e.g., texting interventions (short message service (SMS) and web applications) to adapt to the ever changing college student populations, college students remain at high-risk for alcohol-related harm and college campuses must continue the charge to understand drinking behaviors and derive new, effective interventions to reduce adverse consequences and the impact of alcohol on campus.

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Prospective Analysis of a Novel Orthopedic Residency Advocacy Education Program

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ABSTRACT

INTRODUCTION: Future physician leaders must be able to critically assess health care policy and patient advocacy issues. Currently, no nationally accepted, standardized curriculum to provide advocacy education during orthopedic residency training exists. We therefore developed an "Advocacy" curriculum for our orthopedic residents designed to direct particular attention to patient advocacy, specialty advocacy, and healthcare policy.

METHODS: Residents were given pre- and post-curriculum questionnaires to gauge their perception of the importance, strengths, and weaknesses of this curriculum. A paired t-test was used to compare pre- and post-curriculum responses.

RESULTS: Twenty-one of 24 orthopedic residents completed the pre-curriculum and post-curriculum questionnaire regarding the importance of advocacy education (87.5% response rate). Overall, 85.7% (18/21) of responders ranked the curriculum on orthopedic advocacy as good or excellent. Prior to the advocacy curriculum, 33.3% (7/21) of residents felt that learning about orthopedic advocacy was important to their education, while following the curriculum 100% (21/21) felt so ($p<0.05$). The percentage of residents who considered health policy to be important increased from 71.4% (15/21) to 95.2% (20/21) following the curriculum($p<0.05$). Following the advocacy curriculum, 90.5% (19/21) of responders would be interested in getting involved in orthopedic advocacy.

DISCUSSION: This curriculum significantly increased residents' belief in the importance of advocacy issues. Following the curriculum, 100% of responding residents considered orthopedic advocacy education as important. An advocacy curriculum may serve as an integral preparatory educational core component to residency training.

KEYWORDS: Patient advocacy, advocacy curriculum, resident education, orthopedic surgery, health policy

INTRODUCTION

Residents are the future leaders of medicine, and the importance of having young physician involvement in healthcare policy continues to grow as medicine becomes a more complex environment. It is imperative that orthopedic residents understand healthcare policy as it pertains to graduate medical education, innovation, regulation, specialization, and of course, the rapidly changing relationships between hospitals, providers, and public and private payer networks.

Currently, there is no nationally recognized, standard curriculum to specifically address advocacy education during residency training with regard to these important topics. For this reason, Croft *et al*,[1] along with many other health policy experts, have argued the importance of implementing some kind of advocacy curriculum in medical education. The Accreditation Council for Graduate Medical Education[2] (ACGME) lists, "advocate for quality patient care and optimal patient care systems" as a common requirement amongst all training programs. Currently, however, pediatrics is the only field that has adopted advocacy training as part of formal curriculum. The ACGME Pediatrics Review Committee[2] specifically requires preceptors to educate residents about "the role of the pediatrician in child advocacy, including the legislative process." The Pediatrics Department at Harvard Medical School demonstrated that advocacy training improves residents' knowledge about access to care and instills competence in working with lawmakers and community leaders.[3]

Historically, the public has held medical providers to high standards while also holding physicians in high esteem. This tenant of the medical profession, coupled with the fact that musculoskeletal disease and disability accounts for approximately 8% of the U.S. GDP, creates a platform for advocacy by orthopedic surgeons.[4-7] The Alpert Medical School of Brown University Department of Orthopaedics therefore developed an "Advocacy" curriculum for orthopedic residents, paying specific attention to patient advocacy and specialty advocacy, as well as overall health care policy. The goal of this novel curriculum was to provide residents with the tools needed to advocate for their patients' health, public health, and the field of orthopedics in general. Furthermore, the program provided outcomes research on the impact that advocacy training has on orthopedic residents.

METHODS

Institutional review board exemption was obtained prior to initiating this study. A novel advocacy education curriculum was created for orthopedics residents and implemented

with GME and departmental funding. Residents received a series of lectures on specific advocacy-related topics and participated in grand rounds and journal clubs focusing on advocacy-based concepts. Some of the topics covered were geriatric advocacy and Medicare, orthopedics industry relationships, orthopedic state-specific advocacy, and under- and uninsured patients.

Residents were given pre- and post-curriculum questionnaires to gauge their perception of the relevance and importance, strengths, and weaknesses of this curriculum. Residents were also queried to determine if they had previously received education about these advocacy issues and if they did in what format did that education occur. Resident responses were blinded to the study members to maintain confidentiality. A paired t-test was used to compare pre- and post-curriculum responses. A p-value of <0.05 was used to determine statistical significance.

Table 1: Pre-curriculum questionnaire responses

Questions regarding pre-curriculum advocacy education	Number of responders who have received education about the given topic (N=21)	Format(s) of education received by responders
Have you ever received any education about orthopedic specialty advocacy? If so, what type?	4	Lecture=3 Informal with Attending=1 Email=1 Meeting=1
Have you ever received any education about health advocacy? If so, what type?	18	Lecture=18 Informal with Attending=6 Email=3 Meeting=3 Online= 8 Other=1
Have you received any education about geriatric patient issues/advocacy? If so, what type?	21	Lecture=19 Informal with Attending=10 Email=3 Meeting=6 Online=2 Other=1
Have you ever received any education on health care reimbursement, payment methods, RVU, etc? If so, what type?	21	Lecture=17 Informal with Attending=9 Email=1 Meeting=2 Online=3 Other=1
Have you ever received any education about Medicare? If so, what type?	19	Lecture=15 Informal with Attending=9 Email=1 Meeting=1 Online= 2 Other=2
Have you ever had any education specifically focusing on uninsured and underinsured patients? If so, what type?	10	Lecture=8 Informal with Attending=5 Email=2 Meeting=2 Online=2 Other=2
Have you ever received any education about Orthopedic Advocacy at State Level, i.e., work of RI Orthopedic Society? If so, what type?	0	N/A

RESULTS

Twenty-one of 24 (87.5 % response rate) orthopedic residents completed the pre- and post-curriculum questionnaire regarding the importance of advocacy education. Prior to advocacy education curriculum, 76% (16/21) of responders indicated that they had never received any education about orthopedic specialty advocacy (**Table 1**). Eighty-six percent (18/21) of responders had received education about health advocacy, most commonly as lectures. Forty-eight percent (10/21) had received education specifically focusing on uninsured or underinsured patients, and again the most common format was lecture. None of the responders (0/21) had ever received education about orthopedic advocacy at the state level. All of the responders (20/20) thought that they should receive education about advocacy.

Following the novel advocacy curriculum, 85.7% (18/21) of responders ranked the curriculum on orthopedic advocacy as good or excellent (**Table 2**). Prior to the advocacy curriculum, 33.3% (7/21) of residents felt that learning about orthopedic advocacy was important or very important to their education, while following the curriculum 100% (21/21) felt this was important or very important ($p<0.05$). The percentage of residents who felt that health policy was important increased from 71.4% (15/21) to 95.2% (20/21) following the curriculum ($p<0.05$). The relevance of underinsured and uninsured advocacy increased from 66.6% (14/21) to 100% (21/21) ($p<0.05$) following this curriculum. The importance of education about state level advocacy increased from 40% (8/20) to 90.5% (19/21) ($p<0.05$) (**Figure 1**). Additionally, following the advocacy curriculum, 90.5% (19/21) of responders indicated an interest in getting involved in orthopedic advocacy as a resident or fellow.

DISCUSSION

Advocacy training in the field of orthopedics has neither been widely implemented nor extensively studied. To our knowledge, this study represents the first of its kind to examine

educational results of a novel orthopedic advocacy program. This curriculum significantly increased residents' belief in the importance of advocacy issues. Following the curriculum, 100% of residents considered orthopedic advocacy an important component of residency training. There was a statistically significant increase in the percentage of residents who placed high value on health care policy, underinsured and uninsured advocacy, and state level advocacy by the end of the curriculum.

Orthopedic advocacy provides residents with the knowledge and skill set to become advocates for their patients as well as leaders in the community and in the field of orthopedics in general. Additionally, advocacy training increases residents' self-esteem[8] and instills a sense of confidence and optimism about healthcare.[9]

There are several obstacles to be aware of before initiating orthopedic advocacy training. Currently, there is a lack of federal funding for providing advocacy training within orthopedic residency programs. Financial or grant support, however, remains essential for implementation of appropriate and effective advocacy training in any residency curriculum.[10]. There has been much written about the effect that duty hour restrictions may have on the training of surgical residents.[11] However, most of the focus has been on the concern that surgical residents, including orthopedic residents, will have less time and spend fewer hours honing their surgical skills. The importance of advocacy training for residents is now being recognized across all specialties[10] and the duty hour restrictions may serve as a prominent obstacle to formal incorporation of advocacy training into the orthopedic curriculum. Future research is required to determine the most relevant topics within advocacy and how to best incorporate advocacy training into existing curriculums.

This study had several limitations. This single institution experience may not be representative of other institutions programs with similar advocacy programs. Other programs should implement and study orthopedic advocacy education for their residents in an attempt to determine an optimal model. Additionally, fewer than 90% of the residents in this program completed our education program due to the fact that some residents did not attend sessions due to vacations, duty hour restrictions, and operating room cases. The residents who did not complete the pre- and post-curriculum survey, therefore, were not assessed for their

Table 2: Comparison data for pre-curriculum versus post-curriculum questionnaire responses

Questions regarding the importance of advocacy and assessment of advocacy curriculum	Pre-Curriculum Responses (N=21)	Post-Curriculum Responses (N=21)
How important to you and your education is orthopedic specialty advocacy?*	Neutral=11 Not Important=1 Somewhat Important=2 Important=6 Very Important=1	Neutral=0 Not Important=0 Somewhat Important=0 Important=13 Very Important=8
How Important to you and your education is learning about health policy?*	Neutral=2 Not Important=0 Somewhat Important=4 Important=9 Very Important=6	Neutral= 1 Not Important=0 Somewhat Important=0 Important=12 Very Important=8
How important to you and your education is learning about geriatric patient issues and advocacy?	Neutral=2 Not Important=0 Somewhat Important=1 Important=11 Very Important=7	Neutral=0 Not Important=0 Somewhat Important=1 Important=13 Very Important=7
How important to you and your education is learning about health care reimbursement, payment models, RVU, etc?	Neutral=0 Not Important=0 Somewhat Important=1 Important=8 Very Important=12	Neutral=0 Not Important=0 Somewhat Important=0 Important=8 Very Important=13
How important to you and your education is learning about Medicare?#	Neutral=0 Not Important=0 Somewhat Important=1 Important=10 Very Important=9	Neutral=1 Not Important=0 Somewhat Important=0 Important=11 Very Important=9
How important to you and your education is learning specifically focusing on uninsured and underinsured patients?*	Neutral=5 Not Important=1 Somewhat Important=1 Important=10 Very Important=4	Neutral=0 Not Important=0 Somewhat Important=0 Important=12 Very Important=9
How important to you and your education is learning about advocacy at State Level?#*	Neutral=6 Not Important=3 Somewhat Important=3 Important=7 Very Important=1	Neutral=2 Not Important=0 Somewhat Important=1 Important=13 Very Important=5
Would you be interested in getting involved in orthopedic advocacy as a resident and/or fellow if there was an opportunity?	Yes=18 No=3 Possibly=0	Yes=20 No=0 Possibly=1
Do you think residents should received education about advocacy?#	Yes=20 No=0 Possibly=0	Yes=21 No=0 Possibly=0
How would you rate the curriculum on orthopedic advocacy?	N/A	Neutral= 1 Fair=2 Good=11 Excellent=7

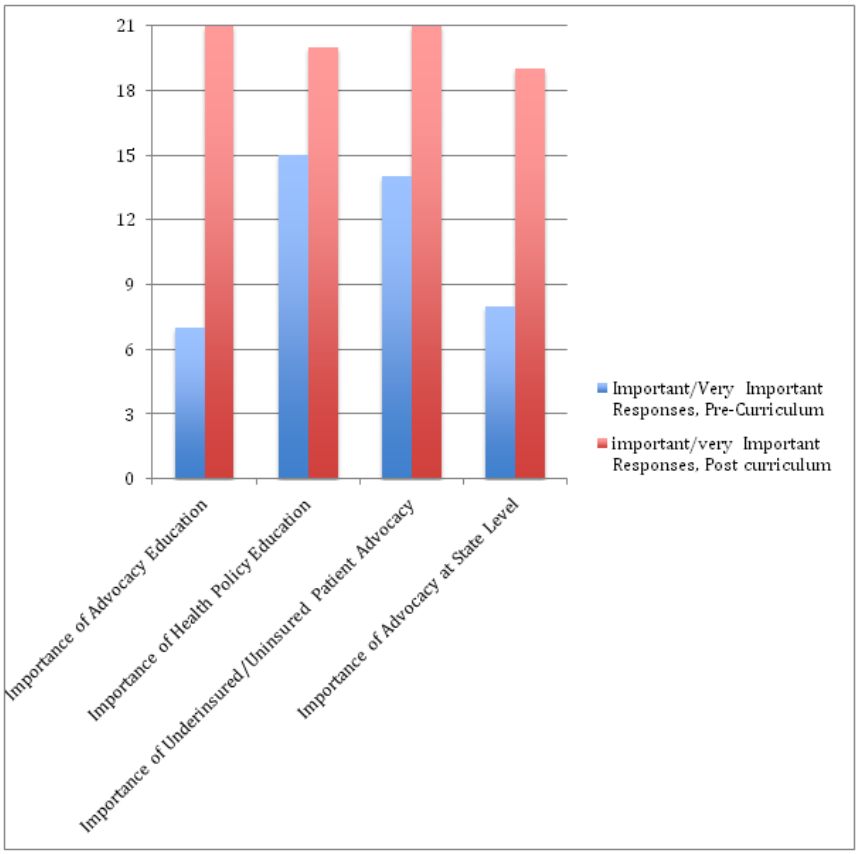
20 pre-curriculum responses

* $p<0.05$ for pre-curriculum versus post-curriculum responses

opinions regarding orthopedic advocacy. However, the strengths of this study include its prospective nature and the anonymity of the survey.

Future orthopedic leaders will clearly need the tools to be able to influence public policy. Physicians are likely the only group who truly understand the implications of policy decisions on their patients, their practice, and their specialty. We expect advocacy training to become an integral part of orthopedic residency training in all programs.

Figure 1: Comparison of pre-curriculum to post-curriculum questionnaire responses with regard to the importance of various advocacy topics.



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Primary Spine Care Services: Responding to Runaway Costs and Disappointing Outcomes in Spine Care

DONALD R. MURPHY, DC

ABSTRACT

Efforts are underway to reform our health care system to improve efficiency, outcomes, patient satisfaction and costs. In no field is this more critical than that of spine-related disorders, where escalating costs combined with decreasing clinical benefits for patients has reached a breaking point. Traditionally, practitioners have grouped together based on their specialty (orthopedics, otolaryngology, etc.). There has been a recent movement to restructure health care delivery into a patient-centered model that teams professionals based on their ability to serve specific patient needs. This article introduces a new service line – primary spine care services – led by a new type of professional – the primary spine practitioner (PSP). This new practitioner type requires a refined and focused skill set and ideally functions within an integrated spine care pathway. The challenges and opportunities presented by primary spine care services are discussed. This service line has already been implemented in a variety of settings.

KEYWORDS: Low back pain, neck pain, health care reform, primary spine practitioner, health policy

INTRODUCTION

It is widely held that our health care system is far too expensive in relation to the health status of our citizens.[1] Nowhere is the disparity between cost and patient benefit more stark than in the area of spine-related disorders (SRDs). Between 1997 and 2005, expenditures related to SRDs rose 65%, adjusted for inflation.[2] Spending is particularly problematic for advanced imaging and invasive procedures. For example, between 1994 and 2004, costs to Medicare rose 629% for epidural steroid injections, 423% for opioid medications, 307% for spine MRIs and 220% for lumbar fusion surgeries.[3] Perhaps the largest drivers of *per capita* cost increases are inpatient hospitalizations (increased 37%), emergency department visits (increased 84%) and prescription medications (increased 139%).[2]

During this period of rapid growth in costs for SRDs, there has been a corresponding *decrease* in health outcomes for patients. For example, the percentage of individuals with SRDs who self-reported limitations in physical functioning rose from 20.7% in 1997 to 24.7% in 2005.[4] The number of disabled workers also rose during this period.[3] As more patients are seeking care for SRDs than ever before (from 12.2 million in 1997 to 18.2 million in 2006), innovative solutions to the problem of rising costs and diminishing benefits in spine care are imperative.

Spine care in the US has been likened to a "foreign supermarket."[5] The patient with a spine problem is faced with a nearly endless array of treatments, products and services offered by a variety of professionals, with no ability to discern which service and which professional is right for them. Often the choice is based more on marketing, salesmanship or simply the cultural authority of the professional offering the service rather than on sound science and patient-centeredness.

In response to the current health care "crisis," there has been increased emphasis on bringing *value* to health care. Value has been defined by Porter and Teisberg[6] as *outcome per dollar spent*. This is expanded upon by the "Triple Aim" of health care reform – improved patient health, improved patient experience (i.e., patient satisfaction) and decreased per capita cost.

One innovation that has been introduced to the health care system is one in which groups of primary care physicians (PCPs) are brought together into "patient homes" or "Accountable Care Organizations," responsible for the comprehensive care and management of a designated patient population. However, there is a projected gap between the availability of PCPs and societal needs in the near future, especially as the Affordable Care Act becomes fully implemented.[7] As a result of this, "physician extenders," such as nurse practitioners and physician's assistants, as well as other health care professionals are being utilized as part of a team to provide comprehensive care at the primary care level.[8] Making full use of this team approach will in some cases require a "refitting" of the existing health care work force to function in innovative ways.

Bringing the management of patients with SRDs into the "patient home" model presents significant challenges. Currently, low back pain (LBP) is the second most common reason for symptomatic physician visits.[9] Increasing the number of SRD patients seeing PCPs will serve to further exacerbate the problem of under-availability of these physicians. What is more, recent studies have shown that PCPs are not well trained and do not have great interest in the differential diagnosis and management of SRDs.[10] Thus, in the

area of SRDs, a different approach to primary care is needed.

One way in which this "refitting of the existing workforce" can be applied to the care of patients with SRDs is the establishment of *primary spine care services*. This involves, in part, the institution of a new type of professional – the *primary spine practitioner* (PSP).[11-13] The PSP is a primary-level health professional specially trained to provide initial and ongoing diagnosis and management of patients with SRDs. The PSP can be seen as a form of "physician extender" who can take on a significant portion of the caseload of the PCP. Important in the efficient utilization of health care resources is for the PSP to be able to manage the majority of patients with SRDs without the need for referral. However, primary spine care services involve more than just the PSP. It involves the coordinated activity of all those involved in the care of the SRD patient.

To be maximally effective, the PSP does not function in isolation but rather helps move spine care from the present "silo" orientation to a team orientation by being a key part of a *spine care pathway*. Only two such pathways currently exist in the spine field,[14] one of which has been developed by a team that includes this author.[15] A spine care pathway involves a community of practitioners who are involved in the management of patients with SRDs, including primary care personnel (such as the family medicine and general internist physicians as well as nurse practitioners and physician's assistants), specialists, both surgical and non-surgical, emergency department personnel, physical therapists and ancillary professionals such as psychologists, occupational therapists and others.

The concept of primary spine care services responds to recent calls for the health care system to transition away from individual practitioners acting as "cowboys" to the creation of teams of professionals functioning like a "pit crew."[16] In the pit crew model, it is the coordinated action of all the players involved in the care of patients with SRDs that will ensure maximal efficiency. The PSP functions as both "Crew Chief" and "Pit Crew Coach," serving as the "primary care practitioner" for spine patients. This role requires a well-defined and unique skill set.[13]

REQUIRED SKILLS OF THE PRIMARY SPINE PRACTITIONER

A wide-ranging understanding of the biopsychosocial nature of SRDs: Most SRDs are multifactorial, involving somatic, neurophysiological and psychological factors, all occurring in the social context in which the patient lives. These factors are patient-specific; the degree to which each factor contributes to the overall SRD experience is unique to each patient.

Skills in differential diagnosis: Diagnosis in the area of SRDs is challenging because; 1) in most cases the problem is multifactorial; 2) the contributing factors can involve biological, psychological and social dimensions and; 3) for most of the contributing factors there are no definitive, objective diagnostic tests.[17] Thus, SRDs involve multidimensional clinical diagnoses and the PSP has to be comfortable with relative uncertainty. In addition, while signs and/or symptoms suggestive of serious pathology only occur in approximately 1-3% of patients with SRDs,[18,19] the PSP must be adept at recognizing these cases and taking the appropriate action.

Skills in evidence-based management approaches: This includes physical treatments such as manipulation and manual therapy, neural mobilization, the McKenzie method and various exercise strategies, as well as the application of the psychological principles of Cognitive-Behavioral Therapy and Acceptance and Commitment Therapy.

An appreciation of minimalism: It has become increasing recognized in the spine field that the less treatment that is "done to" the patient and the more the patient is trained to provide self-care strategies, the better the outcome.[20] The PSP requires skills in decision-making regarding when, what and how much direct treatment is needed in each patient and, equally important, when no treatment is necessary.

An understanding of the methods, techniques and indications of intensive rehabilitation, interventional treatments and surgical procedures: The minority of SRD patients require these approaches but the PSP, as the primary care practitioner for spine patients, must know how and when to make referral decisions in those cases in which intensive or invasive procedures are necessary.

Skills in managing disability: Much of the cost of SRDs, both in terms of human suffering and dollars and cents, results from the related disability.[21] In many cases, prolonged disability is unnecessary and the PSP must sow the seeds of return to normal activities from the very beginning. This involves effective communication as well as effective treatment.

The ability to coordinate the efforts of a variety of practitioners: In some cases, a "team effort" is required to help patients overcome SRDs. The PSP will often need to serve as the "captain of the team" in order to ensure maximum consistency and effectiveness.

The ability to manage SRD patients over the "full cycle"[6]: SRDs often take on a chronic-recurrent course.[22] This can often be frustrating and debilitating for patients. The PSP requires skills in helping patients navigate through this course, teaching them how to understand and self-manage the majority of recurrences and to determine when professional services are required.

CHALLENGES TO THE IMPLEMENTATION OF PRIMARY SPINE CARE SERVICES

Educational changes: No health care profession's education currently provides all the knowledge and skills required to adequately train practitioners to function as PSPs. However, graduates of doctor of chiropractic programs and doctor of physical therapy programs (all physical therapy programs in the US are now doctorate level) currently are the best candidates to be "refitted" to become PSPs by obtaining additional

training. A training program, led by this author, has been developed for this purpose (www.primaryspinepractitioner.com [accessed 7 May 2014]).

Incentivizing value: For a value-based care pathway to be effective, the health care system has to provide appropriate incentives. This is already underway with bundled payment, pay-for-performance and shared savings models.

Overcoming prejudice and bias: It may well be that the bulk of primary spine care services will be performed by non-allopathic providers who traditionally have not enjoyed the cultural authority of medical physicians. Specifically, doctors of chiropractic medicine and physical therapists, nurse practitioners and physician's assistants will likely play a strong role in the provision of these services. It will be important that the health care system welcome this innovation and place patient benefit above all other concerns.

IS IT POSSIBLE TO IMPLEMENT AN EFFECTIVE SPINE CARE PATHWAY THAT INCLUDES PRIMARY SPINE CARE SERVICES?

Primary spine care services as described here have been implemented in several varying environments, including hospital spine centers,[15] accountable care organizations, community health clinics as well as a community-wide program associated with a large insurer in upstate New York. By coordinating the efforts of a variety of individuals, focusing on communication and pathway development and, most important, making the patient the focus of the entire process, it is possible to satisfy the "triple aim" of improving clinical outcomes, maximizing patient satisfaction and reducing costs. Those organizations who can successfully respond to the "triple aim" are most likely to thrive in our evolving health care system.

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An Evaluation of Career Paths Among 30 Years of General Internal Medicine/Primary Care Internal Medicine Residency Graduates

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ABSTRACT

BACKGROUND: Interest in primary care careers has been dwindling among medical trainees over the past decade, with poor quality of life among the perceived disadvantages. We sought to evaluate factors influencing career satisfaction among graduates of Brown's General Internal Medicine (GIM)/Primary Care residency program and assess its contribution to the primary care work force.

METHODS: Using an anonymous online survey, we queried GIM alumni from 1981–2012 to obtain information about demographics, job characteristics and career satisfaction measures.

RESULTS: Fifty-nine percent of Brown's GIM/Primary Care residency graduates practice primary care, a rate higher than most primary care track programs. Seventy-six percent of respondents were "satisfied" or "very satisfied" with their current jobs. Career satisfaction correlated with self-rating of physical and emotional health and did not correlate with age, gender, income, debt burden, or practice setting.

CONCLUSION: Among the diverse factors associated with attaining career satisfaction, attention to personal health plays a central role.

KEYWORDS: primary care, career satisfaction, physician health, physician self-care

INTRODUCTION

The shortage of primary care physicians in the United States has been well publicized, particularly in light of the recent implementation of the Affordable Care Act, which is expected to extend insurance coverage to roughly 34 million uninsured Americans. Population growth and the aging of the populace will also add to the need for providers. Some estimate that an additional 52,000 primary care physicians will be needed by 2025 to meet the growing demand.[1] Unfortunately, interest in primary care careers has been declining over the past decade, not only among medical students, but internal medicine residents as well. By one estimate in 2007, only 2% of fourth-year medical students indicated plans to pursue general internal medicine.[2] Another recent study revealed that only 20-25% of all internal medicine residency graduates were opting for careers as primary care doctors; others have estimated this rate as low as 10-20%.[3,10]

Historically, the medical profession has been legendary for grueling work hours. However, there has been increasing interest in physician well-being, quality of life, and prevention of physician burnout. Recent phenomena, such as ACGME work-hour limits, patient census caps for house staff and the rise of the hospitalist movement are manifestations

Table 1. Alumni characteristics

Gender	Female: 94 (71.8%) Male: 37 (28.2%)	
Age	43.6 years (mean)	
Ethnicity	Caucasian: 100 (78.12%) Asian/Pacific Islander: 22 (17.2%) African/Black: 3 (2.34%) Hispanic/Latino: 3 (2.34%)	
Career Type	Pure outpatient primary care: 47 (37.0%) Mix of inpatient/outpatient: 28 (22.05%) Pure hospitalist: 18 (14.17%) Subspecialty practice: 16 (12.60%) Primarily research: 7 (5.51%) SNF, rehab or hospice: 6 (4.72%) Other: 5 (3.94%)	
Mean Annual Income	$188,595	
Debt (post-residency)	$83,767	
Hours worked per week	47.3 hrs	
Hours of sleep per night	6.98 hrs	
Number of jobs prior to current	1.4	
Relationship Status	Married/domestic partnership: 122 (90%) Divorced: 4 (3%) Separated: 2 (1%) Widowed: 0 (0%) Never married: 7 (5%)	
Number of children	Mean: 1.57 Range: 0-4	
How would you rate your overall physical health?	1 (Poor) 2 3 4 5 (Excellent)	0 (0%) 2 (1%) 9 (7%) 57 (42%) 67 (50%)
How would you rate your overall mental/emotional/spiritual health?	1 (Poor) 2 3 4 5 (Excellent)	0 (0%) 2 (1%) 25 (19%) 63 (47%) 45 (33%)

of this trend. In fact, since 2001, the Joint Commission on Accreditation of Healthcare Organizations has mandated that all hospitals have a process to address physician well-being.

Career satisfaction among physicians has important implications; for example, previous research has demonstrated a positive correlation between a provider's career satisfaction and patient satisfaction.[4] With respect to the primary care provider shortage, the image of the overworked, dissatisfied primary care physician (whether real or imagined) may be dissuading trainees from entering the field.[5] In a 2009 position statement, The Alliance of Academic Internal Medicine recommended "increasing job satisfaction for current and future primary care practitioners" as an important strategy for addressing the workforce shortage.[6] Career dissatisfaction has also been linked to physician attrition rates,[7,8] which also impacts the strength of the primary care workforce through early retirements or alteration in career paths.

The Brown University/Warren Alpert School of Medicine's General Internal Medicine (GIM)/Primary Care residency track was established in 1979 and is one of the oldest of such programs in the nation.[9] The concept of a primary care "track" within an internal medicine training program gained foothold during the 1970s as a way of generating interest in primary care and addressing an anticipated need for primary care physicians, akin to the needs of our current generation. In addition to providing a more intensive exposure to outpatient clinical medicine, Brown's GIM/Primary Care Track employs an innovative ambulatory seminar curriculum led by experts in the social and behavioral sciences in addition to other special topics in outpatient practice. Since its inception, over 320 physicians have graduated from this track.

In October of 2012, we held the inaugural GIM Reunion and Conference, inviting graduates from the past 30 years to attend. Given the renewed interest in the status of the primary care workforce, we sought to evaluate our residency program's contribution to the field, as well as the level of professional satisfaction among graduates.

METHODS

Design

We conducted a survey of GIM graduates for the occasion of the inaugural GIM Reunion and Conference, which took place in October of 2012. Graduates of the GIM/Primary Care Track from 1981–2012 were contacted via e-mail in the fall of 2012. The survey was conducted anonymously via an online program.

Participants

Criteria for inclusion in the survey were successful completion of the GIM/Primary Care residency program and an active e-mail address. Attendance at the conference was not required to participate in the survey.

Instrument

Our questionnaire consisted of 43 items divided into four main sections: 1) physician demographic data, 2) career data, 3) career satisfaction and 4) free text responses. With regards to our career satisfaction, participants were asked to rate their satisfaction with their current job on a 5-point Likert scale. We also asked alumni whether they would choose to become a physician again if given the choice to start over.

Data Analysis

Using STATA software, control variables were correlated with job satisfaction ratings using a Spearman's rank correlation test.

RESULTS

127 out of 227 GIM alumni contacted responded to the survey (56% response rate). Thirty-seven percent (47 respondents) were practicing purely primary care, while 22% (28 respondents) had careers that consisted of both inpatient and outpatient medicine. In total, 59% of GIM graduates are providing primary care services in their current careers. Other significant career paths among GIM alumni included hospitalists (14%), researchers (5.5%) and skilled nursing facility, rehab or hospice physicians (5%). Thirteen percent of responders opted for further fellowship training, in accredited subspecialty fields (**Table 2**), as well as non-ACGME

Table 2. Alumni career characterstics

Practice setting	Patient centered medical home	20 (15%)
	Solo/small group practice	12 (9%)
	Large group practice	17 (13%)
	Veterans Affairs	7 (5%)
	Academic medical center	49 (36%)
	Community health center	4 (3%)
	Staff model HMO	3 (2%)
	Other	23 (17%)
Subspecialty Careers	Did not pursue a fellowship	89 (66%)
	Allergy/Immunology	1 (1%)
	Cardiology	1 (1%)
	Critical Care Medicine	2 (1%)
	Endocrinology	2 (1%)
	Gastroenterology	1 (1%)
	Geriatric Medicine	6 (4%)
	Hematology/Oncology	0 (0%)
	Hospice and Palliative Care	4 (3%)
	Infectious Diseases	2 (1%)
	Nephrology	0 (0%)
	Pulmonary Diseases	2 (1%)
	Rheumatology	1 (1%)
	Other	30 (22%)

Table 3. Career satisfaction

How satisfied are you with your current job?	
1 (Very dissatisfied)	1 (0.76%)
2	6 (4.58%)
3	24 (17.56%)
4	54 (41.22%)
5 (Very satisfied)	46 (35.11%)
Would you still become a physician if you could start over?	
Yes: 117 (92.13%)	No: 10 (7.87%)

accredited areas such as adolescent medicine and obstetric medicine. Two alumni are currently practicing emergency medicine, while a small number of alumni are pursuing non-clinical health related careers, such as public health and occupational health.

Career satisfaction among those surveyed was high; 76% of respondents indicated that they were "satisfied" or "very satisfied" with their current jobs. Additionally, 92% of respondents would choose medicine again as a career if they could start over (**Table 3**). Graduates most frequently cited quality of interaction with patients (75%), feelings of making a difference (70%) and intellectual stimulation (63%) as the most satisfying aspects of their careers (**Table 5**). Interaction with insurance companies (49%), administrative work (41%), work hours (30%), and litigation environment (27%) were most frequently selected as contributing to job dissatisfaction (**Table 6**).

Using a Spearman's rank correlation test, we analyzed the responses to identify variables associated with high career satisfaction ratings. Within our survey, there was a statistically significant correlation between perceived physical health and job satisfaction (p=0.0004), as well as emotional health and job satisfaction (p = 0.0000). We did not find a statistically significant relationship between job satisfaction and year of residency graduation, debt burden, income, scope of practice, work hours, gender, marital status or amount of sleep (**Table 4).**

DISCUSSION

With the recent implementation of health care reform, we stand at a crossroads similar to that of the 1970s which gave rise to the notion of specialized primary care training within internal medicine residency programs. While it is estimated that 91% of family medicine residency graduates will practice primary care, only 10-20% of internal medicine graduates choose this path.[3,10] Therefore, increasing the yield of primary care physicians from within internal medicine residency programs is worthy of attention.

This survey provided an opportunity to evaluate the rate at which Brown's GIM/Primary Care track graduates are pursuing primary care careers. West et al. recently attempted to quantify this rate on a national scale by culling data from

Table 4. Correlates of job satisfaction

Variable	Spearman Correlation Coefficient	p-value
Age	-0.0020	0.9818
Residency class	-0.0304	0.7326
Physical Health	0.3052	0.0004
Emotional Health	0.3973	0.0000
Income	0.1296	0.1676
Number of jobs	-0.0587	0.5071
Debt burden	0.0108	0.9068
Work week hrs	-0.0641	0.4743
Hrs of sleep	0.0795	0.3688
Number of children	0.0859	0.3294

Table 5. Which of the following items contribute most to your job satisfaction? (please select up to 4)

Quality of interaction with patients	101 (75%)
Feeling like you are making a difference	95 (70%)
Intellectual stimulation	85 (63%)
Work hours	63 (47%)
Opportunities to teach	63 (47%)
Call schedule	34 (25%)
Income	25 (19%)
Job security	22 (16%)
Other	11 (8%)
Electronic health record/information services	10 (7%)
Administrative work	8 (6%)
Arranging non-medical resources (social services)	4 (3%)
Litigation environment	2 (1%)
Interaction with insurance companies	0 (0%)

Table 6. Which of the following items contribute most to your job dissatisfaction? (please select up to 4)

Interaction with insurance companies	66 (49%)
Administrative work	55 (41%)
Work hours	40 (30%)
Litigation environment	36 (27%)
Arranging non-medical resources (social services)	31 (23%)
Other	25 (19%)
Income	24 (18%)
Call schedule	10 (7%)
Intellectual stimulation	9 (7%)
Quality of Interaction with patient	9 (7%)
Feeling like you are making a difference	7 (5%)
Job security	5 (4%)
Opportunities to teach	2 (1%)

the annual Internal Medicine In-Training Examination from 2009-2011. They found that 39.6% of primary care track residents reported general internal medicine as their ultimate career plan.[3] In contrast, the Brown GIM/Primary Care track's yield of 59% primary care practitioners compares much more favorably.

Besides producing substantial numbers of primary care physicians, Brown's program graduates also endorse high rates of career satisfaction. How is Brown achieving such high levels of satisfaction across generations of graduates, and does this high level of career satisfaction account for the increased rate of physicians opting for primary care careers?

The two factors that correlated positively with satisfaction scores among Brown alumni were physical and emotional health self-ratings. While job satisfaction is often examined in terms of factors extrinsic to the physician, e.g., interactions with patients, income level, or practice setting, the results of our survey highlight the power of personal perspective and values in perceiving one's overall career as fulfilling. This theme was eloquently captured by several survey responses. One graduate poignantly wrote, "I have a favorite poem that reads: 'With all its sham, drudgery, and broken dreams, it is still a beautiful world.' With all of the hassles of insurance companies, electronic medical records, etc., it is still a privilege to be a physician." In almost perfect complement, another physician wrote: "I had one day in July of 2005 when I received 3 pieces of mail: a legal summons (for a case that was later dismissed on my behalf), an appreciative letter from the daughter of a recently deceased patient and a get well card from a patient...this day symbolized up the highs and lows of what we do."

The lack of correlation between financial factors (income and debt burden) and career satisfaction ratings among our cohort is interesting, and opposes previous published research. A recent investigation by Deshpande and DeMello found that career satisfaction in internal medicine, family medicine and pediatrics was significantly impacted by income.[13] In another large physician survey, Landon et al. also concluded that changes in income correlated with changes in satisfaction ratings over time.[8] This may support the idea that career perspective and values can potentially override factors that are typically tied to satisfaction.

As to how graduates of Brown's residency program are achieving such high levels of career satisfaction, some part may be self-selection. However, a common thread in Brown's GIM/primary care ambulatory block months throughout its existence has been the incorporation of wellness, professional development and self-reflection in all three years of training. Seminars provide numerous opportunities to discuss challenging medical situations, difficult workplace encounters, success stories, and career/life goals. In addition, GIM house staff have had close relationships with faculty who serve as role models who share these values and participate in professional development sessions.

Surveys of medical students have indicated that reservations about quality of life is a significant barrier to pursuing a career in primary care, alongside factors such as income and practice environment.[10] Previous research has also suggested lower rates of career satisfaction among internists as compared to doctors in other specialties.[11-13] With this in mind, it is interesting that participants in our survey, who expressed high rates of career satisfaction, are also selecting careers in primary care at rates higher than categorical and primary care track internal medicine programs nationwide.

While leveling the financial playing field for primary care providers relative to subspecialty physicians may well play a significant role in enhancing career satisfaction among practitioners, physician wellness is an under-appreciated element and may make significant positive impacts as well. Attention to and investment in physician well-being, particularly during the very formative years of residency, can pay dividends in fostering long-term job satisfaction. The habits that physicians learn and the values that are developed in residency training are likely very important to their future careers. How this can be optimally achieved and amplified (for example, through formalized employee health programs or development of wellness curricula) could be an intriguing area of future study, and potentially guide changes to training programs and care practice models if Rhode Island hopes to meet the growing need for primary care physicians.

The strength of this survey lies in its strong participation rate, and is unique for the span of time across which physicians participated. In terms of limitations, our sample size was relatively small and lacking in racial diversity. All physicians surveyed were from a single residency program, and so results cannot easily be generalized. Additionally, this survey only provides data for a single point in time. As the free response section of our survey indicated, the career of an internal medicine physician can take many turns, and changes in career focus can occur. For example, numerous recent graduates pursued hospitalist work in the period immediately after residency, with the ultimate goal of pursuing primary care in the long term.

While these survey results may not be generalizable to the outcomes of other training programs, the findings are noteworthy and heartening, given the ebbs and flows regarding interest and value assigned to primary care as a career in internal medicine.

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Patients with PD describe hallucinations in new video with Dr. Friedman

'Seeing small people, we call them Lilliputians, is common …'

MARY KORR
RIMJ MANAGING EDITOR

Click on the video link at right to see a unique film in which Dr. Joseph H. Friedman, chief of the Movement Disorders Program at Butler Hospital, interviews some of his patients with Parkinson's Disease who have experienced hallucinations.

The following are quotes from two of the interviewees:

'Strange occurrences would happen around my house… I would see at nighttime an army assembling across the street… Once it was Gen. McArthur landing in the Pacific.'

'I see people with red skin in my house, dwarf in size…they did not speak; they did not eat or drink. Some would come for a day or a week, several would stay for three weeks; they are still there but with my additional medication they are reduced in number…but are digging trenches in my backyard…'

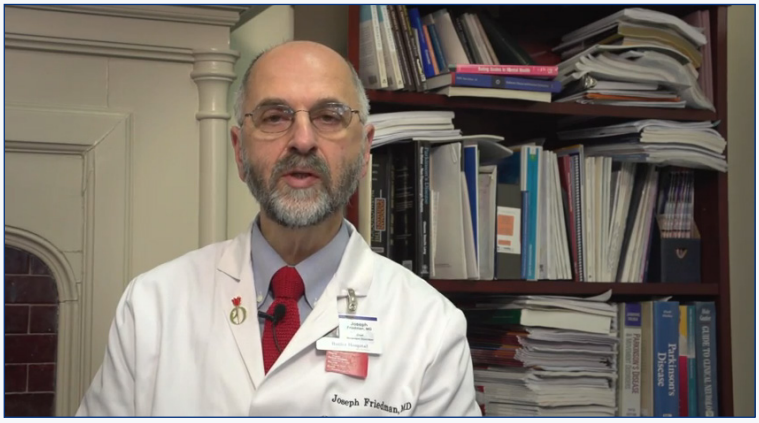
In the video, Dr. Friedmann says that in many visual hallucinations, "it is common to see small people, we call them Lilliputians, who often look normal. Patients have described seeing families living in house plants and who may be up to mischief or not."

It is not every physician who finds himself asking his patient: "Tell me about the lizards…" or, "Did the people have skinny legs or no legs at all?…Did they look like a Picasso?"

Created for the national Parkinson's Disease Foundation, the video will be of interest to clinicians as well as their patients, who may not be aware of this not uncommon side effect of dopamine medication.

In the following Q & A, Dr. Friedman offers an overview of hallucinations in PD, and what can be done to alleviate these often baffling and disturbing illusions, which, as he states in the video, can be visual, auditory, tactile, olfactory or gustatory.

Watch the video: http://youtu.be/JhccC8lSXWg



Q. How common are hallucinations with Parkinson's Disease patients?

A. They occur in 20–30% of drug-treated patients and almost all PD patients are treated with drugs that may cause hallucinations.

Q. Are patients reluctant to discuss this with their neurologist or physician?

A. Patients are often reluctant to discuss these with anyone for fear of being considered "crazy." In my video, the last interviewee's husband says that he never knew she had this problem. Usually the family is aware because the patient asks about them, like, "what was that dog doing in the house?" The patient often learns then not to speak about them because it upset others, thinking that he is, in fact, "crazy."

Q. Do they most often occur at night and are more akin to vivid dreams?

A. They are more common at night, and typically occur in low stimulus environments, like sitting alone watching TV. They may be confused with vivid dreams, but the hallucinations are almost always the same, with the same animals or people, dressed the same, doing the same things – unlike dreams, which usually are different each time.

Q. Are the hallucinations induced by specific PD medications?

A. All the meds used to treat PD may cause them, and, regardless of the med, the hallucinations are all similar.

Q. What is the treatment to alleviate the hallucinations?

A. If there isn't an infection or medical illness causing the problem, we try to reduce the meds that are contributing to the hallucinations. Once we reduce them as much as practicable, we try either quetiapine or clozapine, the only antipsychotic drugs that do not worsen mobility. A new drug, pimavanserin, was just approved by the FDA to treat the hallucinations and it should become available in the next several months.

Q. Should a PD patient's primary care physician bring up the topic to his or her patient?

A. Doctors should always ask their patients about this since most will not volunteer that they have this problem, unless they've been well educated about PD. ❖

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HIT Implementation by Rhode Island Physicians, Advanced Practice Registered Nurses and Physician Assistants, 2014

EMILY COOPER, MPH; ROSA BAIER, MPH; BLAKE MORPHIS, SAMARA VINER-BROWN, MS; REBEKAH GARDNER, MD

Since the adoption of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009, policy makers and payors have put forth an increased effort to support hospitals and physicians in the adoption and effective use of health information technology (HIT).[1] One of the key components of the HITECH Act is the use of electronic health records (EHRs).

The HITECH Act authorizes both Medicare and Medicaid to offer incentive payments to physicians and hospitals that use EHRs. This incentive program, often referred to as Meaningful Use, requires providers to achieve specific standards for use of EHRs and other HIT during clinical practice; standards are set by the Federal government.[2] To date, Medicare and Medicaid have provided total payments of $4 billion and $2.4 billion, respectively, to eligible professionals.[3] Since the implementation of these incentive payments, HIT adoption and use has increased markedly.[2] Beginning in 2015, providers who fail to meet Meaningful Use benchmarks will be subject to payment adjustments by Medicare.[4]

The rising number of providers using HIT and qualifying for incentive payments has led to an increased interest in the effect of HIT use on the quality of care patients receive and its impact on physician satisfaction.[5,6] Although data show that physicians believe that EHR use improves patients' care,[5,6] the impact on physician satisfaction seems to be negative.[5]

The Rhode Island Department of Health (HEALTH) has been surveying physicians about their use of HIT annually since 2008. In 2013, HEALTH expanded this survey to include advanced practice registered nurses (APRNs) and physician assistants (PAs). The Rhode Island HIT Survey data provide an opportunity to examine longitudinal trends in EHR adoption and to evaluate physicians' perceptions of the impact on patient care and job satisfaction.

METHODS

HEALTH's public reporting program, the Healthcare Quality Reporting Program, administers the Rhode Island HIT Survey annually to all licensed independent practitioners (LIPs). The survey was first piloted in 2008,[7] and has been administered annually since 2009.[9] This program is legislatively mandated to publish reports intended to help consumers compare licensed healthcare providers in Rhode Island.[8] HIT Survey data are used to report process measures relating to HIT adoption and use.

HEALTH administers the survey electronically, sending hard copy notifications to all LIPs and an email notification and up to two reminders to those LIPs with email addresses on file. In 2014, the survey became a requirement of the biennial physician license renewal process, meaning that physicians could not complete their license renewal without attesting to their completion of the HIT Survey.

The HIT Survey data are used to calculate five measures of HIT implementation and use: **(1) LIPs with EHRs** (percent of LIPs with access to EHR components, including functions such as visit notes, lab orders or prescriptions[9]); **(2) LIPs with 'qualified' EHRs** (percent of LIPs with EHRs that have specific functionality and are certified by the Office of the National Coordinator for HIT[10]); **(3) Basic EHR functionality use** (among LIPs with EHRs, a scale of 0-100 based on EHR functionality and clinical use relating to documentation and results management[9]); **(4) Advanced EHR functionality use** (among LIPs with EHRs, a scale of 0-100 based on EHR functionality and clinical use relating to decision support, external communication, order management, and reporting[9]); and **(5) LIPs who are e-prescribing** (percent of LIPs transmitting prescriptions or medication orders electronically to a pharmacy[9]). Providers who do not complete the survey are reported as not using HIT.

RESULTS

In 2014, the survey period was April 30, 2014 through June 30, 2014. The physician response rate was 68.3% (n=2,567) and the APRN and PA response rate was 43.9% (n=662).

Table 1.

HIT Adoption Measures – 2014			
Measure	Physician N=2,567	APRN N=476	PA N=186
1. EHR, n (%)	2,236 (87.1)	363 (76.3)	159 (85.5)
2. Qualified EHR, n (%)	1,261 (49.1)	142 (29.8)	63 (33.9)
3. Basic EHR Use, mean (N)*	77.0 (2,236)	72.4 (363)	73.2 (159)
4. Advanced EHR Use, mean (N)*	62.6 (2,236)	56.1 (363)	63.7 (159)
5. e-Prescribing, n (%)	1,884 (80.2)	278 (72.0)	116 (66.7)

*Based on the number of respondents reporting that they have an EHR (measure 1).

We calculated the five measures for all three provider groups **(Table 1)**. Physicians score highest on all five measures, compared to APRNs and PAs: they have the highest percentage of EHR use (87.1%), the highest prevalence of qualified EHR use (49.1%), the highest mean basic EHR use (77.0 out of 100) and the highest prevalence of e-prescribing (80.2%) among the three provider types. APRNs show the highest mean advanced EHR use among the provider types.

These measures show an upward trend since the survey was first administered to physicians in 2009 **(Figure 1)**. During this six-year period, e-prescribing has increased by 94.7%, from 41.2% to 80.2%, and the use of 'qualified' EHRs has increased by 292.8%, from 12.5% to 49.1%.

Hospital-based physicians outperform office-based physicians for four of the five measures. A higher percentage reported having an EHR (94.7% compared to 82.1%), using a qualified EHR (54.2% compared to 45.8%), and using e-prescribing (82.8%compared to 78.7%). Mean advanced EHR functionality was also higher among hospital-based physicians compared to office-based physicians (72.4 compared to 55.1 out of 100 points).

We asked physicians about their perception of the effect of EHR use on various aspects of their job performance and satisfaction **(Figure 2)**. Nearly two-thirds of respondents agreed or strongly agreed that EHRs improve the care their patients receive (62.0% or n=1,344) and their ability to do quality improvement work (65.6% or n=1,411); however, only 41.2% (n=891) agreed or strongly agreed that EHRs improve their job satisfaction. A similar proportion of physicians, 40.5% (n=855), reported EHR use increased their take-home workload.

Figure 1.

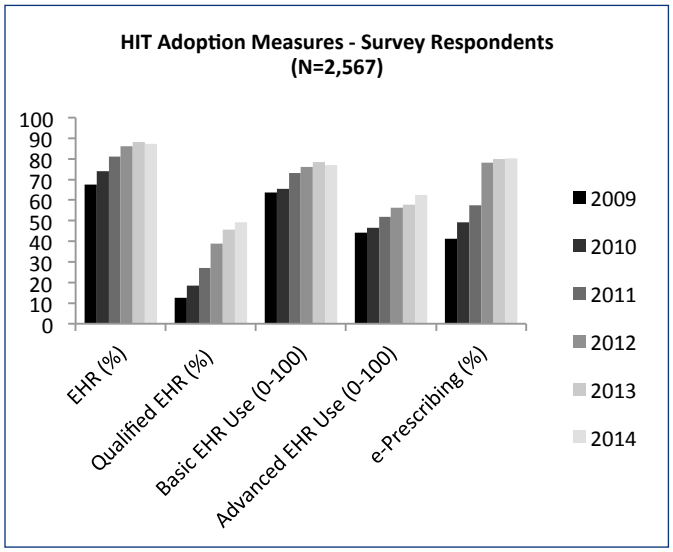
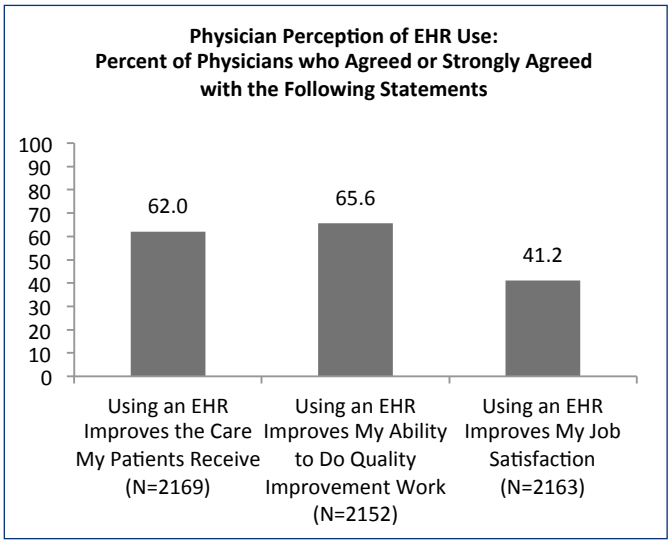


Figure 2.



DISCUSSION

EHR adoption has accelerated nationwide and in Rhode Island over the past six years as the incentives continue to increase and the penalties begin to loom. The most recent data show that HIT adoption among Rhode Island physicians is slightly higher than the nation (87% compared to 78%[2]). Even with these high numbers, pressure on physicians to adopt EHRs and further incorporate them into their current workflow is only growing.[4] With this rising demand on physicians to use EHRs it is important to track not only the impact on patients, but also the impact on physicians.

Although most Rhode Island physicians believe that using an EHR improves their ability to care for their patients and perform quality improvement work, few agree that it improves their job satisfaction. These findings are consistent with national data; King et al. found that 78% of physicians felt that EHR use improved patient care.[6] Similarly, Friedberg et al. found that while 61% reported that EHR use improved patient care, only 35% reported that it improved job satisfaction.[5] This may be due to the increase in take-home work many survey respondents reported experiencing as a result of using an EHR. Other potential reasons for low physician satisfaction include the impact EHRs have on workflow and face-to-face patient interactions.[5]

With the high rates of HIT adoption, both in Rhode Island and nationally, the focus of HIT tracking has begun to shift from adoption to use.

In recent years, the HIT Survey's authors have revised the instrument to further align with guidelines for use set forth by the payors and expanded the survey to include APRNs and PAs. This expansion is allowing us to begin to track longitudinal trends among in HIT adoption among APRNs and PAs.

We note a few limitations to these data. First, all provider data are self-reported. Second, communication of the survey requirement to physicians changed this year, when it was incorporated into the licensure process, and that change may have affected response rates. The survey notification was embedded within the licensure renewal request. Third,

there is an inherent bias in having people respond to a survey about computer use using a computer-based survey. Finally, because we make the assumption that non-respondents are not using any HIT, the prevalence of HIT use among Rhode Island LIPs may be higher than reported.

Despite these limitations, these results show that Rhode Island physicians and other providers continue to incorporate EHRs into their workflows. Future surveys will help us to delineate the pace and extent of EHR adoption and the impact it has on patient care and provider satisfaction. Revisions to the survey will also allow us to look at whether Rhode Island providers are meeting the Meaningful Use benchmarks, as defined by Medicare and Medicaid.

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Influenza Vaccination Coverage among Healthcare Workers during the 2013-14 Influenza Season in Rhode Island

HYUN (HANNA) KIM, PhD; PATRICIA RAYMOND, RN, MPH; TRICIA WASHBURN, BS; DENISE CAPPELLI, AS

Since 1984, the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) has recommended annual seasonal influenza vaccination for healthcare workers (HCWs).[1] Vaccinating HCWs against influenza can reduce influenza illness, transmission of influenza to patients, and influenza-related morbidity and mortality among patients in healthcare settings.[2-3] Despite the documented benefits and ACIP's long-standing recommendations, the overall influenza vaccination rate for HCWs has remained far below the Healthy People 2020 target of 90% nationally.[4]

In October 2012, with the input of the Rhode Island Flu Task Force, the Rhode Island Department of Health (HEALTH) amended HCW immunization regulations [R23-17-HCW] to increase influenza vaccination coverage among HCWs.[5] The amended regulations require all HCWs in healthcare facilities either to receive influenza vaccination, or provide proof of a medical exemption or a declination statement to their healthcare facilities by December 15th of each year. Unvaccinated HCWs must wear a surgical face mask during direct, face-to-face contact with patients when influenza is declared widespread. Healthcare facilities are required to report their HCW influenza vaccination status data to HEALTH at the end of each influenza season.[5]

This article presents influenza vaccination coverage among Rhode Island HCWs and healthcare facilities' data reporting for the 2013–2014 influenza season.

METHODS

The aggregate counts of HCW influenza vaccination status data reported by healthcare facilities to HEALTH were used to estimate vaccination coverage. For the 2013-2014 influenza season, all healthcare facilities subject to the HCW regulations were required to report HCW vaccination status during April 1–May 15, 2014 through HEALTH's web-based reporting system. A healthcare facility is defined as any institutional health service provider or facility that is licensed by HEALTH, including but not limited to, hospitals, nursing homes, home care providers, home nursing care providers, kidney disease treatment centers, and hospice providers.

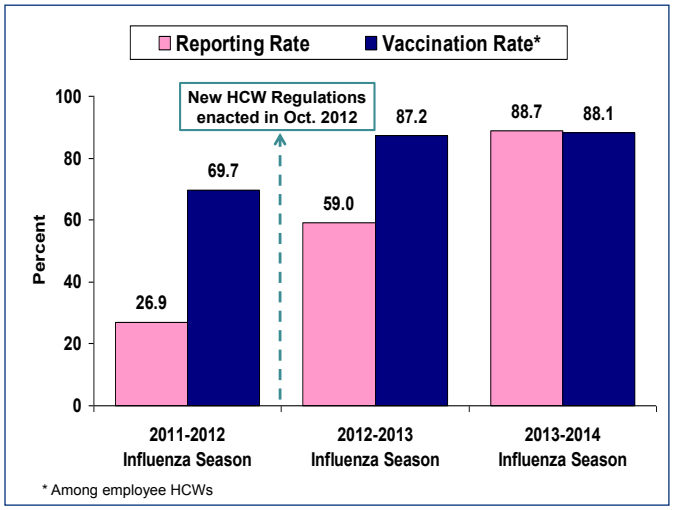
The elements of data reporting include the number of HCWs who: 1) were eligible for vaccination (total number of HCWs), 2) received vaccination, 3) refused influenza vaccine for medical reasons, 4) refused influenza vaccine for reasons other than medical contraindications, and 5) had an unknown vaccination status. The number of HCWs reported in 2-5 should be mutually exclusive and the sum should be equal to the total number of HCWs. Each facility is required to report the vaccination status for the following HCW categories: employees (staff on the facility's payroll), non-employee licensed independent practitioners (LIP), and non-employee adult students/trainees/volunteers (STV). HCW includes both full-time and part-time persons who have worked at the facility for at least one working day during October 1, 2013–March 31, 2014. If a HCW works in two or more facilities, each facility should include the HCW in their counts. The total number of Rhode Island facilities subject to the HCW regulations for the 2013–2014 influenza season was 302 facilities.

RESULTS

Overall Influenza Vaccination Reporting and Coverage Rates

Of the 302 facilities subject to the HCW regulations, 268 facilities (88.7%) reported their 2013-2014 HCW influenza vaccination data to HEALTH, which was a substantial increase from 59.0% for the 2012–2013 and 26.9% for the 2011–2012 influenza season. While the proportion of influenza vaccination coverage for employee HCWs increased substantially from 69.7% in the 2011–2012 season to 87.2% in the 2012–2013 season, it increased only marginally from 87.2% in the 2012–2013 season to 88.1% in the 2013–2014 season. (**Figure 1**)

Figure 1. Influenza Vaccination Reporting and Coverage Rates, Rhode Island, 2011–2012, 2012–2013, and 2013–2014 Influenza Seasons



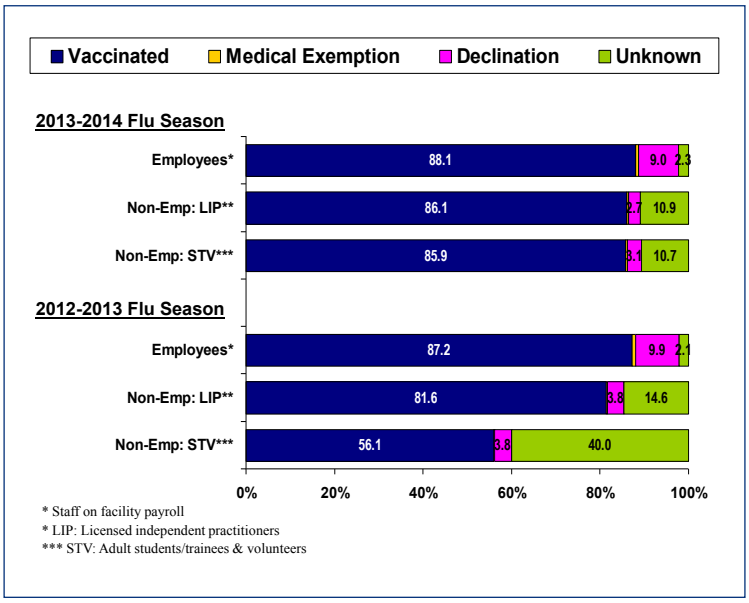
Influenza Vaccination Status by HCW Type

Figure 2 presents the influenza vaccination status by HCW type in the 2012–2013 and the 2013-2014 influenza seasons. During the 2013–2014 influenza season, the proportion of HCWs receiving influenza vaccination was slightly higher among employee HCWs than non-employee HCWs. Eighty-eight percent (88.1%) of employee HCWs were vaccinated, compared to 86.1% of non-employee LIPs, and 85.9% of non-employee STVs. The proportion of declination was also higher among employee HCWs (9.0%) than non-employee LIPs (2.7%) or non-employee STVs (3.1%). However, the proportion of unknown status was higher for non-employee HCWs (10.9% for non-employee LIPs and 10.7% for non-employee STVs) than employee HCWs (2.3%). The proportion of medical exemption was less than 1% for all three categories.

Between the 2012–2013 influenza season and the 2013–2014 influenza season, all categories of vaccination status for employee HCWs were very similar: vaccinated (87.2% in the 2012–2013 season vs. 88.1% in the 2013-2014 season), medical exemption (0.7% vs. 0.6%), declination (9.9% vs. 9.0%), and unknown status (2.1% vs. 2.3%).

Compared to the 2012-2013 influenza season, the proportion of unknown status in the 2013-2014 influenza season decreased substantially for non-employee HCWs, especially for non-employee STVs. Forty percent (40.0%) of non-employee STVs had unknown vaccination status in the 2012–2013 influenza season, compared to 10.7% in the 2013–2014 influenza season.

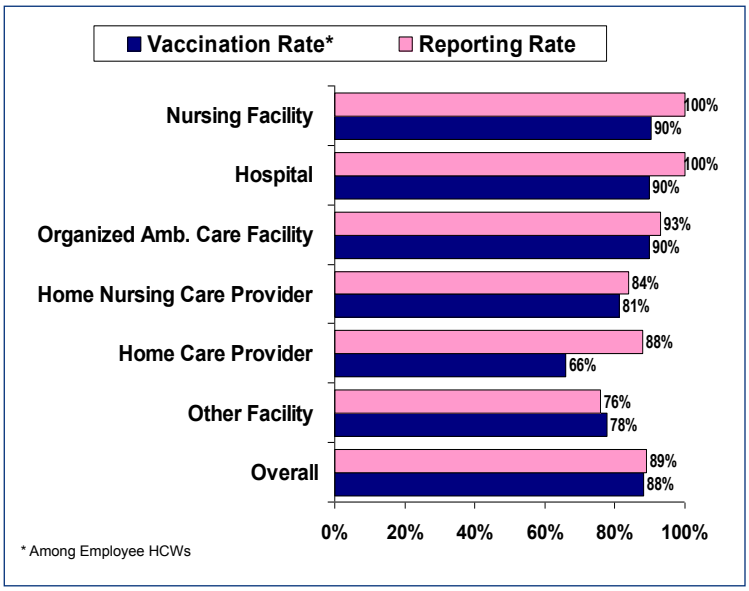
Figure 2. Influenza Vaccination Status by HCW Type, Rhode Island, 2012-2013 and 2013-2014 Influenza Seasons



Influenza Vaccination Reporting and Coverage Rates by Facility Type

Figure 3 shows that all nursing facilities and hospitals in Rhode Island reported their HCW's vaccination status to HEALTH for the 2013-2014 influenza season. Ninety-three percent (93%) of the organized ambulatory care facilities, 88% of home care providers, and 84% of home nursing care providers reported the data to HEALTH. The influenza vaccination rate among employee HCWs was highest in nursing facilities (90.4%), followed by hospitals and organized ambulatory care facilities (both 89.7%), home nursing care providers (81.2%), and home care providers (65.9%).

Figure 3. Influenza Vaccination Reporting and Coverage Rates by Facility Type, Rhode Island, 2013–2014 Influenza Season



DISCUSSION

Prior to 2012, healthcare facilities were required to offer influenza vaccine to HCWs at no cost, and to report rates of vaccination and declination to HEALTH. In October 2012, Rhode Island became the first state in the nation to mandate statewide annual influenza vaccination for HCWs beginning in the 2012-2013 influenza season. Data collected from the first season demonstrated that moving from a passive offering to a mandate was effective in increasing the influenza vaccination coverage rates among HCWs during the 2012–2013 influenza season.[6]

Data collected from the 2013-2014 showed additional improvements in reporting and vaccination coverage rates. First, overall rates of reporting from the individual healthcare facilities on their HCWs influenza vaccination status increased substantially from 59% in the 2012-2013 influenza season to 89% in the 2013-2014 influenza season. Second, although the vaccination rate for employee HCWs remained similar for the 2012–2013 and the 2013-2014 seasons (87.2% vs. 88.1% respectively), vaccination rates for non-employee

HCWs (LIPs and STVs) increased substantially, especially for STVs (56.1% vs. 85.9%). The increase in the vaccination rates among non-employee HCWs could be attributed to the decrease in the amount of unknown vaccination status in these groups, which may imply quality improvements in the data collection for non-employee HCWs in the healthcare facilities. Third, the larger proportion of unknown vaccination status among non-employee HCWs compared to employee HCWs was mainly due to one free clinic with a large number of non-employee HCWs (Rhode Island Free Clinic, Inc.), where the vaccination status of all non-employee HCWs working in this facility during the 2013-2014 influenza season (140 LIPs and 574 STVs) were reported as unknown. If we exclude this one clinic, the unknown status rates for non-employee HCWs would have been much lower.

HEALTH continues to convene Rhode Island's Flu Task Force, which consists of key immunization stakeholders in the community, to identify and develop strategies to increase influenza vaccination coverage and address barriers to vaccination. Individual facility's data on HCW influenza vaccination are posted at www.health.ri.gov/publications/datareports/20132014HealthcareWorkerVaccinationRates.pdf.

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The authors and/or their significant others have no financial interests to disclose.

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Professional Responsibilities for Treatment of Patients with Ebola: Can a Healthcare Provider Refuse To Treat a Patient with Ebola?

LINDA TWARDOWSKI, M ED, BSN, RN; TWILA McINNIS, RN, MS, MPA; CARLETON C. CAPPUCCINO, DMD; JAMES McDONALD, MD, MPH; JASON RHODES, MPA, EMT-C

A Joint Statement from the President of the Rhode Island Board of Nursing, the Chair of the Rhode Island Board of Dentistry, the Chief Administrative Officer of the Rhode Island Board of Medical Licensure and Discipline, and the Chief of Emergency Medical Services, Rhode Island Department of Health.

Primum Non-Nocere. First do no harm. This is the first rule of medicine, reminding us of our duty to protect our patients and to ensure that our procedures and treatments never worsen a patient's condition.

But what if the healthcare provider is at risk of harm from the patient? May a licensed healthcare provider refuse to treat a patient? A patient, say, with Ebola?

The recent emergence of Ebola in West Africa begs the question, and indeed, as a recent op-ed in the *Washington Post* brought to light, Susan Grant, Chief Nurse Executive of Emory Healthcare, was roundly criticized for "bringing patients" with Ebola to Emory University Hospital for treatment.[1] (Presumably, the underlying concern of Ms. Grant's critics, who "responded viscerally on social media," was rooted in Ebola's high case fatality – as high as 90%.[2] Indeed, the entire affair was highly reminiscent of the emergence of AIDS some thirty years ago.)

Beneficence

A healthcare provider has an ethical and professional duty to address a patient's needs, as long as the patient's diagnosis – or when the patient's initial complaint, on the face of it – falls within the provider's scope of practice.[3] Refusing to do so is not consistent with the ethical principle of *beneficence*. Most simply put, beneficence refers to a provider's duty to help patients,[4] understanding that the expression of beneficence may legitimately vary on the basis of a provider's moral beliefs, psychological state, or physical ability. None of the latter, however, is applicable to Ebola, *per se*. Indeed, as illustrated by Ms. Grant's recent experience, the primary issue in the decision to treat Ebola patients is likely to be the risk of disease transmission.

The risk of disease transmission – in and of itself – does not provide grounds for the relaxation of a provider's duty to help a patient, especially because the risk is understood and readily mitigated.[5]

Consider, for example, an ethics opinion[6] about the care of HIV patients issued by the American Medical Association (AMA) in 1992. "A physician may not ethically refuse to treat a patient whose condition is within the physician's current realm of competence solely because the patient is seropositive for HIV. Persons who are seropositive should not be subjected to discrimination based on fear or prejudice." A similar position was developed by the American Dental Association (ADA).[7] "A dentist has the general obligation to provide care to those in need. A decision not to provide treatment to an individual because the individual is infected with Human Immunodeficiency Virus, Hepatitis B Virus, Hepatitis C Virus or another blood borne pathogen, based solely on that fact, is unethical."[8] The applicability of these opinions to the care of patients with Ebola is unambiguously clear.

Mitigation of Risk

Ebola is spread by contact with infected bodily fluids,[9] so standard precautions and droplet precautions are taken, carefully donning and doffing personal protective equipment (PPE) such as gown, gloves, N-95 mask, and goggles.[10] It is incumbent upon healthcare employers to assure ready availability of PPE and to conduct thorough training in its proper use. Healthcare employers must also enforce the consistent use of PPE – not just when caring for Ebola patients, but when caring for *any* infectious disease patients.

Professional Obligation

The primary standard of care for all healthcare professionals is the delivery of high quality care to everyone, regardless of underlying disease. State licensing boards and agencies grant professional licenses which impose obligations and responsibilities on license holders in active practice.

In Rhode Island, licensed healthcare professionals in active practice are obliged to treat and/or care for Ebola patients, while minimizing the risk of Ebola transmission to self and others.

Failure to do so is a potential breech of Rhode Island's licensing laws for healthcare professionals, and warrants thorough investigation and potential sanctions. Therefore, healthcare providers must reflect very carefully before refusing care to a patient. Concerns about personal risk (which, in the case of Ebola, can be readily mitigated) must be weighed against ethical and professional obligations.

The Spirit of Emory

At Emory, staff members volunteered to care for Ebola patients; some staff members voluntarily canceled vacations to do so.[11]

This spirit reflects the best attributes of those who share our professions.

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VITAL STATISTICS
MICHAEL FINE, MD
DIRECTOR, RHODE ISLAND DEPARTMENT OF HEALTH
COMPILED BY COLLEEN A. FONTANA, STATE REGISTRAR

Rhode Island Monthly Vital Statistics Report
Provisional Occurrence Data from the Division of Vital Records

VITAL EVENTS	REPORTING PERIOD		
	APRIL 2014	12 MONTHS ENDING WITH APRIL 2014	
	Number	Number	Rates
Live Births	900	11,333	10.8*
Deaths	878	9,837	9.4*
Infant Deaths	3	71	6.3#
Neonatal Deaths	3	56	4.9#
Marriages	425	6,769	6.4*
Divorces	247	3,274	3.1*
Induced Terminations	263	3,221	284.2#
Spontaneous Fetal Deaths	44	634	55.9#
Under 20 weeks gestation	36	511	51.9#
20+ weeks gestation	8	77	6.8#

* Rates per 1,000 estimated poulation
# Rates per 1,000 live births

Underlying Cause of Death Category	REPORTING PERIOD			
	OCTOBER 2013	12 MONTHS ENDING WITH OCTOBER 2013		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	197	2,430	230.7	3,367.5
Malignant Neoplasms	234	2,331	221.3	5,837.5
Cerebrovascular Disease	32	416	39.5	597.5
Injuries (Accident/Suicide/Homicide)	46	716	68.0	10,580.0
COPD	32	510	48.4	482.5

(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 1,051,511 (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 and insurer Coverys announce new partnership

RIMS executive Director **Newell E. Warde, PhD**; RIMS President **Peter Karczmar, MD**; RIMS Past-President **Elaine C. Jones, MD**; Coverys CEO and President **Gregg L. Hanson**; RIMS Director of Member Services **Megan Turcotte**; Coverys Senior Territory Manager **Michael Reveliotty, CIC**.

EAST PROVIDENCE – As the newly installed 156th president of the Rhode Island Medical Society, Dr. Peter Karczmar had a surprise for the RIMS members assembled at the Society's annual meeting held at the Squantum Association on September 27. He announced that effective October 1, RIMS entered into a strategic partnership with Coverys, the 30-year-old medical liability insurance giant headquartered in Boston. Dr. Karczmar then introduced Gregg Hanson, the chief executive officer of Coverys, who was present along with company vice presidents.

Coverys is the dominant insurer of physicians and surgeons in Rhode Island, and the eighth largest medical liability insurer in the nation. It protects more than 25,000 physicians, dentists and other health professionals as well as 500-plus hospitals, health centers and clinics in 27 states. It is rated A ("excellent") by A.M. Best. The company writes over $360 million in premiums, has net assets of $3.4 billion, and maintained a policyholder surplus of $1.4 billion as of the end of last year. Member companies include Medical Professional Mutual Insurance Company ("ProMutual") and the ProSelect Insurance Company.

Coverys and RIMS have pledged to combine and coordinate their complementary strengths for the purpose of enhancing patient safety. The two organizations share the conviction that safety is fundamental to promoting and maintaining the kind of professional liability environment that everyone wants for Rhode Island: one that is stable and responsive to the needs of the medical profession and the public. RIMS and Coverys are uniquely positioned to support each other in this endeavor.

Key elements of the new collaboration will be peer review, risk management and continuing education. RIMS' peer review prowess is well established, particularly in the highly sensitive and all-important area of physician health. In addition, RIMS is recognized by the American Council for Continuing Medical Education (ACCME) as the agency responsible for accrediting the CME programs of all the hospitals within the state of Rhode Island. RIMS has been a consistent star nationally in earning an unbroken string of long-term recognitions from the ACCME.

For its part, Coverys is one of a tiny number of medical professional liability insurers that have devoted the necessary and substantial resources to gaining and maintaining full accreditation by the ACCME as a source of Category 1 CME credits for physicians. RIMS regards this extraordinary commitment to CME as particularly meaningful and praiseworthy in an insurance company. Of course, medical peer review and continuing medical education, each in its own way, provide targeted risk management and serve to enhance quality and safety.

RIMS has also agreed to advise Coverys and offer the company additional eyes and ears focused on the evolving insurance market, the medical practice environment and the medical liability climate, as each of these is affected by legislative, regulatory, judicial, economic, demographic and political developments in the Ocean State. In recognition of their strong relationship and mutual support, RIMS and Coverys will also engage in joint marketing.

The Rhode Island Medical Society Insurance Brokerage Corporation (RIMS-IBC) is proud to have been appointed as an agent for Coverys two years ago. The RIMS-IBC is a full-service agency that specializes in medical professional liability. Depending on individual circumstances and needs, the RIMS-IBC can place physicians with a variety of strong liability carriers. Robert A. Anderson, Jr., director of the IBC, can be reached at 401-272-1050. More information is available at www.rimed.org/rims-ibc.asp. ❖

Not Your Father's Annual Meeting

RIMS 2014–2015 slate of officers: Treasurer **Jose R. Polanco, MD**; President **Peter Karczmar, MD**; Vice President **Sarah J. Fessler, MD**; President-Elect **Russell A. Settipane, MD**; Past President **Elaine C. Jones, MD**; not present, Secretary **Bradley J. Collins, MD**

PHOTOS COURTESY OF ROBERT ANDERSON, JR

The **Dr. Herbert Rakatansky Award** for exemplary professionalism and humanitarian service in the field of medicine was given to the late Dr. Milton Hamolsky. Receiving the honor was his widow, Sandra Hamolsky, RN.

The inaugural **Dr. John Clarke Award** will be presented to Lt. Gov. Elizabeth Roberts this month. The award was established in 2014 to recognize individuals who have made exceptional contributions to public life through outstanding civic leadership and service.

Peter Karczmar, MD, was inaugurated as the 156th president of the Rhode Island Medical Society at its annual meeting held on Sept. 27 at the historic Squantum Association in East Providence.

Outgoing RIMS President Elaine C. Jones, MD, at left, introduced Yul Ejnes, MD, MACP, the recipient of the **Dr. Charles L. Hill Award**. Established in 1981, this award recognizes a RIMS member physician for leadership and service.

Working for You: RIMS advocacy activities

September 2, Tuesday

RIMS Physician Health Committee (Herbert Rakatansky, MD, Chair)

September 3, Wednesday

Telephone interview with MACPAC (CMS) study on primary care payment increase, RIMS Staff

Health Professions Loan Repayment Awards ceremony, Governor's State Room, RIMS Staff

September 5, Friday

Tobacco Free Rhode Island Annual Policy Priorities meeting, RIMS Staff

September 8, Monday

Department of Health Board of Medical Licensure and Discipline public hearing on proposed regulations regarding physician "volunteer" license; RIMS Staff

Department of Health Board of Medical Licensure and Discipline public hearing on proposed regulations regarding changes to prescription drug monitoring program, RIMS Staff

September 10, Wednesday

BMLD Meeting, RIMS Staff

September 11, Thursday

Meeting with Blue Cross Blue Shield of RI; Elaine C. Jones, MD, RIMS President and RIMS Staff

September 15, Monday

Meeting with Kathleen Hittner, MD, Health Insurance Commissioner; Peter Karczmar, MD, President-elect, and Staff

September 16, Tuesday

Meeting with Dept.of Health regarding Ebola, RIMS Staff

HealthSource RI Advisory Committee, RIMS Staff

OHIC Health Insurance Advisory Committee meeting, RIMS Staff

September 18–19, Thursday-Friday

American Medical Political Action Committee (AMPAC) Federation Meeting; Capitol Hill visits, Michael Migliori, MD, AMPAC Board Member; Chair, Public Laws Committee; and RIMS Staff

September 19, Friday

Governor's Task Force on Drug Overdose; Michael Fine, MD, DOH; Craig Stenning, BHDDH; RIMS Staff

September 20, Saturday

Council NE State Medical Societies and NE Delegation to the AMA House of Delegates meeting, Waltham; Peter Hollmann, MD, RIMS AMA Delegate; and Staff

September 23, Tuesday

RI Quality Institute CurrentCare Viewer Demonstration and Training, RIMS Staff

September 24, Wednesday

RI Society of Eye Physicians and Surgeons (RISEPS) and RIMS-IBC Medical Professional Liability Program; Robert A. Anderson, Jr., Director, RIMS-IBC; and Staff

RI Quality Institute CurrentCare Viewer Demonstration and Training, RIMS Staff

AMPAC Board Member and RIMS Public Laws Committee Chair Michael Migliori, MD met with Sen. Jack Reed in Washington, DC on September 18.

September 24, Wednesday

Department of Health Ebola meeting, RIMS Staff

RI Society of Eye Physicians and Surgeons (RISEPS) and RIMS-IBC Medical Professional Liability Program; Robert A. Anderson, Jr., Director, RIMS-IBC and Staff

September 25, Thursday

Behavioral Health and Substance Abuse Coalition Meeting, RIMS Staff

Meeting with Laura Adams, President/CEO, RI Quality Institute, and RIMS Staff

Department of Health, Health Services Council, RIMS Staff

Conference call with AMA, RIMS Staff

September 26, Friday

Meeting with Executive Director of HealthRight, RIMS Staff

Laura Adams, President/CEO, RI Quality Institute, and RIMS Staff

September 27, Saturday

RIMS Annual Meeting: Morning Educational Session and Evening Reception, Installation of Officers and Awards

September 29, Monday

Meeting with Health in Evolution: physician billing and software support; Jerry Fingerut, MD, past Treasurer and Membership Committee; Edwina Rego, Practice Manager, RI Hospital Department of Ophthalmology; RIMS Staff

RIMWA EDUCATIONAL EVENT: Dr. Elise M. Coletta Annual Lecture

Blinded by the Light

Lynn E. Iler, MD

Dermatology Professionals, Inc, E. Greenwich

Wednesday, October 29, 2014
6:00 pm Reception
6:30 pm Presentation and Dinner

Chapel Grille, 3000 Chapel View Boulevard, Cranston

Members and guests welcome

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SPECIAL NOTICE: 2014 AMA DUES PAYMENTS

The American Medical Association (AMA) will direct bill its Rhode Island members for their 2014 dues. Beginning August 2013, AMA members will receive a separate dues statement from the AMA instead of paying AMA membership dues through the Rhode Island Medical Society (RIMS) membership invoice. This is simply an operational change so that both RIMS and AMA can concentrate on their respective member satisfaction. There remains no requirement for RIMS members to join the AMA.

Please let us know if you have questions concerning this change by emailing Megan Turcotte or phoning 401-331-3207.

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At a training session at St. Joseph Catholic Hospital with Dr. Senga Omeonga, who recovered from Ebola. These blue glasses are very handy because, for surgeons, it's very helpful that they don't skip off the head.

'Dr. Tim' Flanigan lending a hand and hope in Liberia

Miriam Hospital ID doc training healthcare workers for two months

MARY KORR
RIMJ MANAGING EDITOR

Photos/Captions Courtesy of Dr. Timothy P. Flanigan

Visit Dr. Flanigan's blog: timothypflaniganmd.com.

In Liberia, they call him Dr. Tim.

Miriam Hospital physician Dr. Timothy P. Flanigan, professor of medicine and former chief of infectious diseases at the Alpert Medical School, arrived in Monrovia September 1, with a dozen of his children's old duffel bags stuffed with personal protective equipment (PPE), including gowns, gloves, masks and goggles.

On the ground he found that, "despite the fear and suffering from Ebola much of life goes on normally. The market is full and full of activity. Schools, though, are closed."

In Monrovia, he describes people living in "shacks with tin roofs with many, many family members to a room — perfect conditions for the spread of a highly infectious agent. Add to that the fear, ignorance, and illiteracy with few jobs and most hospitals closed, and it's not surprising that the epidemic continues."

According to the World Health Organization (WHO), when the outbreak began, Liberia had only one doctor to treat nearly 100,000 people in a total population of 4.4 million people.

WHO stated that "as soon as a new Ebola treatment facility is opened, it immediately fills to overflowing with patients, pointing to a large but previously invisible caseload. Of all Ebola-affected countries, Liberia has the highest cumulative number of reported cases and deaths, amounting, on 8 September, to nearly two

I'm having my temperature checked by an infrared thermometer. These do not require touching. The no-touch protocol is very serious and works very well. As you can see I'm talking on the phone at the same time. Informal markets don't have these temp scanners but they are being used at airports, many government buildings, and some bigger businesses.

Hand washing station, Monrovia.

Training in a small health clinic that continues to be open and see patients including a bustling maternal child health program. We conducted the training with practical hands on PPE, which was very helpful.

thousand cases and more than one thousand deaths." By September 29, the CDC reported the total cases in Liberia had reached 3,458 with 1,830 deaths.

Dr. Flanigan will remain in Liberia until November, under the auspices of the Catholic Diocese there – he is a deacon in the Catholic Diocese of Providence and has given several homilies at masses recently, encouraging Liberians to be sustained by their faith, in which he, himself, finds hope and spiritual sustenance, according to the blog he keeps at timothypflaniganmd.com.

Since his arrival, the Miriam physician has been interviewed by the world and national media on the global response to the epidemic, and, it is no doubt in part because of his observations that a much more robust intervention by the United States and other countries is now underway.

Recently, Dr. Flanigan answered a few questions posed by RIMJ editors on his work and well-being in Liberia.

Q. Are you taking good care of yourself?

A. I am sleeping well, doing fine and taking my malaria prophylaxis.

Q. Are you involved in any direct patient care?

A. I have not worked in the treatment units themselves. I am conducting trainings almost every day. The majority of them are in health centers, clinics and a hospital. I have four outstanding nurses that are working with me so a lot of what I do is to train the trainers. We are also assessing the need for more and better protective equipment.

Street in Monrovia.

Q. How many volunteer MDs and RNs are involved?

A. There are many volunteer physicians and nurses but there is a need for many more. There is now an excellent training available, including through the CDC.

Q. How do workers tolerate the gowns and masks in the heat and humidity?

A. I've only worn PPE in clinic training sessions for a half hour. The treatment units are limiting the time in heavy PPE because of the heat.

Home for the next two months.

Myself and two of the other trainers getting ready

On Sunday, Sept. 21, we traveled up to Bong to visit an Ebola treatment unit run by the International Medical Corps. Dr. John Ly, MD, PLME '08, working for Last Mile in Liberia and Dr. Adam Levine, Emergency Medicine faculty, work in this Ebola treatment unit.

They have 10 patients there. They are able to provide excellent hydration including IV treatment if necessary which is very encouraging. When you visit you stay out of the high-risk areas. It is very safe. The precautions are extraordinarily well done.

Star of the Seas is in West Point, Monrovia, and is a hustling, bustling place. Dr. Dore, the medical director, has been there all through the war and during this epidemic. The nurses who were screening patients were in PPE (Personal Protective Equipment) and were comfortable with the MOH (Ministry of Health) protocols. The health center could screen for malaria, HIV and syphilis; check for blood glucose and do a urinalysis and a CBC. They did pre- and post-natal care and deliveries…quite something in the middle of the epidemic. They operate 24/7 and you can spend the night there if needed.

Q. How are the diagnoses being made? Since the early symptoms are very non-specific, sending someone to an "Ebola hospital" could be a death sentence.

A. Ebola PCR is available for diagnosis, which is very helpful.

Q. Is there any epidemiologic evidence of natural immunity to the Ebola virus?

A. All of the evidence would strongly suggest that you are immune to that strain once you have recovered. The predominant strain is all Zaire. No one, of course, has done a study and so even if you are recovered and working with patients you wear all the protective equipment.

Q. Do you see the epidemic being confined to the cluster of five West African nations?

A. I think cases will stray across the border to neighboring countries and hopefully they are well prepared to contain it. The US Department of Defense military arm is best prepared to set up multiple hospitals for treatment in an epidemic like this. Happily they are now committed to doing so. ❖

MAP: CDC

The 2014 Ebola outbreak is the largest in history and the first Ebola outbreak in West Africa. This outbreak is actually the first Ebola epidemic the world has ever known – affecting multiple countries in and around West Africa, including Liberia, Guinea, Sierra Leone, Nigeria and Senegal.

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Health Care Providers Can Help Prevent Domestic Violence

A look at the impact of domestic violence in Rhode Island and providers' roles in addressing domestic abuse

RACHEL ORSINGER, CYNTHIA ROBERTS

As we go into October's Domestic Violence Awareness Month, it seems that more people than ever are talking about how this public health issue is affecting our communities. The current conversation has been propelled to the national stage by high-profile NFL cases, but every day, similar incidents occur in Rhode Island. Each year, approximately 10,000 Rhode Islanders receive domestic violence services, and others may not seek services at all. Health care professionals are often in a unique position to make a difference in the lives of these victims.

While domestic violence has historically been seen as primarily a criminal justice issue, there is an increasing focus on framing it as a public health issue. Rhode Island is a leader among its national peers for pioneering practices in the primary prevention of domestic violence. Through the Centers for Disease Control and Prevention's (CDC) DELTA FOCUS (Domestic Violence Prevention Enhancement and Leadership Through Alliances, Focusing on Outcomes for Communities United with States) grant, the Rhode Island Coalition Against Domestic Violence (RICADV) is one of ten national grantees working collaboratively across sectors to design, implement, and evaluate promising community- and neighborhood-level strategies in collaboration with community partners in Newport and Cranston. Two of the RICADV's member agencies, the Women's Resource Center in Newport and the Elizabeth Buffum Chace Center in Warwick, are immersed in the local implementation efforts. The RICADV is also working on policy, systems and environmental changes at the state level to prevent domestic violence more broadly across the state population.

The immediate health impacts of domestic violence on victims can be quite serious; according to the CDC, more than 1 out of 5 female victims and 1 out of 20 male victims of domestic violence have had to seek medical attention for injuries caused by the abuse. In addition, more than 3 out of 5 female victims and 1 out of 6 male victims of domestic violence have suffered symptoms of post-traumatic stress disorder (PTSD).[1] Patients may be more willing to disclose abuse to a trusted health care professional, both because of the existing relationship and because of the confidentiality offered by the doctor/patient relationship.[2] Intervention from health care professionals, even an action as simple as providing a referral card for domestic violence services, has been shown to reduce threats of abuse, assaults, and risks for homicide.[3]

Those victims who do not proactively approach their physicians about the abuse may nevertheless be willing to respond to direct questions, especially if they are delivered in a non-judgmental manner in a safe space away from their abusers. A number of domestic violence screening tools have been found to be highly accurate.[4] Tools and best practices for screening can be found at www.healthcaresaboutipv.org.

Some victims may not disclose the abuse, even to direct questions, but a physician might see other signs that indicate abuse. Perhaps there are injuries that do not match the explanation

provided, a delay in seeking treatment for injuries, or a partner who seems overly protective and unwilling to leave the victim's side. If a physician suspects that a patient is experiencing abuse but there is an unwillingness to talk about it, the physician can offer to be a source of referrals in the future. Remaining non-judgmental will increase the likelihood that the victim will feel comfortable seeking this help in the future.

Victims who do wish to seek help can be referred to appropriate victims' services. In Rhode Island, the 24-hour **Helpline (1-800-494-8100)** is a resource for either physicians or their patients to call. The Helpline can provide referrals to local domestic violence agencies for services such as emergency shelter, court advocacy, counseling, support groups and safety planning. The Helpline can also provide advocates to accompany victims who would like support at the hospital.

Tips for Practitioners

Remember that domestic violence victims' medical information is strongly protected by state and federal law. Sharing information about victims of domestic violence without their consent is not just a legal and privacy issue but can also risk the physical safety of the victim and children in the family. It is important to disclose any limits on your confidentiality before asking a victim about possible abuse. Rhode Island does not have mandatory reporting for domestic violence, but health care workers who have come from states that do may need training in Rhode Island privacy laws.

To minimize defensiveness, it may help to frame screening questions as routine questions asked of all patients. It is important to listen to patients without judging those choices; while you may not understand their choices, victims of domestic violence know what is safe in their particular situations better than any external party can. Victims may face barriers to leaving abusive relationships, including financial dependence, fear of their abusers or threats of harm to themselves or loved ones. It is helpful to express support for victims, emphasize that this situation is not their fault and that no one deserves to be abused.

When offering pamphlets or other printed resources on domestic violence, be aware that some victims may not be safe if their abusers find these in their possession. Never insist that a reluctant victim take these resources; instead, think creatively about how to make the information safely accessible to your patient. For instance, consider writing the Helpline number (1-800-494-8100) on a blank appointment card for a victim who doesn't feel safe taking a brochure with that same information.

It can be frustrating when a victim doesn't respond to your offers of help or remains in an abusive situation. Know that it might not be safe for that victim to accept your help in the moment, but that your listening and supporting that person in a non-judgmental way may help in building a path away from abuse in the future.

This Domestic Violence Awareness Month, we ask you to partner with us. Discuss your workplace's policy on training staff on domestic violence and how patients are screened. Take a leadership role in your professional community by implementing best practices for screening and intervening with victims. Together we can end domestic violence in Rhode Island.

For tips and best practices on screening for domestic violence go to www.healthcaresaboutipv.org and visit www.ricadv.org for more information about how you can help in Rhode Island. ❖

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Authors

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Hasbro Children's Specialty Practice opens pediatric multispecialty clinic in Fall River

PROVIDENCE – Hasbro Children's Specialty Practice has opened its new Fall River Multispecialty Clinic to provide more localized, high-level specialty care to the families it serves in Southeastern New England. A team of practitioners from Hasbro Children's Hospital ambulatory clinics is now available to treat patients in a family-friendly clinical space that is more easily accessible to families east of Providence.

This new clinic expands Hasbro Children's Hospital's current offerings in the region, which already include a partnership with Saint Anne's Hospital, where Hasbro Children's Hospital specialists care for patients at the Fernandes Center for Children & Families.

"Easy access to care is very important to the families we serve and we are glad to provide more convenient access to a greater number of our specialty clinicians in the southern Massachusetts community," said Patricia Flanagan, MD, interim pediatrician-in-chief and chief of clinical affairs at Hasbro Children's Hospital. "Our physicians are eager to provide more localized pediatric care to children with specialized needs who currently have to travel to have their needs met."

The new space features five exam rooms and a multipurpose treatment room, as well as a vibrant waiting room with a children's play area. Medical staff are able to perform on-site EKG and echocardiogram services, as well as specimen collections. The clinic has also partnered with local laboratories to provide laboratory services close to home.

The clinic, located at 10 North Main Street in Fall River, is the latest offering in Hasbro Children's Hospital's evolution from a provider of acute care for the region's children to a provider of health maintenance and wellness. The Fall River Specialty Clinic is part of an ambulatory clinic group that already includes locations in East Providence and East Greenwich.

Hasbro Children's Specialty Practice clinics being offered at the Fall River location include:

- Gastrointestinal medicine
- Cardiology
- Endocrinology
- Nephrology
- Pulmonology services will also be offered later this fall. ❖

Bradley Hospital collaborative study identifies genetic change in autism-related gene

Changes in ADNP gene may be among the most common causes of autism

PROVIDENCE, R.I. – A new study from Bradley Hospital has identified a genetic change in a recently identified autism-associated gene, which may provide further insight into the causes of autism. The study, now published online in the *Journal of Medical Genetics*, presents findings that likely represent a definitive clinical marker for some patients' developmental disabilities.

Using whole-exome sequencing – a method that examines the parts of genes that regulate protein, called exons – the team identified a genetic change in a newly recognized autism-associated gene, Activity-Dependent Neuroprotective Protein (ADNP), in a girl with developmental delay. This change in the ADNP gene helps explain the cause of developmental delay in this patient. This same genetic change in ADNP was also found in a boy who was diagnosed with autism.

The ADNP gene plays an important role in regulation of early brain development. Recently, genetic changes in this gene have been found to cause a novel genetic syndrome associated with autism. Changes in this gene may be among the most common causes of autism.

"Genetic testing is a very powerful diagnostic tool for individuals with developmental delay," said **ERIC MORROW, MD, PhD**, director of the Developmental Disorder Genetics Research Program at Bradley Hospital and lead author of the study. "Through genetic testing, which is available to some in the clinical setting as well as in research, a medical diagnosis is possible for a large subset of patients."

Dr. Morrow continued, "Genetic changes in ADNP are highly associated with autism and are found in at least .17 percent of autism cases. In these patients, changes in this gene represent an important part of the medical cause for developmental delay and/or autism. The use of these genome-wide sequencing methods in patients with developmental disorders is one of the best examples of the applications of modern genomics in clinical practice."

This study represents one of the first publications resulting in part from Morrow's work with the Rhode Island Collaborative for Autism Research and Treatment (RI-CART), which is co-led by Morrow. Funding for RI-CART is provided in part by a grant from the Simons Foundation for Autism Research and also through support from the Brown Institute for Brain Science (BIBS), the Norman Prince Neuroscience Institute at Rhode Island Hospital, the Department of Psychiatry and Human Behavior at Brown University, Women & Infants Hospital and the Groden Network. This cross-disciplinary collaboration, including the work of **CHANIKA PHORNPHUTKUL, MD**, director of Hasbro Children's Hospital's division of Clinical Genetics, and the paper's lead authors from several departments and training programs, represents an important development in research and clinical care for patients. ❖

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Women & Infants breast cancer specialist reports advance in treatment of triple-negative breast cancer

WOMEN & INFANTS HOSPITAL

PROVIDENCE – **WILLIAM M. SIKOV, MD**, a medical oncologist in the Breast Health Center and associate director for clinical research in the Program in Women's Oncology at Women & Infants Hospital of Rhode Island, served as study chair and lead author for a recently-published major national study that could lead to improvements in outcomes for women with triple-negative breast cancer, an aggressive form of the disease that disproportionately affects younger women.

"Impact of the Addition of Carboplatin and/or Bevacizumab to Neoadjuvant Once-Per-Week Paclitaxel Followed by Dose-Dense Doxorubicin and Cyclophosphamide on Pathologic Complete Response Rates in Stage II to III Triple-Negative Breast Cancer: CALGB 40603 (Alliance)" was accepted as a rapid publication and published online last month by the *Journal of Clinical Oncology*.

Because of its rapid growth rate, many women with triple-} negative breast cancer receive chemotherapy to try to shrink it before undergoing surgery. With the standard treatment, the cancer is eliminated from the breast and lymph nodes in the armpit before surgery in about one third of women. This is referred to as a pathologic complete response (pCR). In patients who achieve pCR, the cancer is much less likely to come back, spread to other parts of the body, and cause the patient's death than if the cancer survives the chemotherapy.

Dr. Sikov and his collaborators studied the addition of other drugs – carboplatin and/or bevacizumab – to the standard treatment regimen to see if they could increase response rates. More than 440 women from cancer centers across the country enrolled in this randomized clinical trial.

"Adding either of these medications significantly increased the percentage of women who achieved a pCR with the preoperative treatment. We hope that this means fewer women will relapse and die of their cancer, though the study is not large enough to prove this conclusively. Of the two agents we studied, we are more encouraged by the results from the addition of carboplatin, since it was associated with fewer and less concerning additional side effects than bevacizumab," Dr. Sikov explains.

"More studies are planned to confirm the role of carboplatin in women with triple-negative breast cancer, and also to see if we can better identify which of these patients are most likely to benefit from its use. Until we have those results, medical oncologists who treat women with triple-negative breast cancer will have to decide whether the potential benefits of adding carboplatin outweigh its risks for each individual patient."

Triple-negative breast cancer accounts for 15 to 20 percent of invasive breast cancers diagnosed in the United States each year, and is more common in younger women, African-Americans, Hispanics, and BRCA1-mutation carriers. With no identified characteristic molecular abnormalities that can be targeted with medication, the current standard of treatment is chemotherapy.

"Overall prognosis for women with this type of breast cancer remains inferior to that of other breast cancer subtypes, with higher risk of early relapse," Dr. Sikov says. ❖

Kent, Memorial awarded $20,000 Verizon grant to pilot cardiovascular telemedicine program

WARWICK – Through the support of a $20,000 Verizon Foundation Grant, Care New England's Kent and Memorial hospitals will take part in a cardiac telemedicine pilot program.

The goal is to improve the cardiovascular health of women in Rhode Island. Telemedicine will be used to connect patients and caregivers when being treated remotely or when transferring from one hospital to another. It also will enable patients to communicate with their entire health care team while at home. ❖

Kent's Graduate Medical Education Program receives five-year accreditation

WARWICK – Kent Hospital's Graduate Medical Education Program (GME) recently received a five-year accreditation from the American Osteopathic Association for its Family Medicine, Internal Medicine and Hyperbaric Medicine Fellowship Program.

"This accreditation is the culmination of a tremendous amount of hard work from a great team of physicians and staff who have committed to the success of this program," said **JOSEPH SPINALE, DO**, Kent Hospital chief medical officer and director of graduate medical education. "We are proud of this program which will prepare these physicians for a career in caring for their patients and the community."

Each program ranked between 95 and 100 percent in the survey scoring. In addition to the programs receiving accreditation now, the Emergency Medicine Program earlier received its five-year accreditation.

Earlier this year, the GME program graduated 12 doctors. Currently, 44 residents are enrolled across all programs with 14 interns also joining. Also this year, a gastroenterology fellowship was initiated and welcomed two fellows. In 2008, Kent established the GME program and is a teaching affiliate of the University of New England College of Osteopathic Medicine, located in Maine. ❖

Women & Infants researchers examine role of hormone in patient responses to ovarian cancer treatment

PROVIDENCE – Researchers at Women & Infants Hospital of Rhode Island recently published the results of an investigation into how we might better tailor therapy for ovarian cancer.

The work comes out of the molecular therapeutic laboratory directed by **RICHARD G. MOORE, MD**, of Women & Infants' Program in Women's Oncology. Entitled "HE4 expression is associated with hormonal elements and mediated by importin-dependent nuclear translocation," the research was recently published in the international science journal *Scientific Reports*, a Nature publishing group.

The goal of the study was to investigate the role of the hormone HE4 in modulating an ovarian cancer's response to hormones and hormonal therapies. HE4 is a biomarker that is elevated in ovarian cancer and is known to play a role in resistance to chemotherapy.

"There is little known about the biologic functions of HE4 but we did know that there were hormonal responsive elements within the promoter region of the HE4 gene, which regulates gene expression. For this reason, we hypothesized that steroid hormones could influence expression of HE4 in ovarian cancer," Dr. Moore explains.

The study resulted in multiple findings:

Hormonal therapies like Tamoxifen and Fulvestrant are effective because they bind the estrogen receptor. If cells have less estrogen receptor expression, these drugs can't do their job. This, the researchers believe, is due to epigenetic modifications which modify the DNA structure but not the DNA sequence itself. Overexpression led to the epigenetic modification known as decreased DNA methylation in cell culture and in human tissue samples.

Treatment of ovarian cancer cells with Tamoxifen and Fulvestrant all cause HE4 to translocate to the nucleaus, where it can then effect further gene expression in cancer cells.

Using the drug Ivermectin, the researchers were able to inhibit the protein import in-4, which then inhibited HE4 from translocating to the nucleus. If HE4 can't enter the nucleus, it cannot affect gene expression. The ability to block HE4 from entering the nucleus restored sensitivity to hormonal therapy.

"We are not certain but believe this might mean there could be a subset of women whose tumors are more likely to respond to hormonal therapy. Moreover, we might be able to eventually identify which tumors these are and target treatment," Dr. Moore says.

His lab will continue to investigate the expression of estrogen receptors in both primary and recurrent ovarian cancers and how that relates to HE4 expression. In addition, he and other researchers will investigate how importin inhibitors may play a role in addressing chemoresistance to standard therapeutics, particularly in HE4 overexpressing tumors. ❖

RI is national leader in vaccination rates for children and teens

ATLANTA – Immunization rates for child and teenagers in Rhode Island are among the highest in the country, according to data released by the Centers for Disease Control and Prevention (CDC) in September.

The data was gathered through the National Immunization Survey, an annual study conducted through random telephone calls to parents and guardians and follow-up with healthcare providers. Rhode Island highlights include:

- Rhode Island's immunization rate for children from 19 to 35 months of age was first in the nation for the childhood vaccine series that protects against 11 diseases (diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, Haemophilus influenzae type b, hepatitis B, varicella, and pneumococcal disease). 82% of Rhode Island children completed this vaccine series.
- The vaccination rates for children in Rhode Island from 19 to 35 months of age for varicella and hepatitis B were both greater than 96%, the best in the nation.
- Among adolescents, Rhode Island's immunization rates for the vaccines that protect against chicken pox (varicella), hepatitis B, tetanus, pertussis, diphtheria, measles, mumps, and rubella were all above 92%, well above the national averages.
- 77% of Rhode Island girls and 69% of Rhode Island boys received at least one dose of Human papillomavirus (HPV) vaccine, the highest rates in the country.
- 57% of Rhode Island girls and 43% of Rhode Island boys completed the three-dose HPV series. These rates were also first in the nation, considerably higher than the national averages of 38% for girls and 14% for boys.

"Children in Rhode Island are protected against many dangerous diseases thanks to the dedication of Rhode Island's pediatricians, family physicians, school personnel, and many other unsung heroes," said Director of Health **MICHAEL FINE, MD**. "But as proud as I am of these numbers, we still have more work to do."

The goals of Healthy People 2020 include immunization rates of 90% for most childhood and adolescent vaccines. Healthy People is undertaken every 10 years by CDC to set national health goals.

In addition to the hard work of healthcare providers, other factors in Rhode Island's immunization success include KIDSNET, a statewide health information system, and Rhode Island's Universal Vaccine Policy. This Universal Vaccine Policy allows healthcare providers to order all vaccines for children from birth through 18 years of age at no cost.

The most recent National Immunization Survey data was gathered during 2013. ❖

Link to full report: http://www.cdc.gov/vaccines/imz-managers/coverage/imz-coverage.html

CNE opens surgical weight loss program

PROVIDENCE – Care New England Health System recently (CNE) introduced a comprehensive surgical weight loss program offering procedures including the lap band, sleeve gastrectomy and gastric bypass.

The Center for Surgical Weight Loss program will be directed by **JEANNINE GIOVANNI, MD**, a board-certified general surgeon with advanced training in bariatric surgery and extensive experience here in Rhode Island.

Dr. Giovanni completed her surgical training at Boston Medical Center and a fellowship in bariatric surgery at Saint Francis Hospital in Hartford, CT. She has practiced since 2005 and has performed more than 1,000 laparoscopic bariatric procedures. ❖

URI receives one of first Future of Nursing Scholars grants to support students seeking PhDs

KINGSTON – The University of Rhode Island's College of Nursing is one of only 14 nursing schools nationwide to be among the first to receive a Robert Wood Johnson Foundation grant to increase the number of nurses holding doctor of philosophy degrees.

The Future of Nursing Scholars program, which is providing $150,000 to URI over three years, also received major support from the Rhode Island Foundation, United Health Foundation, Independence Blue Cross Foundation, and Cedars-Sinai Medical Center. The Future of Nursing Scholars program plans to support up to 100 Ph.D. nursing candidates during its first two years.

As an inaugural grantee of the Future of Nursing Scholars program, URI's College of Nursing has selected Pamela McCue, the chief executive officer of the Rhode Island Nurses Institute Middle College Charter School, to receive financial support, mentoring and leadership development during the three years of her doctoral program. McCue receives $75,000, and the College of Nursing provides a $25,000 match in the form of a graduate assistantship. An additional scholarship will be awarded later this year.

Mary Sullivan, interim dean of URI's College of Nursing, said such support will help students move more quickly through URI's PhD program, which is critical because numerous experts and studies have said the key factor in having enough nurses to address an impending nationwide shortage is the lack of instructors with doctorates.

"Typically, nurses enter PhD programs later than other graduate students so their scholarly and scientific careers are shorter," Sullivan said. "We have responded to this need by streamlining our program and committing to supporting our students so they finish the program." ❖

URI-Lifespan team up to graduate dozens in R.N. to B.S. program

Nurses continue working while earning bachelor's degree

KINGSTON – With big changes in the health care industry today, registered nurses are looking for ways to further their education to stay informed. The University of Rhode Island and Lifespan are teaming up to provide that opportunity.

Dozens of nurses from Rhode Island and Massachusetts boosted their professional careers recently by earning their bachelor's degrees in nursing, thanks to a successful collaboration between URI and Lifespan.

MICHAEL SALERNO PHOTOGRAPHY

Graduates of the R.N. to B.S. program at the University of Rhode Island. URI administrators and instructors are in the photo as well.

The 61 students awarded degrees Aug. 21 were already registered nurses, which required either two years of study to earn an associate's degree or a three-year hospital diploma. All the nurses studied an additional two to three years to get their bachelor of science degree.

URI started offering the program through the College of Nursing 12 years ago with The Miriam Hospital. That partnership led to an expansion three years ago to include all Lifespan hospitals, including Rhode Island Hospital, Hasbro Children's Hospital, Newport Hospital, Bradley Hospital, as well as The Miriam.

The nurses who received bachelor's degrees all work at Lifespan hospitals. They continued working there four days a week and took classes one day a week at URI's Alan Shawn Feinstein campus in Providence. The partnership with Lifespan is thriving, in part, because it allows the nurses to keep working while studying.

For more information about the R.N. to B.S. program at URI, contact Diane Martins, associate professor of nursing at the University, at 401-874-2766 or dcmartins@uri.edu. ❖

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Appointments

Ashish Shah, MD, joins Brigham and Women's Cardiovascular Associates at CNE

PROVIDENCE – **ASHISH SHAH, MD**, FACC will join the Brigham and Women's Cardiovascular Associates at Care New England, and provide services at both Kent and Memorial hospitals.

CARE NEW ENGLAND

Ashish Shah, MD

He completed an interventional cardiology fellowship at New York Presbyterian Hospital's Weill Cornell Medical Center, and served as chief interventional fellow. Dr. Shah is board certified in internal medicine and cardiovascular disease. His clinical interests include preventive cardiology with a focus on risk assessment and risk factor modification, management of valvular heart disease, congestive heart failure, and arrhythmias, and critical care cardiology.

He specializes in non-invasive and interventional approaches to the management of acute coronary syndromes, coronary artery disease, and peripheral vascular disease and has advanced training in cardiac catheterization including percutaneous coronary interventions and peripheral vascular interventions. He is a member of the cardiovascular division at Brigham and Women's Hospital and is an instructor of medicine at Harvard Medical School. ❖

Vinay Goyal, MD, Appointed to Memorial Hospital

MEMORIAL HOSPITAL

Vinay Goyal, MD

PAWTUCKET – Memorial Hospital of Rhode Island recently appointed **VINAY GOYAL, MD**, to its medical staff in the Department of Surgery. Dr. Goyal is a member of Affinity Physicians and will work out of Memorial Hospital.

Dr. Goyal earned his medical degree from Maulana Azad Medical College University of Delhi, New Delhi, India. He earned a master of surgery degree from Lady Hardinge Medical College, University of Delhi, New Delhi, India. Dr. Goyal completed his residency in general surgery at Bronx Lebanon Hospital Center / Albert Einstein College of Medicine, Bronx, New York, where he served as chief resident in his final year. He went on to complete a fellowship in minimally invasive and bariatric surgery from Penn State University, Hershey Medical Center, Hershey, PA.

Fluent in English and Hindi, Dr. Goyal is a member of the American College of Surgeons (ACS) and Society of American Gastrointestinal and Endoscopic Surgeons (SAGES).

Dr. Goyal's clinical interests include: laparoscopic surgery for colon cancer, minimally invasive techniques for the surgical management of abdominal organs and abdominal wall hernias. ❖

Katie Chapman, DO; Nicole Coleman, DO, join ED Dept. at Memorial

MEMORIAL HOSPITAL

Katie Chapman, DO

MEMORIAL HOSPITAL

Nicole Coleman, DO

PAWTUCKET – Memorial Hospital of Rhode Island recently appointed **KATIE CHAPMAN, DO**, and **NICOLE COLEMAN, DO**, to its medical staff in the Emergency Department. Drs. Chapman and Coleman are members of Affinity Physicians and will work out of Memorial Hospital.

Dr. Chapman earned her medical degree from Lake Erie College of Osteopathic Medicine, Erie, PA. Dr. Coleman earned her medical degree from Nova Southeastern University, Fort Lauderdale, FL. Both physicians completed their emergency medicine residencies at Kent Hospital, Warwick, RI.

Drs. Chapman and Coleman are members of the American College of Osteopathic Emergency Physicians, American College of Emergency Physicians, the Rhode Island Medical Society, Rhode Island Society of Osteopathic Physicians and Surgeons, American Osteopathic Association, Emergency Medicine Residents' Association and American Academy of Emergency Medicine. Dr. Chapman is also a member of the Emergency Medical Response Agency.

Both Drs. Chapman and Coleman are certified in advanced cardiac life support, pediatric advanced life support and advanced trauma life support.

Dr. Chapman's areas of clinical interest include: disaster medicine and response. Dr. Coleman's clinical interests include: teaching residents, medical students and ultrasound use for bedside diagnosis and treatment guidance. ❖

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RWMC

Abdul Saied Calvino, MD

Dr. Abdul Saied Calvino joins Surgical Oncology Division at RWMC

PROVIDENCE – **ABDUL SAIED CALVINO, MD** has joined the Division of Surgical Oncology at Roger Williams Medical Center. He has a special interest in minimally invasive colon and rectal surgery, hepato-biliary and pancreatic surgery and also treats the full spectrum of general surgery conditions.

Dr. Calvino completed his surgical internship and residency at the University of Illinois at Chicago where he had a great exposure to minimally invasive techniques for gastrointestinal and hepato-biliary surgery. He also finished a two-year ACGME-accredited fellowship program in Complex Surgical Oncology at Roger Williams Medical Center.

During his time at the University of Illinois, he spent dedicated research time investigating inflammatory pathways in pancreatic cancer. He was recently awarded with the best research presentation at the Rhode Island Chapter of the American College of Surgery research forum. His clinical research focus is in quality outcomes research and disparities in cancer care. He has been an author on multiple peer-reviewed articles and is a member of multiple scientific societies, including the American College of Surgeons, the Society of Surgical Oncology, and the Americas Hepato-Pancreato-Biliary Association. ❖

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Annie De Groot, MD

Annie De Groot, MD, named one of the 50 most influential people in vaccine industry

PROVIDENCE – University of Rhode Island Research Professor **ANNIE DE GROOT, MD**, has been named one of the most influential people in the vaccine industry by the website VaccineNation.

The list of 50 vaccine "influencers" includes Bill Gates, Microsoft founder; Shari Narendra Modi, the prime minister of India; Robin Robinson, director of the Biomedical Advanced Research and Development Authority at the U.S. Department of Health and Human Services; and Bruce Aylward, who is directing the Ebola response in West Africa for the World Heath Organization.

The honorees were nominated and voted on in an international poll conducted by VaccineNation, a vaccine industry organization.

Dr. De Groot is the director of the URI Institute for Immunology and Informatics (iCubed) at the URI Feinstein Providence Campus, where she and her colleagues apply cutting-edge bioinformatics tools to accelerate the development of vaccines for infectious diseases such as H7N9 influenza, HIV and tuberculosis. The institute is also working to develop treatments and therapies for tropical diseases identified as "neglected" by the research community, including Dengue, filariasis and malaria.

Dr. De Groot is also the co-founder, chief executive officer and chief scientific officer of Providence-based biotechnology company EpiVax Inc. She joined the URI faculty from Brown University in 2008 and has received more than $27 million in federal funding for her research, which has received national and international recognition for her innovative "genome–to–vaccine" approach.

She attributes her success to the work of her team members, notably Associate Research Professor Lenny Moise and EpiVax co-founder and Chief Information Officer William D. Martin.

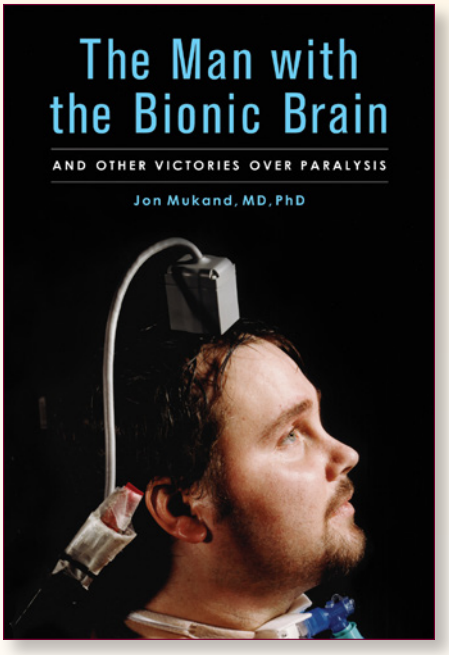
"Visionaries might be able to see beyond the horizon, but it takes a crew of capable individuals like Bill, Lenny, and the other scientists at iCubed and EpiVax to sail the ship," she said.

She is one of the medical providers and founders of Clinica Esperanza/Hope Clinic in Providence, where she also serves as volunteer medical director.

The complete list of the most influential people in the vaccine industry can be found by visiting VaccineNation. ❖

Recognition

Dr. Mukand's book, 'Man with Bionic Brain,' nominated for Saroyan Prize by Stanford University



The Man with the Bionic Brain and Other Victories Over Paralysis by **JON MUKAND MD, PHD**, medical director of Southern New England Rehabilitation Center, was shortlisted by the Stanford University Libraries for the sixth William Saroyan International Prize for Writing (Saroyan Prize).

The book tells the story, among others, of Matthew Nagle, completely paralyzed from the neck down, who was the first recipient of the Brown University-developed BrainGate neural interface system. In 2004, neurosurgeons at Rhode Island Hospital implanted microelectrodes in Nagle's brain that transmitted his thought patterns to a computer, allowing him to control a computer cursor.

The Saroyan awards are intended to encourage new or emerging writers and honor the Saroyan literary legacy of originality, vitality and stylistic innovation. The prize recognizes newly published works of both fiction and non-fiction.

William Saroyan, an American writer and playwright, is a Pulitzer Prize and Academy Award winner best known for his short stories about experiences of immigrant families and children in California. ❖

Richard Gold, MD, named physician of the year at Miriam

THE MIRIAM HOSPITAL

PROVIDENCE – The Miriam Hospital's Radiologist-in-Chief **RICHARD GOLD, MD**, has received the 2014 Charles C.J. Carpenter, MD, Outstanding Physician of the Year Award. Dr. Gold, who has been with The Miriam since 1994 and chief of radiology since 1998, was honored by his peers for his skill and dedication to the field of radiology.

The award recognizes a physician, nominated by his/her peers, for outstanding contributions to medicine, leadership, professionalism and patient care – qualities exemplified by Dr. Carpenter. As director of the Lifespan/Tufts/Brown Center for AIDS Research (CFAR) and a professor of medicine at The Warren Alpert Medical School of Brown University, Dr. Carpenter has achieved widespread recognition for his work in treating diseases in developing countries and for training a generation of researchers in the field of international health.

Board certified in internal medicine and radiology, Dr. Gold specializes in neuroradiology. He is the recipient of several teaching awards and is active with various hospital committees ranging from the Clinical Quality Council to the Patient Safety and Medical Executive Committees. He has been an American College of Radiology representative to The Joint Commission since 2008 and is a member of the American College of Radiology, the Radiologic Society of North America, the American Society of Neuroradiology, the Rhode Island Medical Society and the Rhode Island Radiologic Society.

In addition to serving as radiologist-in-chief in The Miriam's department of diagnostic imaging, Dr. Gold is an associate professor of diagnostic imaging (clinical) at the Alpert Medical School. ❖

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The Global Family of the Halogens

STANLEY M. ARONSON, MD

THE SWEDISH CHEMIST, JONS J. BERZELIUS (1779–1848), SOUGHT A novel name for four (and later, five) nonmetallic elements which, he believed, constituted most of the soluble elements of sea water. He chose the Greek word, *halos* (meaning 'the sea' and earlier, 'salt-producer') and added the Greek suffix, *-genos* (meaning 'to produce') to yield the word, halogen. Some related words include: halomancy, halophyte, halophile (growing in salt water) and haloid (but not the word, halo, which comes from a Latin term meaning a cosmic disk.) The new word, halogen, now defines five chemical elements: chlorine, bromine, iodine, fluorine and astatine.

Chlorine, from the Greek, *chloros*, meaning pale-green, is the origin of such cognate words as chloroform, chlorophill, chloromycetin, chlorosis (an older term for anemia) and Chloris, the Greek goddess of flowers.

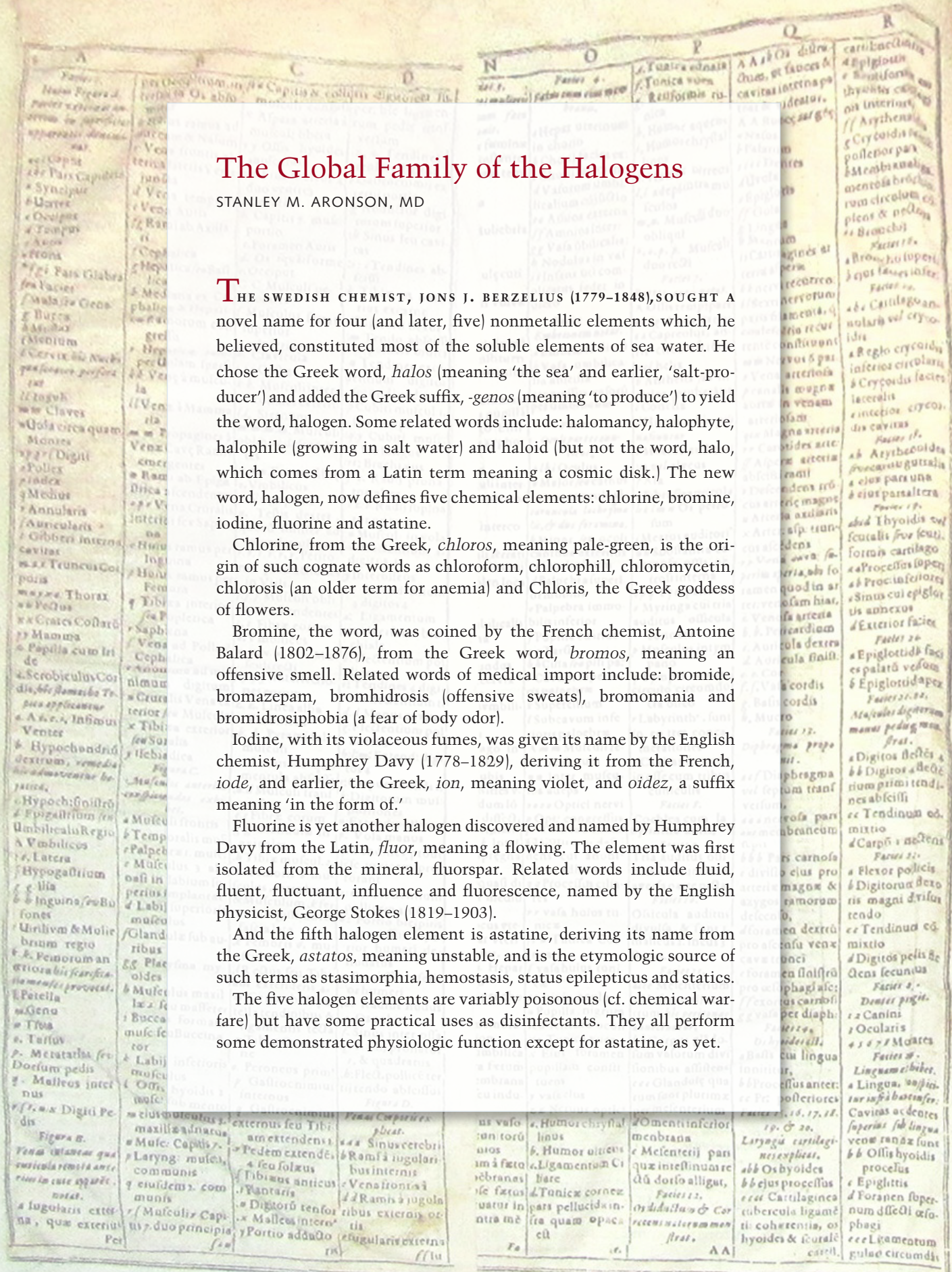
Bromine, the word, was coined by the French chemist, Antoine Balard (1802–1876), from the Greek word, *bromos*, meaning an offensive smell. Related words of medical import include: bromide, bromazepam, bromhidrosis (offensive sweats), bromomania and bromidrosiphobia (a fear of body odor).

Iodine, with its violaceous fumes, was given its name by the English chemist, Humphrey Davy (1778–1829), deriving it from the French, *iode*, and earlier, the Greek, *ion*, meaning violet, and *oidez*, a suffix meaning 'in the form of.'

Fluorine is yet another halogen discovered and named by Humphrey Davy from the Latin, *fluor*, meaning a flowing. The element was first isolated from the mineral, fluorspar. Related words include fluid, fluent, fluctuant, influence and fluorescence, named by the English physicist, George Stokes (1819–1903).

And the fifth halogen element is astatine, deriving its name from the Greek, *astatos,* meaning unstable, and is the etymologic source of such terms as stasimorphia, hemostasis, status epilepticus and statics.

The five halogen elements are variably poisonous (cf. chemical warfare) but have some practical uses as disinfectants. They all perform some demonstrated physiologic function except for astatine, as yet.



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1901–1910 Harvard alums in RI report on their profession

Salaries ranged from $1,000 to $5,800 per year

BY MARY KORR
RIMJ MANAGING EDITOR

In 1914, Harvard Medical School (HMS) published the results of a questionnaire sent to its 1901–1910 graduates, who answered the inquiries shown on **Figure 1**, relating to their "preparation, training, and practice."

The following are responses from six unnamed Rhode Island physicians, who described their current situations and offered advice to the medical school and to new physicians.

Figure. 1

INTRODUCTION 11

I. Location:
(a) City ?.....
(b) State ?.....Town ?.....(Approximate Population)

II. Year of Graduation from the Harvard Medical School ?.....

III. How much hospital work did you take after graduation ?.....
.....

IV. Do you do general practice ?.....
or, What specialty ? .....
or, Laboratory ? .....
or, Teaching ? .....
or, Public Health ? .....
or, Special work ?

V. How much money (approximately) did you make from medical work each successive year since leaving the School ?
1901....., 1902....., 1903....., 1904.....,
1905....., 1906....., 1907....., 1908.....,
1909....., 1910....., 1911....., 1912.....,
1913.....,

VI. What per cent (approximately) of your work is now paid in full ?.....In part ?.....Not at all ?.....

VII. Is there a need in your community for general practitioners ?
.....Specialists ?.....Surgeons ? .....
Eye, Ear, Nose and Throat ?.....Public Health Officers ?.....

VIII. In pre-medical preparation do you favor a predomination of
1. General culture, such as History, Philosophy, Economics, Literature, and Art ?.....
2. or, Natural Science, as Physics, Chemistry, and Biology ?.....

IX. What do you consider was lacking (if anything) in your School course to fit for your particular work ?.....
.....

X. Has the practice of medicine proved satisfactory to you ? If not, what is unsatisfactory ?.....
.....

XI. Individual Comment:
.....

HMS '01. 2 years hospital. General practice and surgery, barring obstetrics, in a city of 240,000 in Rhode Island. Favors sciences. Lack: therapeutics and prescription writing. Practice: fairly satisfactory.

Comments: "An unsatisfactory aspect of this profession is the lack of opportunity to put (quickly) into practice what one has been learning for six years.

The medical profession is overcrowded at the present day and competition is very keen. This is only one of several factors which should discourage a young man from seriously considering this means of earning his bread and butter. There is little attempt to limit the number of physicians in proportion to the population."

> 'He will make the better physician who has plenty of money to start with …'

HMS '02. 2 years hospital. Orthopedic surgery and roentgenology in a city of 225,000 in Rhode Island. Income, 1913: $5,800. Favors arts. Lack: nothing.

Comment: "My practice is satisfactory, on the whole, except for the ingratitude of people when they have no reason to complain and are merely unreasonable."

HMS '04. 25 months hospital. General practice in a city of 225,000 in Rhode Island. Income, 1913: $1,800. Lack: medical history, psychology, better training in therapeutics, materia medica, mechano-therapy. Practice: satisfactory.

Comments: "In contemplating this profession one tends toward pessimism when one's ideals have been broken through medical…political cliques…All general hospitals should be under the direct dominance of the whole profession in a community, with service demanded of all the men, so that the lack of a position on the staff is not a barrier to all other men to rise."

HMS '05. 2 years hospital. General practice in city in Rhode Island. Income, 1913: $2,100. Favors "a judicious mixture of arts and sciences for general practice." Lack: " practical treatment, prescription writing, and knowledge of drugs" (many changes since '05). Practice: satisfactory.

Comments: "The advice given to me on starting was to find a place I wanted to live in and to go there and

stick, and success would eventually come along. It took practically six "stick" years to get on my feet, and only an unusually favorable opportunity was the cause of my leaving my first location."

HMS '08. 4 years in hospital. General practice in large city in Rhode Island. Income, 1913: $2,500. Favors a combination of arts and sciences. Lack: therapeutics. Practice: satisfactory "to a certain extent."

Comments: "I should like to make the statement that a man should never go into the practice of medicine with the idea of making money. He will make the better physician who has plenty of money to start with and who does not depend upon his practice for his entire income, particularly if he contemplates going into a specialty."

HMS '10. 27 months in hospital. General practice in city in Rhode Island. Income, 1913: $1,000. Favors arts. Lack: "methodical habits on my own part."

Comments: "l am dissatisfied with the small extent of my private practice. In this part of the country openings are scarce. If a place has but few doctors it is because the place does not need doctors. So find the place you want to live. There will be competition, and you will be placed according to what you can deliver. Methodical habits and industry always make good. Marked ability will help them out." ❖

NATIONAL LIBRARY OF MEDICINE

Harvard Medical School faculty and students in 1901.