# RHODE ISLAND MEDICALJOURNAL



SPECIAL SECTION ADOLESCENT HEALTH – PART II

GUEST EDITOR: PATRICIA FLANAGAN, MD

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#### SEPTEMBER 2016 Volume 99 • Number 9

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### Into the Ether

JOSEPH H. FRIEDMAN, MD joseph\_friedman@brown.edu

GENERALLY HAVE NO idea if my columns are ever read. I assume that some readers scan at least the first few sentences, and hope that some will even read the whole essay. I sometimes fantasize that many people will do so and will then contact their friends and relatives to create a gigantic tsu-

nami of "hits" on the journal's website, but know this is just that, a fantasy. About 10 years into my stewardship of this journal and my monthly columns, I considered the question I'm writing about now, i.e., does anyone read this? I noted that the Journal, then issued in a print version, was sent to the 1700 or so members of the RI Medical Society, and was also delivered to the mailbox of every Brown medical student. I noted that after 10 years no medical student had ever come up to me after a class (I give 1-2 lectures/year, and used to run some small group discussions) and ask if I was "the" Joseph Friedman who wrote a monthly column in the Journal. I deduced that my columns were rarely read, and those who read them were never impressed enough to find out, or remember the name of the person who wrote them. And then, about six months after reaching that conclusion, a student came up to me at neurology grand rounds to let me know that he had read a recent essay, so that at least one



person had. I was pleased.

Recently I received an email summary of citations and "hits" on my publications. This came, unsolicited, from the publisher of one of the journals I've had articles in. On the positive side, my citations total was substantial, but this included several articles

in which I was one contributor of a hundred or more for multi-center drug trials in which I was the principal investigator at Brown. Still, that was nice. On the other hand, a recently published editorial I had been asked to write had not had any "hits." Zero. It would not have been possible to have any citations, since that requires an article to be published in which my article was cited, and not enough time had passed. However, the lack of any "hits" was definitely unnerving, making me wonder, even as I write this, whether anyone is going to read it. My second thought, as I was then involved in writing a critique of someone else's article, was that no one would care what I wrote because no one was going to read it, so why should I spend time worrying about how to phrase a criticism in order to not offend a professional friend and colleague? And then, the fundamental question, why the heck should I write anything anyway? Most of us, myself for sure, are sufficiently egocentric that we like to

see our names in print and score points on our curriculum vitae but the value is undercut if no one reads what we write and we actually can determine that fact. When I think of the narcissistic quality attached to being a published author, I always think of the famous quote from WH Auden, the great 20th century British poet, who counseled writers to always type their work as authors tended to like the appearance of their penmanship, much as they relished the smell of their own gas.

Until I received the notice summarizing my citation history, I had thought that the article I wrote that had received the most attention was one on yawning in a person with Parkinson's disease (PD). This was a single case report of no great educational value, and deserved publication primarily as a "believe it or not," sort of case. It turns out to actually have some potential physiological value in that one dopamine agonist, but not any others, including L-Dopa, produce yawning in people with PD routinely, whereas my patient was the first reported in which yawning was not due to this drug. Nevertheless, this was more interesting than valuable. Yet there were letters to the editor and some interest, more than for papers I wrote that actually had clinical import.

But I was rescued from my citation doldrums when I read a case report in which the authors noted the presence of the "runny nose sign" to help confirm a clinical diagnosis of dementia with Lewy bodies, a form of PD. It was a sign I was the first to describe in print. I didn't think to give it a name, and merely called it, "rhinorrhea," since that's the technical term for a runny nose. I thought it mildly important as another sign of sympathetic denervation in PD, a finding which might function as an additional "pre-motor" sign of the disease, that is, a feature, which, along with several others, increases the risk that an older person will develop PD in the near future. I had not thought of it as a sign that might help confirm the diagnosis of PD or related disease. I was ecstatic to be cited, but I am hopeful that the "runny nose sign," proud as I am at having identified it for the first time, will not be replaced by an eponymic. This is not a sign to be proud of. I also continue to worry whenever my nose runs for a few days. ◆

#### Author

Joseph H. Friedman, MD, is Editor-in-chief of the *Rhode Island Medical Journal*, Professor and the Chief of the Division of Movement Disorders, Department of Neurology at the Alpert Medical School of Brown University, chief of Butler Hospital's Movement Disorders Program and first recipient of the Stanley Aronson Chair in Neurodegenerative Disorders. **Disclosures on website** 

#### LETTER TO THE EDITOR

#### AMA Urges EpiPen Manufacturer to Rein in Exorbitant Costs

On Aug. 24th, Andrew W. Gurman, MD, president of the American Medical Association, issued the following statement regarding the cost of EpiPens, which have risen to more than \$600 for a twin-pack:

"With Americans across the country sending their children back to school this month, many parents and schools are encountering sticker shock over the cost of EpiPens. Although the product is unchanged since 2009, the cost has skyrocketed by more than 400 percent during that period. The AMA has long urged the pharmaceutical industry to exercise reasonable restraint in drug pricing, and, with lives on the line, we urge the manufacturer to do all it can to rein in these exorbitant costs. With many parents required to buy two or more sets of EpiPens just to keep their children safe, the high cost of these devices may either keep them out of reach of people in need or force some families to choose between EpiPens and other essentials. The AMA will continue to promote market-based strategies to achieve access to and affordability of health care goods and services."  $\checkmark$ 

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## Role-playing in Physician-Patient Relationships

HERBERT RAKATANSKY, MD

MEDICINE IS A LIFElong learning experience, much of it from specific incidents.

Initially I started a solo practice and made an arrangement with Dr. S, a more senior physician (all other physicians were more senior), to alternate nights and weekend coverage. One night Dr. S

informed me that that a patient of his was terminal and might expire that night. He was being cared for at home by a nurse and other caregivers. This was before Hospice came to RI (1976). I was informed that the family was fully aware and that if the patient died that night Dr. S would sign the needed papers in the morning and that there was no need for me to make a house call. Yes, we once actually made house calls. And I also was told that the family understood all of this.

Indeed, I received a call at about 1 AM that night. I spoke with the nurse and a son of the patient and confirmed that the patient had died and that there was no need to personally "show up." Just after I fell asleep about an hour later, the phone rang again. The son was on the phone asking if I was coming. At this point I considered two issues. First, the family was upset and second I was afraid of feedback to Dr. S that my response was less than satisfactory. After all, Dr. S was a well-respected member of the medical



community and as a medical neophyte I wanted to impress him. So I made a house call. When I arrived (by now it was well after 2 AM) the funeral home attendants were waiting with the hearse outside. The son was waiting anxiously at the door. A hospital bed had been installed in the living

room and the patient was lying there surrounded in a semi-circle by members of his family and a uniformed nurse.

And then, in a sudden insight uncharacteristic of my medical youth, it dawned on me why I needed to be there. The patient was not "really" dead until pronounced to be so by the doctor. Medical school, residency and fellowship had not prepared me for this eventuality. I thought of similar situations in the movies. Then, projecting a serious demeanor, I felt for a pulse, listened carefully for a heartbeat and ausculted the lungs. Finally I turned to the son and told him that I was sorry to inform him that his father had died.

He and other family members were very appreciative of my attendance and thanked me profusely for coming. As I left the house the funeral home attendants were coming in with a stretcher.

The lesson I learned that night was that I had played a necessary role in the family's narrative of that patient's death. Had I not made the house call there would been a sense of the process being incomplete. Since then I have been aware of other times that I played roles as I cared for patients and their families.

At that point in my career I was younger than most of my patients. I cared for many who were the age of my parents and even my grandparents. If I looked for the signs, I could see them regarding me as a son or grandson. Rather than resenting their view of my youth I incorporated it into my therapeutic approach. I could be the son, now a successful doctor. And currently I can be the wise grandfather caring for my younger patients. (It is not the patients' age that has changed).

Role-playing may be very simple. Wearing a green item on St. Patrick's Day will send a message to Irish patients that you respect the holiday and that you temporarily are "Irish." That connection can only be therapeutic.

In training we are taught about transference (feelings projected by the patient onto the doctor) and countertransference (unconscious feelings projected by the doctor).

Freud (1910) first described countertransference as "a result of the patient's influence on (the doctor's) unconscious feelings." The term refers to unconscious reactions to a patient that are determined by the (doctor's) own life history and unconscious content.

Some, starting with Freud, interpret the seemingly conscious decision to role-play as due to unconscious feelings of the doctor, the doctor's own needs and unconscious perceptions of the patient's needs (countertransference) thus calling into question our ability to freely choose to role-play.

Our understanding of transference and countertransference in psychotherapy has evolved. It may be helpful or destructive. Hanna Segal (1918–2011) stated: "Countertransference can be the best of servants but is the most awful of masters."

An example of countertransference: "A therapist, who was about to get married, worked with a client in a troubled marriage. The therapist continually encouraged the client to stay with her husband, admitting in one post-session interview, 'Marriage is wonderful. It will all work out fine in the end.' " Our role, both self and patient defined, is always as a doctor, but with variations. Role-playing can be a conscious behavior (Freud not withstanding) that enhances the patients' interests. Opportunities may occur in an individual, group or cultural setting, as in my sentinel incident.

The role must be consonant with both ethical standards and the personal values of the doctor. For example: a doctor should not endorse racist or other hateful viewpoints held by patients.

Role-playing should be focused exclusively on the patient's needs. If it benefits the doctor's personal needs (countertransference) it may become a detriment to the therapeutic relationship. In that instance re-evaluation of the role along with consultation and insight oriented counseling may be helpful for the doctor. Personal self-awareness and an understanding of these issues are important patient protection measures.

Still, I believe there is a place for conscious socio-cultural-personal enhancement of our role as doctors (roleplaying) based on our assessment of each individual situation.

It all sounds a bit paternalistic, but enhancing lives is what parents do.  $\diamond$ 

#### Author

Herbert Rakatansky, MD, FACP, FACG, is Clinical Professor of Medicine Emeritus, The Warren Alpert Medical School of Brown University.

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### We are read everywhere



#### BARCELONA, SPAIN

**Liliane Cannaerts-Lambrechts,** trustee emerita of the Emmaüs network of hospitals and comprehensive care facilities in north-central Belgium, passes time perusing the *Rhode Island Medical Journal* while waiting to enter Antoni Gaudí's Sagrada Familia in Barcelona.

Construction of Barcelona's iconic basilica has spanned more than 100 years, beginning in 1882. Architect Antoni Gaudí became involved in 1883 and worked on it until his death in 1926. At that time, Sagrada Familia was less than one quarter completed. Progress has been slow, reaching the midpoint of construction in 2010. The anticipated completion date is 2026, to mark the centenary of Gaudí's death.

Wherever your travels take you, be sure to check the latest edition of RIMJ on your mobile device and send us a photo: mkorr@rimed.org.

### We are read everywhere

#### KRKA NATIONAL PARK, CROATIA

Jonathan Migliori, takes a moment to check the August issue at Skradinski buk in Krka National Park, northwest of Split. Skradinska buk is known for its beautiful clear pool and natural cascades of water, the lowest of three sets of waterfalls formed by the Krka River.

#### TIVOLI, ITALY

Jonathan Migliori and friends take a break on a terrace at Villa D'Este, the 16th-century estate of Cardinal Ippolito II d'Este, son of the Duke of Ferrera and Lucrezia Borgia. Built on a steep hillside in Tivoli, the villa is famous its formal Italian Rennaissance gardens, fountains, water features, and the extensive system of hydraulics that makes it all possible.





## Perspectives and Approaches to the Dynamic and Developmental Issues in Adolescent Health Care: Addressing the Needs of Specific Populations of Youth

PATRICIA FLANAGAN, MD GUEST EDITOR

In this month's Rhode Island Medical Journal we continue the focus on Adolescent Health first presented in the August



issue, which can be accessed here:

http://www.rimed.org/rimedicaljournal/ 2016/08/2016-08-15-adolescent-healthcomplete.pdf

It is important to note that health behaviors beginning in adolescence continue into adulthood, making this a unique time in a life-course for interventions that will have a lasting impact.

Providing health care for teens requires an understanding of adolescent psycho-social, psycho-sexual,

and cognitive development. Brain maturation from age 10 to age 24 is dramatic, is variable in timing and tempo, and is not always in synchrony with the dynamic physical maturation that happens throughout adolescence. The capacity of a 12-year-old to communicate his or her concerns and symptoms, to understand the ramifications of actions or behaviors, and to fully engage in healthcare decision making certainly can vary widely but is also drastically different from a 16-year-old or a 21-year-old. Helping young people navigate adolescence with the tools, knowledge and motivation to stay healthy requires building a developmental scaffolding. Partnering with parents, schools, and communities allows teens to experiment, to grow, to take risks and make good choices.

This month, we look at specific conditions and the health needs of specific populations of youth. DR. ABIGAIL **DONALDSON** and her team present an update on the care of individuals with eating disorders. DR. DIANE DERMARDER-OSIAN and colleagues write about an integrated approach to psychiatric care for children and youth with medical conditions. She describes a unique, team-based integrated care model provided both in an in-patient setting and in a partial hospital setting. DRS. KRISTYN GERGELIS, JONA-THAN KOLE and ELIZABETH LOWENHAUPT write about the healthcare needs of incarcerated youth and DRS. AGNIESZKA JANICKA and MICHELLE FORCIER discuss transgender and gender non-conforming youth. DR. CHRISTINE BARRON and colleagues present their research on RI pediatricians and their training, screening, and knowledge about domestic sex trafficking of minors.

Quality health care that recognizes the dynamic developmental nature of adolescence can help youth stay safe and make good behavioral choices. It can be attuned to some of the potential pitfalls and roadblocks to healthy adolescence as well as motivations for positive health-affirming decisions. It can be a great opportunity to cultivate a strong foundation for adult health.

#### **Guest Editor**

Patricia Flanagan, MD, is Professor and Vice Chair of Pediatrics, The Warren Alpert Medical School of Brown University, Providence, RI.

Restriction of food intake leading to weight loss, or maintenance

## Advances in Adolescent and Young Adult Eating Disorder Care in Rhode Island

ABIGAIL DONALDSON, MD; ALLISON HALL, LICSW; CHRISTINA TORTOLANI, PHD

**KEYWORDS:** Eating disorder, nutritional deficiency, treatment for anorexia, treatment for bulimia

#### INTRODUCTION

Medical providers in primary care practice are at the forefront of diagnosis and management of adolescents and young adults with eating disorders (ED). As a result, they play a critical role in establishing an interdisciplinary treatment plan that will help stabilize patients and move them towards recovery. While ED are prevalent among adolescents and young adults in the United States1 and are among the most common chronic illnesses of adolescence, they can present a diagnostic challenge in the primary care setting. Diagnostic criteria for ED were recently modified in the Diagnostic and Statistical Manual, 5th Edition,<sup>2</sup> allowing clinicians to more accurately identify a variety of ED including anorexia nervosa, bulimia nervosa, binge eating disorder, avoidant-restrictive food intake disorder, and feeding or eating disorder not elsewhere classified (Table 1). Clinicians are increasingly recognizing ED in previously overlooked groups, including males,<sup>3</sup> transgender individuals,<sup>4,5</sup> and overweight/ obese adolescents.6

This article briefly describes strategies to identify ED in the primary care setting. We include treatment options available for adolescents and young adults with ED in Rhode Island, and summarize the inpatient treatment approach at Hasbro Children's Hospital for ED patients in medical crisis. We provide an overview of Family Based Treatment, a new evidence-based treatment approach for adolescents and young adults with ED.<sup>7</sup>

## Identification of Eating Disorders in the primary care setting

Given the high prevalence of ED in the second and third decades of life, pediatric and young adult providers should stay alert to signs and symptoms that might indicate an ED (**Table 2**). Eating disorders can be difficult to diagnose for many reasons, including the secretive nature of the illness and wide variability

#### of weight < 85% of ideal body weight (BMI<17.5) Fear of fatness or weight gain Distorted body image *Restricting type:* no binge behavior Binge/Purge type: binge purge behavior in setting of low weight or weight loss Bulimia Nervosa Binge eating (at least once per week for at least 3 months) • Discrete period of time (2h) • Definitively more food consumed than appropriate (>2000 kcal) Sense of lack of control with eating behavior Purging/other compensatory behaviors to avoid weight gain/ promote weight loss **Binge Eating** Recurring episodes of binge eating Disorder Must meet at least three of the following: • Eating more quickly than "normal" • Eating until so full that it is uncomfortable · Eating large amounts when not hungry • Eating alone because of embarrassment about volume • Feeling negative emotions about binge (disgust, depression, guilt) Distressed emotions around eating Binges occur at least once per week for at least 3 months No recurrent behaviors to avoid weight gain Avoidant/ An eating or feeding disturbance as manifested by persistent **Restrictive Food** failure to meet appropriate nutritional and/or energy needs Intake Disorder associated with at least one of the following: Significant weight loss, or failure to gain developmentally appropriate weight Significant nutritional deficiency • Dependence on enteral feeding or oral nutritional supplements Marked interference with psychosocial functioning. The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no associated body image disturbance

Table 1. DSM V diagnostic criteria for Eating Disorders

Anorexia Nervosa

	<ul> <li>The disturbance is not better explained by</li> <li>lack of available food</li> <li>associated culturally sanctioned practice</li> <li>attributable to/better explained by concurrent medical or psychiatric condition</li> </ul>
Feeding or Eating Disorders Not Elsewhere Classified	Sub-threshold Anorexia Nervosa/Bulimia Nervosa "Atypical" eating disorders

American Psychiatric Association DSM-5

#### Table 2. Signs/symptoms that could suggest ED

Crossing growth curves	
Functional GI disorders	
Presyncope or syncope	
Unexplained hypokalemia or other electrolyte disturbance	
BMI ≤ 17.5 kg/m2	
Abrupt change in dietary or exercise habits	
Secretive behavior around food	
Hyperglycemia in a type I diabetic easily controlled in the hospital	

#### Table 3. SCOFF questionnaire for eating disorder screening

	Do you make yourself Sick (vomit) because you feel uncomfortably full?	
	Do you worry you have lost Control over how much you eat?	
	Have you lost more than One stone (14lbs) over the last 3 months?	
	Do you believe yourself to be Fat when others say you are thin?	
	Would you say that Food dominates your life?	
	2 or more positive responses suggest further exploration into ED is indicated	
Morgan et al., 1999		

in associated behaviors. For instance, while weight loss in an overweight or obese patient may be medically appropriate, literature suggests that overweight/obese individuals are at particularly high risk for developing an ED.6 In a healthcare environment strongly focused on helping patients lose weight and avoid obesity, clinicians can find it hard to determine which patients are engaged in healthy weight-loss behaviors and which are adopting life-threatening strategies. In addition to using clinical judgment, providers can apply a simple, five-question validated screening tool to determine whether further evaluation is warranted (Table 3).8 When in doubt, close monitoring of patients over time can help establish a trajectory of weight change when an ED is suspected. More frequent follow-up can also help build trust between patient and provider, encouraging honesty in disclosure of unhealthy attitudes and behaviors. Connecting the family to a dietician and a family counselor familiar with eating disorders may be sufficient to treat ED.

#### Eating disorder treatment options in Rhode Island

Many clinicians in Rhode Island effectively diagnose and treat adolescents and young adults with ED within the primary care setting. For patients requiring subspecialty support or access to a higher level of care, there are multiple levels of care available in our state. The Hasbro Eating Disorders Program (HEDP) offers multidisciplinary outpatient and inpatient medical and nutritional services, in addition to care coordination. For patients who have more complicated psychiatric pathology related to their ED or a co-morbid condition, the Hasbro Behavioral Health Inpatient Unit and Partial Hospital Program offer more intensive psychiatric management along with medical and nutritional support for medically stable patients with ED (Figure 1). As patients move between these levels of care, close coordination and communication between teams help facilitate seamless transitions across the continuum. While these services meet the needs of many individuals struggling with ED, it is important to note that in Rhode Island, we do not have access to local, long-term residential or intensive outpatient ED treatment settings. However, there are multiple programs in neighboring states who serve this need.

#### Inpatient Hospitalization

The Society for Adolescent Health and Medicine revised their guideline statement on hospitalization of eating disordered patients in 2015.<sup>7</sup> Despite having clear admission criteria articulated in this guideline (**Figure 2**), treatment





\*Indicates treatment currently available in Rhode Island

Figure 2. Society for Adolescent Health and Medicine hospital
admission criteria for ED

Electrolyte disturbance		
Cardiac dysrhythmia		
Acute medical complications (syncope, seizures, pancreatitis, etc)		
Severe malnutrition (<75% goal weight)		
Other physiologic instability • HR <50bpm awake, 45bpm asleep • BP < 80/50 mmHg • Temp < 97 F • Orthostatic changes in pulse (>20 bpm) or BP (>10 mmHg)		
Food refusal		
Dehydration		
Arrested growth/development		
Uncontrolled binging/purging		
Failure of outpatient treatment		
Co-morbid conditions that complicate outpatient care (depression, OCD, family dysfunction, etc)		

Acute psychiatric emergency (self-harm, suicidality)

Society for Adolescent Health and Medicine, 2015

of ED patients in the medical inpatient setting without an interdisciplinary team which includes eating disorder trained nursing staff can be a challenge. In Rhode Island and the surrounding area, adolescent and young adult patients can access inpatient medical services at Hasbro Children's Hospital (HCH).

The HEDP admits over 100 ED patients to the hospital each year for medical stabilization of complications related to ED. The average inpatient length of stay is 7 days, during which time patients receive daily care from the medical, psychiatry, social work, nutrition, and nursing teams. Patients can also access Child Life and academic services during their hospitalization.

The primary goal during an admission for a medically unstable ED patient is to nourish, closely monitor, and ultimately stabilize the individual for discharge to an alternative level of care (outpatient, partial hospital, residential, or psychiatric inpatient). In addition to the medical complications that may arise during the re-feeding process, the experience of re-feeding often causes significant discomfort. Fluid and electrolytes shift encountered in feeding malnourished youth can be life-threatening. Close monitoring of electrolytes and fluids, and slow judicious refeeding are essential for safety. Chronically malnourished patients often have bradycardia and orthostatic instability which requires close monitoring. For example, starvation leads to decreased intestinal motility, and as nutrition is re-introduced and for days or weeks thereafter, individuals may feel physical fullness, nausea, bloating, and constipation. The re-introduction of nutrition can also prove emotionally challenging, leading to psychological distress as well as refusal to participate in treatment. Family members who witness a loved one in distress are often challenged in supporting a treatment plan that can be difficult and protracted.

The HEDP employs a multidisciplinary approach to care including psychiatric evaluation and daily treatment; extensive nutritional assessment and ongoing education with patients and families; psycho education regarding the function of the eating disorder and available treatments; and support regarding adjustment to illness. Both patients and families are integrally involved in all aspects of care during the hospitalization; this allows them to develop an understanding of the ED disease and to receive the best possible treatment options for discharge. For many patients and families, hospitalization is the first step on their road to recovery from the ED. The knowledge patients and families gain during their hospitalization has the potential to significantly impact treatment compliance following discharge.

#### Including Families in Eating Disorder Care

In their 2015 review of ED practice guidelines, the Society for Adolescent Health and Medicine clearly recommends hospitalization as an acute, short-term period of stabilization, acknowledging that an individual struggling with ED must rely on supports available to them in their home

Treatment Phases	Sessions	Task/ Focus of Treatment
Phase 1	Sessions 1–10	Parents in charge of weight restoration
Phase 2	Sessions 11–16	Parents gradually give control over eating back to adolescent
Phase 3	Sessions 17–20	Focus on adolescent development issues

Lock & LeGrange, 2013

#### Table 5. Tenets of Family Based Treatment

An agnostic view about the cause of anorexia nervosa	
Initial symptom focus (pragmatic)	
Non-authoritarian consultative stance as therapist	
An ability to separate disorder of anorexia nervosa from the adolescent (externalization)	
An emphasis on parental symptom management (empowerment)	
Lock & LeGrange 2013	

environment to ultimately succeed in recovery.<sup>7</sup> For most adolescents and young adults, this support system is comprised primarily of parents and other close family members.

Family-Based Treatment (FBT) is a promising, evidence-based therapy for the treatment of ED in adolescents. FBT has been found to be effective among children and adolescents who have been ill for less than three years, are under age eighteen, and are medically stable for outpatient treatment.<sup>9</sup> Through its empowering of parents to manage their child's ED, and its firm, consistent, yet compassionate focus on re-feeding, FBT signifies a paradigm shift in the treatment of ED. FBT informs, prepares and equips parents to become the best resource and strongest tool in their child's treatment.

Encompassing three phases over six to twelve months (**Table 4**), FBT helps family members mobilize to take charge of their child's eating during the initial phases; afterward, the adolescent is gradually given back control. Throughout the treatment, care givers support parents to "fight the eating disorder" with a "food as medicine" approach. By getting the adolescent "back on track" and returned to normal development, care givers and parents treat the ED and prevent relapses. Although FBT was developed for an outpatient setting, its principles (**Table 5**) have begun to be adapted for use across levels of care, including inpatient, partial hospitalization and intensive outpatient treatment.<sup>10,11,12</sup>

#### CONCLUSIONS

When establishing a treatment plan, patients and families with ED often embark on a long treatment/recovery process marked by both setbacks and success. As with any pediatric chronic illness, treatment ultimately aims to help individuals recover and transition to a healthy adulthood. In Rhode Island, services exist that support many levels of ED care and acuity.

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## Greater than the Sum of its Parts: An Integrated, Patient and Family-Centered Approach for Adolescents with Med/Psych Presentations

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**KEYWORDS:** integrated care, functional impairment, family therapy, somatic symptoms, inter-professional team, med/psych day treatment

#### INTRODUCTION

The importance of comprehensive, inter-professional care for adults, adolescents and children has been widely recognized as the ideal way to deliver care. Integrating medical and behavioral health practices leads to lower health care costs, decreased readmission rates and improved outcomes including greater functioning and quality of life. Data support the concept that mental and physical health disorders are risk factors for each other; the presence of one can complicate the treatment and outcomes of the other.<sup>1</sup> This connection is supported by emerging data that identifies shared physiologic pathways connecting mind and body.<sup>2</sup>

In addition, there is strong evidence to support the efficacy of family-based treatments for youth with chronic medical illness.<sup>3</sup> At the foundation of patient and family-centered care is a partnership amongst patient, family and providers across levels of care.<sup>4,5</sup> The family and patient are considered the experts regarding their experiences; decisions are made from a perspective that the existing family relationships combined with the family's understanding of the illness constitute powerful forces in treatment.

When caring for adolescents, prioritizing family in this partnership may seem counterintuitive given the developmental focus on emerging autonomy. However, a variety of studies have identified the importance of maintaining an intensive level of collaborative family involvement around refractory illness presentations across adolescence and young adulthood. These studies suggest that parents remain important mediators of illness experience and level of impairment, and their involvement fosters self-efficacy and better psychological health.<sup>6,7,8</sup>

For patients with disabling illness and functional impairment refractory to more standard interventions, bringing together these two important approaches into an integrated, patient and family-centered model is an important step aimed at maximizing treatment success. Despite clear advantages of this truly integrated paradigm, challenges exist in translating these concepts within the confines of current practice as it can be difficult to bring together the resources, expertise and perspectives needed for effective implementation. The Hasbro Children's Partial Hospital Program (HCPHP) and the Hasbro Inpatient Medical-Psychiatric Unit are two unique, nationally recognized programs that have operationalized this integrated, patient and family-centered intervention, that transcending traditional practice models. In addition, the model of integrated care extends to several outpatient areas including specialty clinics, primary care, and home-based services.

These hospital-based programs provide an inter-professional, patient and family-centered, collaborative approach to pediatric and adolescent care in two levels of treatment. HCPHP opened in 1998 as a 5-day/week program serving up to 24 patients, ages 6–18 years old, with an average length of stay of 4 weeks. The Hasbro Inpatient Med-Psych Unit opened in 2012 to accommodate patients requiring a higher level of care due to medical and psychiatric safety concerns. The inpatient unit is a secure, locked unit with a length of stay that ranges from days to weeks. This treatment continuum remains the only combined pediatric medical and psychiatric treatment in the region and beyond for patients with a wide range of illness presentations.

Patients enter either setting with a broad range of presentations including gastrointestinal illness, eating disorders, diabetes, asthma, seizures, and chronic pain syndromes. Patients are referred from inpatient or outpatient treatment when they require more intensive support due to impaired functioning with limited improvement after traditional outpatient interventions. Many patients and families utilize both levels of care throughout their course of treatment. Both programs provide inter-professional, developmentally appropriate treatment in a safe, nurturing environment with the expectation that patients and their families actively engage in treatment. Inter-professional care includes nurses, milieu therapy, pediatricians, psychiatrists, psychologists, social work, nutrition, PT/OT, speech, educators, subspecialty consultation and comprehensive diagnostic testing when needed.

Across levels of care, a strong partnership is established with patients, families and identified outpatient treatment providers. Individualized treatment plans incorporate a balance of medical and psychological support with the goal of a successful transition to optimal functioning at home and school. From the onset of treatment, there is a strong focus on joining with families around their experiences, with a primary goal of "meeting them where they are" which fosters trust in the partnership. As the trust builds, the team often experiences a shift in how the family understands the illness presentation.

Family involvement can include participation in nursing and nutrition education sessions, inter-professional team meetings, family therapy and multi-family groups. Effective treatment prioritizes the identification of the family members' individual and collective need for support including medical and psychiatric treatment. Throughout, the relationships that patients and families have with their outpatient providers are valued and utilized. Collaboration with these providers is essential, not only to maximize treatment efficacy but also for discharge planning and continuity of care.

This combined paradigm allows for a comprehensive understanding of illness presentation and leads to utilization of appropriate treatments targeted at medical, psychological and psychosocial factors contributing to illness. For example, the influence that a family's belief of illness origin - primarily medical, psychological or a combination - is an important consideration when interpreting a child's symptoms, illness and response to treatment.<sup>1</sup> Within this expanded model, the integrated team, including the patient and family, is then able to consider beliefs about the origin of illness and emotional responses to the illness in conjunction with the reported symptoms and objective signs. Moreover, this evidence-based practice supports improved outcomes for patients in the areas of quality, safety and patient/family satisfaction.<sup>9</sup>

At discharge, patients often step-down to outpatient family therapy embedded into their medical home or to homebased treatment with a specialized med-psych team trained in integrated, patient and family-centered care. For patients unable to access outpatient care in one of these settings, discharge planning includes identifying services that best approximate these tenets. Throughout the course of treatment, effective, cohesive partnerships amongst the health care team and families remain the foundation for ongoing therapeutic change.

A case example highlighting the flow of treatment across different levels of care follows:

*JC* is a 13-year-old boy, diagnosed with Crohn's Disease *(CD)* at age seven, with two recent medical admissions for "flares" of his pain attributed to his CD. He presented to his gastroenterologist with suicidal ideation including a plan to overdose on his medications in the context of ongoing pain complaints, sleep difficulties and poor functioning. Of note, past treatment course included multiple medication trials including steroids contributing to a 50-lb. weight gain over the previous 6 months. *JC* was angry about the treatment's side effects, fearful about bowel "accidents" at school, and exhibited explosive behavior at home. *JC*'s mother described him as oppositional and "probably depressed" and wondered whether he was taking his medications as prescribed. When JC was four years old, his father died from complications of surgery for his own Crohn's disease. JC's father had also been diagnosed in childhood and he had experienced significant disability throughout his life due to complications of his illness.

JC's mother had limited financial and social resources and experienced persistent grief and guilt around the loss of her husband as well as JC's diagnosis. She had not engaged in her own mental health treatment around these losses and stressors, in part because she felt her full attention needed to focus on caring for her family. Her overwhelming guilt left her powerless to set limits with JC and her three younger children. After her husband's difficult course and his premature death, she found it hard to trust the medical establishment and its prescribed treatments.

Given the safety concerns, JC's gastroenterologist admitted him to the Hasbro Med/Psych Inpatient Unit with the goals of establishing safety and clarifying his medical presentation. While inpatient, JC had close medical monitoring with daily assessment of pain, functioning and bowel patterns. Medications were administered by nursing with ongoing attention to side effects. Safety assessment, medication evaluation, nutrition monitoring with balanced and structured meals were important parts of his plan. Individual and family sessions focused on supporting *IC* in managing his illness. Additionally, group psychotherapy sessions offered JC an opportunity to share his challenges and explore ways to manage them. With the structure and coaching provided by milieu staff in conjunction with the support and understanding of his peers, JC identified positive coping strategies and was successful in implementing them during his inpatient admission. After 7 days, JC was able to commit to safety, a home safety plan was formulated, and he transitioned to HCPHP

In HCPHP, there was ongoing medical monitoring with transition of medication administration to home with parental support. A physical therapy consult was obtained for strengthening and reconditioning. Family work focused on expanding the family network, with extended family and mother's best friend identified as additional supports. Mother attended family support groups. She was referred to an adult partial hospital program followed by outpatient individual therapy and medication management. Program staff collaborated with JC's home school through inter-professional phone conferences and a school meeting that included the program teacher, therapist, school guidance counselor and nurse which resulted in the development of a comprehensive 504 plan outlining medical and emotional supports recommended for school. At discharge, *IC transitioned back to the Hasbro GI team, including a* psychologist embedded into the GI clinic. In addition, a referral was made to the Gateway Med/Psych team for home-based services, and a bridge meeting was conducted prior to discharge.

At each level of care, JC made progress in self-monitoring, emotional expression, and acceptance of both medical treatment and family support. This movement occurred in parallel to his mother's increasing confidence in limit setting and being open to help from others. As she understood the power of her own guilt, JC's mother could more effectively set appropriate limits around her son's lack of treatment adherence and poor school attendance. In addition, the feedback inter-professional treatment team provided around the range of factors impacting JC's pain - Crohn's Disease flair, medication side effects, emotional distress - deepened her understanding and helped her maintain these limits. This awareness guided important treatment shifts including a reduction in the number of medications prescribed while improving intervention efficacy. Establishing an outpatient plan that mirrored the integrated, patient and family-centered approach was imperative. While achieving safety and supporting improved functioning in the hospital setting are important first steps, transitioning these sustainable gains to home is most critical. This care continuum facilitates ongoing progress in ascertaining and maintaining meaningful therapeutic change within the home environment.

In summary, and as illustrated by the case study, a continuum of integrated medical and psychiatric treatment provides a unique, highly effective approach to treating children and adolescents with co-existing psychiatric and medical conditions. Utilizing the most effective, evidence-based principles of integrated care and family-centered approaches, these programs offer the kind of complex, individualized, treatment that this population needs.<sup>10</sup> In an effort to replicate this care continuum, teams from around the country have visited Hasbro to gain a broader understanding of the treatment philosophy and logistical considerations required. While more difficult, it is also possible to adopt an integrated, patient and family-centered approach in more traditional settings. In doing so, key concepts to consider include understanding family relationships and illness beliefs including their impact on illness experience, appreciating patients and families as the experts regarding their illness experience, supporting family-based decision making, recognizing broader contexts, collaborating with all members of the treatment team and valuing the patient and family as essential partners.

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### Health Care Needs of Incarcerated Adolescents

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**KEYWORDS:** juvenile justice, adolescent medicine, incarceration, public health, child and adolescent psychiatry

#### INTRODUCTION

Adolescents involved in the juvenile justice system represent a unique pediatric patient population, often hidden from public view. For a multitude of reasons including socioeconomic disparities and poor access to health care, these children have a disproportionate number of physical and mental health needs.<sup>1,2</sup> Many of these conditions are first identified upon entering the juvenile justice system, addressed while youth are incarcerated, and require continued care long after release. Pediatricians and other community providers may encounter these patients in a variety of settings, thus familiarity with their medical needs as well as the basic legal steps faced by the adolescents and their families is essential.

#### **DEMOGRAPHICS**

The United States has the highest rate of juvenile incarceration in the industrialized world, with 2 million adolescents arrested and approximately 60,000 detained each year.<sup>1,3</sup> In Rhode Island in 2013, there were 498 youths – 85% male and 15% female – in the custody of the Rhode Island Training School (RITS), with an average daily population of 101 residents.<sup>4</sup> Minorities are disproportionately represented in the juvenile justice system, both nationally and within Rhode Island. In 2014, 20% of adjudicated youth at the RITS were black and 34% Hispanic, while these ethnicities represent only 6% and 21% respectively of the total child population in Rhode Island.<sup>4</sup> Family and community poverty are also risk factors for juvenile justice involvement; in 2013, over half of the youth at the Training School were from the areas of the state where 64% of Rhode Island's impoverished children live.<sup>4</sup>

#### JUVENILE JUSTICE PROCESS

To become involved in the juvenile justice system, a minor first comes into contact with the police, either by arrest or by referral from parents, school or victim. Once arrested, the juvenile is either detained in a secure facility awaiting a court appearance or released to the community, if deemed both reliable to return for a court date and low risk to society. Once in court, a judgment is made to sustain the charge, release the individual, or divert him/her outside of the court system to court-mandated community service or counseling. Factors such as age, victim impact, severity of offense, and prior police contact determine whether a case is appropriate for diversion.

Once charged with a crime, a juvenile participates in three hearings. The first is a detention hearing to determine whether the youth will remain detained or be released to the community. The second is an adjudication hearing, where a judge determines whether or not the juvenile is guilty of the alleged offense. Juveniles do not have jury trials within the juvenile system, these occur only if their cases are waived into adult court. If found guilty, a dispositional hearing is held to determine how the youth will serve his or her sentence: in a correctional facility, in a residential facility, or at home with electronic monitoring or probation. This process highlights the difference in status between a "detained" juvenile (in temporary custody pending adjudication over an indeterminate period of time) and an "adjudicated" one serving a fixed sentence in a correctional facility.<sup>45,6</sup>

#### **HEALTH CARE NEEDS**

While juvenile incarceration may provide access to care and respite from unsafe environments, it is also associated with poor adult health outcomes and early mortality.<sup>1,7</sup> It is therefore imperative for providers to assess and optimize the health of these vulnerable patients while in the correctional setting. The U.S. Department of Justice found in a national sample that nearly two-thirds of incarcerated youth reported physical health concerns, consistent with other research suggesting that 46% of youth had a diagnosable medical condition.1 Dental problems are common; approximately 50% of patients have untreated tooth decay and 6% more urgent conditions such as abscess, jaw fracture, or severe gingivitis.8 More than 25% of youth in some samples require medical care for trauma-related injuries including lacerations, fractures, and joint limitations, which fits with the high incidence of physical conflict prior to or sometimes during incarceration.9

Reproductive health, however, represents the most significant issue for incarcerated youth, as they report higher rates of sexual activity, more lifetime partners, less contraceptive use, and more sexually-transmitted infections (STIs).<sup>1</sup>

A 2011 CDC report found that 13.5% of incarcerated girls and 6.7% of boys had active chlamydial infection, a 4- and 10-fold increase from the female and male community adolescent populations.<sup>10</sup> Detained youth have increased rates of teen parenthood; nationally, 20% of youth in custody are already parents or expecting a child, compared to less than 5% of the general population.<sup>5</sup>

Particular attention should be paid to incarcerated females, as they are "among the sickest and most medically underserved of all adolescent populations." Specifically, 13% of girls have experienced a head injury and more than 20% were victims of sexual assault in the week preceding detention, while nearly 20% had a history of visiting an ED for asthma. Surveys of nearly 2,000 girls in the Florida and California systems revealed that 88% had between one and three serious health issues that were not adequately addressed (predominantly asthma, STI, or traumatic brain injury).<sup>11</sup>

The American Academy of Pediatrics (AAP) has published recommendations advocating that incarcerated adolescents should receive comparable care to non-incarcerated youth, including preventive services such as thorough history and physical, mental health and substance abuse screening.<sup>2</sup> This recommendation is particularly important in light of the variable quality of care for the incarcerated population nationwide: for example, less than one quarter of juvenile detention facilities screen all youth for STI's.<sup>1</sup> The AAP publication also emphasizes the need for coordination and communication with community providers.<sup>2</sup> Of note, it is estimated that as many as 80% of detained youth lack a primary care provider in their communities, making the outreach to establish outpatient care vitally important.<sup>1</sup>

#### MENTAL HEALTH CARE

The American Academy of Child and Adolescent Psychiatry (AACAP) published Practice Parameters for the Assessment and Treatment of Youth in Juvenile Detention and Correctional Facilities in 2005, which recommend that all youth entering juvenile justice facilities be screened for mental or substance use disorders, including risk factors for suicide, and receive continued monitoring throughout their stay. Any juvenile with recent suicidality or symptoms of mental health or substance use disorder should be referred for thorough evaluation by a qualified mental health clinician. It is also imperative for mental health clinicians to differentiate their role and potential limits to confidentiality with patients and family members. Finally, it is recommended that all youth referred to mental health services within the juvenile detention or correctional facility have a violence risk assessment.13

The prevalence of psychiatric disorders is much greater within the juvenile justice population than in the general pediatric population. The prevalence of mental health disorders in the general adolescent population has been estimated to be 7–17%, compared to 60–80% in detained youth, the majority of whom have more than one psychiatric disorder.<sup>2,14,15</sup> This may be due to a variety of factors, including limited access to mental health care and the propensity of psychiatric disorders to lead to disruptive or high-risk behavior resulting in legal involvement. *The Survey of Youth in Residential Placement (SYRP)*, conducted by the Office of Juvenile Justice and Delinquency Prevention, found that the majority of detained youth reported anger problems, and over 50% endorsed symptoms of anxiety as well as depression.<sup>16</sup> There are also disparities in rates of ADHD, learning disorders, behavioral problems (including conduct disorder), PTSD and suicidality.<sup>15</sup>

In Rhode Island in 2013, of the 498 youth detained at the RITS, 155 youth were under the care of the RITS psychiatrist; 137 were prescribed psychiatric medications.<sup>4</sup> It has been well documented that girls have higher rates of psychiatric disorders, particularly anxiety, depression and PTSD.<sup>1</sup> This may partially be due to the higher rates of all forms of abuse (physical, sexual and emotional) in female compared to male offenders.<sup>2</sup> Trauma in general is more common in the juvenile justice population; the *SYRP* found that 70% of incarcerated youth reported past traumatic events and 30% reported history of abuse, which itself serves as a risk factor for juvenile justice involvement.<sup>16</sup>

The difference in rates of suicidal ideation and past suicide attempts between youth in the juvenile justice system and the general population is striking. According to the SYRP, 20% of youth reported having recent suicidal thoughts, and 22% reported past suicide attempts, which is over four times the rate of the general population.<sup>15,16,13</sup> Unfortunately, completed suicide occurs more than twice as frequently among adolescents in custody than among adolescents in the community. Stressors contributing to increased suicidality in detained youth include awaiting court decisions, sentencing, separation from family and community, receipt of bad news, history of abuse, substance use, and lack of parental visits.<sup>1,13,15</sup>

#### SUBSTANCE ABUSE

Substance use disorders are also more prevalent in the juvenile justice population.<sup>16</sup> In 2010, the rates of substance abuse among incarcerated youth were over five times greater than the general population.<sup>6</sup> According to the *SYRP*, youth offenders report using drugs at a higher rate and more frequently than the general population; 68% report having problems related to substance use.<sup>16</sup> The AACAP recommends that any youth with a positive initial drug screen upon entering a juvenile justice facility receive an immediate assessment for possible alcohol or drug withdrawal, followed by a more thorough evaluation within two weeks of admission.<sup>6</sup> Substance use itself is a risk factor for involvement in the juvenile justice system, and is also associated with more serious delinquency, developing antisocial personality disorders later in life and engaging in riskier behaviors.<sup>2</sup>

#### CHALLENGES TO HEALTH CARE

Providing health care to adolescents in the correctional setting is rewarding and essential in light of the many medical and psychiatric needs of the population, but can be challenging for a variety of reasons. Juvenile detention and correctional facilities run on strict daily schedules with time for school, meals and other programming, which can create time conflicts for medical and psychiatric appointments. Patients must be escorted to clinic by correctional officers for supervision and safety, which requires sufficient staffing.<sup>1</sup> Length of stay in a juvenile detention or correctional facility is often unpredictable, which significantly impacts treatment planning. The absence of parents may limit the information gathered on initial history as well as access to consent for medical treatment. In addition, adolescents may find it difficult to differentiate health providers from the correctional system, leading to their reluctance to share details about history or symptoms.<sup>15</sup> Clinicians must also be mindful of the potential for exaggeration or malingering of symptoms by juveniles for secondary gain, such as transfer to medical facility or to obtain certain medications that can be diverted. These facilities may also have limited access to emergency and subspecialty care, as well as a shortage of health care providers willing and appropriately trained to treat this specialty population.15

#### CONCLUSION

Adolescents in the juvenile justice system represent a population with greater health care needs than many of their peers. Involvement in the legal system, and specifically incarceration in a correctional facility, may present a unique opportunity to address these needs, which then persist after release into the community. Delivery of comprehensive, high quality medical and mental health care both during and after incarceration is critical to prevent the worsening of clinical conditions and more serious legal consequences in the future. Community-based pediatricians and primary care providers can make a difference by continuing to treat ongoing health issues and providing more frequent follow-up for youth who have been released. Outpatient providers should obtain medical records and discharge summaries from detention facilities and continue to evaluate and support management of any ongoing risk behaviors after release.<sup>15</sup> Understanding the legal system and the implications for juveniles will help provide a foundation for treating these adolescents; continuing to advocate for ongoing development of preventative and diversionary programs that limit juvenile arrests and detention will also minimize the poor health outcomes and impaired social functioning associated with juvenile incarceration, thereby supporting the overall well-being of adolescents and ultimately adults in this country.

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## Sex Trafficking Assessment and Resources (STAR) for Pediatric Attendings in Rhode Island

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#### ABSTRACT

**BACKGROUND:** Domestic minor sex trafficking (DMST) victims have unique medical and mental health needs and present frequently for medical attention. Little is known about the reported training, screening, comfort and knowledge of DMST among pediatricians in Rhode Island who likely encounter these patient victims without knowing.

**METHODS:** An anonymous electronic survey sent to Rhode Island Hospital staff physicians from November 2014 through January 2015.

**RESULTS:** Of the 109 participants, the majority reported no training, screened no patients for DMST in the past year, did not know any resources available and had limited knowledge and comfort with this pediatric patient population.

**CONCLUSIONS:** Rhode Island pediatricians of various specialties do not feel adequately prepared to identify and respond to a DMST patient population. These findings inform the need for increased training and education on DMST in our medical community.

**KEYWORDS:** domestic minor sex trafficking; commercial sexual exploitation of children; victim; training

#### INTRODUCTION

The commercial sexual exploitation of children (CSEC) has become an increasingly recognized manifestation of child sexual abuse. It has profound physical and mental health effects for children domestically and abroad. CSEC is defined as the "recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act" in exchange for an item of value, such as money, food, shelter or drugs.<sup>1</sup> Sexual acts include trafficking for sexual purposes, prostitution, sex tourism, pornography, stripping, and survival sex.<sup>2</sup>

When CSEC involves United States citizens or legal residents being victimized on U.S. territory, this is known as domestic minor sex trafficking (DMST).<sup>3</sup> It is conservatively estimated that at least 100,000 American juveniles are victimized through sex trafficking each year,<sup>4,5</sup> and over 325,000 U.S. children are at risk.<sup>4,6</sup> Rhode Island's geographic proximity to two major metropolitan areas (New York City and Boston) and easy access to a major interstate highway increases the likelihood of sex trafficking. While the Interstate 95 corridor has traditionally been used for drug trafficking, it also is used for human trafficking and specifically to sex traffic both local and non-local youth in and out of Rhode Island.

In response to the prevalence of this issue in our state, the RI human trafficking task force (HTTF) comprised of community service providers, criminal justice, medical and child welfare professionals was initiated in 2013 to develop a statewide plan to address all aspects of sex trafficking. The Lawrence A. Aubin Sr. Child Protection Program (The Aubin Center) at Hasbro Children's Hospital is a part of this multidisciplinary team and is the only child protection program in the state of Rhode Island where patients are evaluated by board-certified child abuse pediatricians. Aubin Center physicians, medical support staff and social workers collaborate with referring medical and non-medical providers to address the complex healthcare and psycho-social needs of these youth.

Over the past few years, the Aubin Center has seen a significant increase in the number of patients referred for the evaluation of DMST in the outpatient clinic and emergency department. Due to the physically and emotionally abusive nature of sex trafficking, victims seek medical care frequently and have adverse health consequences (e.g. injuries, substance abuse, unsafe sexual practice).<sup>7,8</sup> Therefore, pediatricians and other clinicians have the unique opportunity to identify and effectively intervene on behalf of these vulnerable youth.

Previous studies have identified low levels of knowledge, comfort and training of providers in regard to child abuse,<sup>9,10</sup> and more recently child sex trafficking,<sup>11,12,13</sup> but have not specifically examined pediatricians practicing in RI. The objective of the present study was to describe the reported training, screening, comfort and knowledge of DMST among pediatric physicians in Rhode Island. Our goal was to identify the impediments to the care of DMST patients in our medical community in order to inform education and training needs.

#### **METHODS**

We developed an anonymous survey modeled on a previously established survey that assessed the knowledge, training and comfort medical providers face when interacting with child abuse patients,<sup>9</sup> and from clinical experience. Experts in survey development and experienced physicians in DMST reviewed the survey. Research Electronic Data Capture (REDCap) software, a free, secure, Web-based application, was used to create and distribute the survey.<sup>14</sup>

The survey was titled "Sex Trafficking Assessment and Resources Survey (STAR)". Participation in the study was voluntary and anonymous. The survey was distributed from November 2014 through January 2015 via e-mail to all pediatric attending physicians listed in the Rhode Island Hospital staff services and/or the department of pediatrics at Rhode Island Hospital. Surveys were targeted specifically to pediatricians who had completed their training; therefore, medical students, residents and fellows were excluded. All research procedures were approved by the Rhode Island Hospital Institutional Review Board. Descriptive statistics were calculated and the averages were computed using SAS Software 9.4. (SAS Inc., Cary, NC).

#### RESULTS

The survey was sent to 267 pediatric attending physicians in Rhode Island and a total of 109 responded (response rate 41%). **Table 1** describes the demographics of participants.

**Figure 1** depicts the responses to three questions that assessed participants' experience with DMST and knowledge of re-sources available for these patients. The majority of participants reported limited experience.

**Figure 2** displays the average responses in regard to the knowledge of and discomfort with patients who may be involved in sex trafficking.

#### DISCUSSION

The findings from the current study reveal that Rhode Island pediatric attending physicians of various specialties do not feel adequately prepared to identify and respond to a DMST patient population. The majority of participants reported limited knowledge, training and comfort in regard to screening, managing, and identifying resources for high-risk and involved patients. These findings are problematic, as previous studies indicate the severity of health consequences and outcomes associated with sex trafficking.<sup>7,8</sup> Our survey highlights the potential need for education and training among all pediatricians in RI to subsequently inform effective patient care.

Patients seek medical attention but are often not identified because they infrequently self-disclose involvement to providers and do not consistently present with evidence of involvement (e.g. found trafficking by law enforcement).<sup>4,15,16</sup> Therefore, at-risk or victimized patients are treated solely for their immediate health issues (e.g. drug/ alcohol abuse, STIs), only to be at continued risk for DMST

#### Table 1. Respondent Demographics and Experience

	n (%)
Completed survey	109 (41)
Female	67 (61)
Male	39 (36)
Unknown	3 (3)
Medical Specialty	
General Pediatrics	49 (45)
Pediatric Subspecialists	42 (39)
Internal Medicine Pediatrics	10 (9)
Other	8 (7)
Clinical setting	
Private/Community	42 (39)
Hospital based clinic	29 (27)
Emergency Department	18 (17)
Hospital Inpatient	14 (13)
Other	4 (4)

#### Figure 1.

- A. Have you screened any patients for DMST in the past 12 months?
- B. Have you received any training on DMST?
- C. Do you know of resources available for DMST patients?



#### Figure 2.

**A.** On a discomfort scale ranging from not at all (1) to extremely uncomfortable (5), on average participants reported somewhat to moderate (2.4) discomfort

**B.** On a knowledge scale ranging from no (1) to a great deal of knowledge (5), ona verage participants reported very little (1.87) knowledge



victimization.<sup>15,16</sup> Youth who are not recognized within a medical setting represent missed opportunities for identification and intervention.

The overwhelming majority of Rhode Island pediatricians (86%) who responded to the survey described having received zero hours of training on DMST. In a recent survey study by Beck and colleagues, 67% of providers with no training were more likely to have lower levels of knowledge on sex trafficking and noted less confidence in their ability to identify victims.<sup>11</sup> In conjunction with limited training, our survey found that the majority of participants had an average of "very little" perceived knowledge and reported "somewhat" to "moderate" discomfort pertaining to the screening, medical management, and identification of resources for DMST patients, and when to report these youth.

A lack of training in, knowledge of and comfort with DMST may hinder appropriate and necessary patient care. The current study found that 68% of RI pediatricians who responded have not screened any patients for DMST in the past year. Moreover, our participants reported having "very little" knowledge of the resources available for DMST patients, and the majority (86%) reported not knowing about any resources. Of the 14% who did identify knowing at least one resource, participants most commonly listed the Aubin Center, followed by DCYF, homeland security, and Day One. To provide for the many medical and non-medical needs of these vulnerable youth, it is imperative for medical providers to be aware of current RI and national resources available (See **Table 2**).

Rhode Island Resources <sup>a</sup>	National Resources			
<ul> <li>Aubin Center (401)-444-3996</li> <li>Day One (401)-421-4100</li></ul>	<ul> <li>AAP Guidelines</li></ul>			
http://www.dayoneri.org <li>Department of Child, Youth and</li>	http://pediatrics.aappublications.org/			
Families (DCYF) (401) 528-3502	content/pediatrics/135/3/566.full.pdf <li>GEMS http://www.gems-girls.org</li> <li>Homeland Security 1-(800) 973-2867</li> <li>Love 146 https://love146.org</li> <li>My Life My Choice</li>			
http://www.dcyf.ri.gov <li>Family Service of RI (401)-331-1350</li>	http://www.fightingexploitation.org <li>National Human Trafficking Resource</li>			
http://www.familyserviceri.org <li>Gateway Healthcare (401)-724-8400</li>	Center (NHTRC) hotline			
http://www.gatewayhealth.org <li>Project Renew (401)-272-0220</li>	1-(888)-373-7888			
http://www.amoshouse.com	http://traffickingresourcecenter.org			
<ul> <li>Project Weber (401)-383-4888</li></ul>	<ul> <li>The National Center for Missing</li></ul>			
http://projectweber.org <li>Saint Mary's Home for Children,</li>	and Exploited Children			
The Shepherd Program (401)-353-3900	1-(800)-843-5678			
http://www.smhfc.org/Outpatient.htm	http://www.missingkids.org/home			

#### Table 2. Resources Available for DMST Patients

A limitation of this study is that we focused on pediatric physicians in Rhode Island, and therefore findings likely cannot be applied to all medical providers and medical settings in the U.S. In addition, respondents were asked to identify the number of hours they have completed training, but were not asked about the specifics of their training. Future studies should explore differences among pediatric subspecialists regarding knowledge, comfort, training and medical decision making for DMST victims.

These data support the need for a structured standardized approach to training and education about DMST for all pediatricians to improve identification and medical management. Educational programs for sexual abuse, domestic violence and substance abuse might serve as examples of how to train clinicians on DMST. Collaboration between medical providers, investigators, and other community organizations can provide opportunities to educate community partners about the unique medical and mental health needs of this population.

#### CONCLUSION

Over the last few years, DMST in Rhode Island has been increasingly recognized. As with other forms of child maltreatment, a multidisciplinary approach to identify and effectively intervene on behalf of these patients is recommended. As leaders in child advocacy, pediatricians play an essential role in addressing the complex issues faced by

victims of DMST. Pediatricians can work to increase recognition of DMST, provide direct care and guidance, and engage in collaborative efforts with medical and non-medical providers. Through clinical based training and education regarding community resources, pediatricians will be more prepared to help address the complex needs of this vulnerable pediatric patient population.

#### Acknowledgment

We would like to thank Melissa Clarke, PhD, for helping with the creation of this survey. We also would like to thank Suzanne Starling, MD, for allowing us to adapt the perceived medical knowledge and comfort scales.

a. RI community agencies listed have established specific resources for victims of DMST

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## Transgender and Gender Nonconforming Youth: Psychosocial and Medical Considerations

AGNIESZKA JANICKA, MD; MICHELLE FORCIER, MD

#### ABSTRACT

Primary care providers are increasingly called upon to care for youth that are gender nonconforming. While these youth have the same health concerns as their cisgender peers, gender nonconforming youth face additional challenges. Traditionally, this has been an underserved and marginalized population at significant risk for multiple negative mental and physical health outcomes. Despite the history of disheartening health outcomes, there is hope in interventions that may serve to ameliorate the risks for transgender youth. Studies indicate that with collaborative multidisciplinary interventions by physicians and mental health professionals that promote early identification, emphasize parental support and directly address the patient's gender dysphoria with medical and psychological interventions, transgender youth can reach adulthood without psychological sequela.

**KEYWORDS:** transgender, gender, dysphoria, transition

#### INTRODUCTION

In recent years, growing awareness of and exposure to gender nonconforming children and adults has spurred more public and medical dialogue regarding health and human rights for transgender individuals. Research, the media, and a growing awareness of the needs of the transgender community raise additional questions about the optimal treatment for these individuals.

While the prevalence of gender variant youth is largely debated, recent reports suggest that the prevalence of transgender individuals may be higher than previously estimated. Prior reported prevalence rates have ranged from 1:7,000 to 1:20,000 for transgender females, and from 1:33,000 to 1:50,000 for transgender males.<sup>1</sup> In a recent survey of 18-64 year old Massachusetts residents (n=28,622), 1 in 200 self-identified as transgender.<sup>2</sup> Additionally, gender specialty clinics have witnessed a notable increase in the number of youth presenting with gender nonconformity.<sup>3,4</sup>

Medical and mental health professionals may be a first point of contact for gender diverse youth, playing a critical role in defining treatment trajectories. Thus, it is becoming increasingly necessary that physicians and mental health professionals become familiar with the needs of this traditionally underserved and vulnerable population. Health care professionals should be able to screen and identify gender nonconforming youth, provide appropriate education to youth and families and facilitate connection with existing referral networks that may aid gender diverse youth and their families.

#### **GENDER DEVELOPMENT**

For most children, gender identity, the internal sense of being male or female is consistent with the physical characteristics of gender assignment at birth. However, a minority of children will experience gender identity that differs from the gender characteristics that initially provide them with an expected gender. It appears that a multifaceted interplay of genetic, neurobiological, prenatal and possibly postnatal hormonal environment, along with cultural and psychological factors work together to determine gender identity.<sup>5</sup>

It is fairly common for children in early childhood to engage in cross-gender play or gender exploration, and children may even express a wish to be a different gender. While most children who engage in gender play do not experience gender dysphoria in adolescence, for some, gender nonconformity persists. Medical and psychological research is only beginning to understand the developmental trajectories of gender identity in gender nonconforming children. One of the main factors identified for persistence into adolescence is the intensity and degree of gender dysphoria in the prepubertal years. The children who persist with gender dysphoria into adolescence have more "extreme" signs of gender dysphoria and are consistent, persistent and insistent in cross-gender activities, behavioral preferences, gender identification and dress.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-V) replaced the term Gender Identity Disorder with Gender Dysphoria. This change reflected an effort to depathologize the condition while simultaneously ensuring appropriate access to clinical care. While both diagnosis focus on a condition manifested by a marked incongruence between one's experienced gender and assigned gender, the gender dysphoria diagnosis has the clinical focus on the distress that may occur rather than identity. <sup>19-20</sup>

Some children may not experience a significant amount of gender nonconformity in childhood, but may present with significant gender dysphoria as puberty approaches. Age 10 through 14, the average age of puberty onset, appears to be a crucial period for identification of teens who will experience ongoing gender dysphoria.6,7 For transgender youth, the growing awareness and concern over secondary sexual characteristics often results in hatred of and disgust with their bodies.6 Conversations about "becoming a woman" or "becoming a man" can be particularly distressing to these youths as they begin to struggle with more obvious dissonance between their gender identity and physical gender. Either anticipated or existing irreversible physical changes may lead adolescents to feel increasingly hopeless regarding their body and future trajectory. Asserted males may experience extreme distress regarding the growth of breasts and hips and the start of menarche; asserted females may have an intensification of aversion towards their genitals, distress over body and facial hair growth and voice deepening.6

Previous studies have consistently identified elevated risk of multiple negative mental health outcomes among transgender youth compared to their cisgender counterparts.<sup>8</sup> In a sample of 360 transgender youth there was a two- to threefold increased risk of depression, anxiety disorder, suicidal ideation, suicide attempts, non-suicidal self-injury, and both inpatient and outpatient mental health treatment compared to the cisgender controls.<sup>9</sup> A study of transgender youth revealed that 45% had experienced suicidal ideation and 26% had attempted suicide.<sup>10</sup> The effects of chronic brainbody incongruence, resultant anxiety and low self-esteem, lack of family support, discrimination and marginalization in society are hypothesized to contribute to these dishearteningly high rates of psychiatric disorders.

#### INTERVENTIONS

Despite the history of significant health and social disadvantage in this population, poorer health outcomes are not inevitable. Recent research demonstrates that a focus on early identification, family support and well-timed interventions addressing both the patient's gender dysphoria and other components of an adolescent's psychological and social wellbeing seem to offer long-term health benefits.<sup>11,12</sup>

Ideally, gender variant youth would be identified early, well before puberty, with concurrent medical and mental health involvement. Early identification and anticipatory guidance creates a thoughtfully planned, timely social and medical transition. Guidelines published by World Professional Association for Transgender Health (WPATH) recommend a staged transition. WPATH Standards of Care echo the 2009 Endocrine Society guidelines for puberty suppression for gender dysphoric youth. Guidelines suggest that youth may benefit from puberty suppression with gonadotropin releasing hormone (GnRH) analogs if they have begun puberty with genital development tanner stage 2 or higher,

#### TERMINOLOGY

Asserted gender: the gender that people communicate to others as their authentic gender in expression and/or identity.

**Cisgender**: adjective used to describe an individual whose natal gender matches their asserted gender identity.

**Gender**: characteristics behaviorally, culturally and psychologically associated with femaleness or maleness.

**Gender expression**: the manner in which a person represents gender to others (including activities, behavior, dress, hairstyles, mannerisms or voice).

Gender identity: intrinsic sense of self as male, female or other.

**Gender dysphoria**: distress related to discrepancy between an individual's gender identity and natal gender (not all gender nonconforming individuals experience gender dysphoria).

Natal gender: sex assigned by a physician at child's birth.

**Transfemale or transmale:** identity label for natal males with asserted female gender identity or natal females with asserted male gender identity.

**Transition**: a process whereby an individual changes their social and/or physical characteristics in order to live in congruence with their authentic gender identity. Transitioning may/may not involve hormonal and/or surgical procedures.

**Cross-gender hormones:** exogenous hormones administered to promote development of secondary sexual characteristics consistent with an individual's asserted gender identity.

Gender binary: classification of gender into two distinct and opposite forms of masculine and feminine, with individuals strictly gendered as either/or, in contrast to gender spectrum which allows for more non-binary or fluid movement along a continuum of gender.

**Gender nonconforming**: adjective used to describe individuals whose gender identity differs from what is normative for their natal gender.

**Social transition**: a process whereby an individual changes their gender expression to align with asserted gender identity which can involve change in appearance (hair, dress, mannerisms etc.), behavior, pronoun, and/or name.

**Transgender**: adjective used to describe individuals whose gender identity differs from their physical sex characteristics. (This term at times is used as synonymous with gender nonconforming.)

demonstrate gender dysphoria with pubertal onset, and have adequate mental health and social support to help them safely transition.<sup>13,14</sup>

Puberty suppression provides additional time for the gender nonconforming youth to explore gender identity without the pressure and distress of ongoing pubertal development. As an added benefit, this "pause" provided by GnRH analogue suppression of continued pubertal development may

provide the family with additional time to adjust. Parents are often reassured that GnRH analogues are fully reversible allowing for endogenous pubertal development to resume once these puberty blockers are stopped. Puberty blockers offer youth significant benefit as they relieve some gender dysphoria by preventing the irreversible physical changes of puberty if started at tanner stage 2. If started later in puberty, GnRH analogues offer more limited benefit but continue to suppress permanent feminization and masculinization characteristics that would require future surgical intervention to alter. Later in adolescence gender affirming hormones can be added.5 For teens who have already gone through some pubertal changes, stopping continued development of the "wrong" secondary gender characteristics still offers benefit by relieving distress, and facilitating the person's ability to present in accordance with their gender identity.<sup>5</sup>

Studies indicate that puberty suppression followed by cross-gender hormones may have not just physical benefits for gender nonconforming teens but additional psychological benefit. A study of 70 gender dysphoric adolescents who underwent puberty suppression demonstrated a decrease in behavioral and emotional problems and depressive symptoms and improvement in general function with puberty suppression.<sup>15</sup> In this group of youth, none discontinued puberty suppression and all eventually started on cross-gender hormones.<sup>15</sup> A follow-up study looked at 55 of these youth who had undergone puberty suppression followed by cross gender hormones and gender affirming surgery and evaluated their function in young adulthood. These youth showed a steady improvement in their psychological function over time with rates of clinical symptomatology that were indistinguishable from the general population. Their quality of and satisfaction with life and subjective happiness measures were comparable to same age peers.12

These studies support the idea that with early identification, medical treatment and support, transgender youth can reach adulthood with a reduction in psychological sequela.

A growing body of evidence identifies that family support is a significant protective factor that can mitigate the negative psychological sequela. Gender nonconforming youth who described their families as strongly supportive of their gender identity in childhood, went on to have less depressive symptoms, higher self-esteem, higher life satisfaction and lower perceived burden of being transgender.<sup>16,17</sup> A recent study of prepubescent children who had socially transitioned and were supported by their families in their gender identity were found to have normative levels of depression and only minimally elevated levels of anxiety (well below the preclinical range). The authors concluded that allowing children to present in everyday life in accordance with their asserted gender identity was associated with normative levels of depression and anxiety.18 By supporting their child's authentic gender self, parents and families of gender nonconforming youth have a crucial opportunity to improve mental health outcomes.

Interventions by healthcare professionals that promote parental support may significantly affect the mental wellbeing of transgender youth. This approach requires an increased focus on providing support and guidance for parents and families on how best to support their child's gender identity. When discussing gender identity, parents may feel uncertain as to what the appropriate course of action is and may be paralyzed by many fears about their child's future. Parents may resist supporting their child's gender identity due to fears about the difficulties the child may experience in the world beyond their home. Parents frequently voice fears about harassment, peer rejection, physical harm, as well as regret. Highlighting the crucial role of parental support in the mitigation of negative psychological outcomes can provide empowerment for parents who may be overwhelmed by the prospect of their child's gender identity and transition.

While approaching transition may be a tumultuous time for some families, specially trained mental health professionals can assist in supporting parents through the transition process for the whole family. Assessment of family function and the impact of the child's gender nonconforming behavior on the family unit is crucial.<sup>8</sup> It is important to acknowledge that parents may be undergoing their own grieving process; experiencing the child's transition as losing a son/daughter prior to gaining a child of another gender. Processing this perceived loss may be assisted by mental health professionals working with the parents in individual or couples therapy.

Since gender nonconforming youth have lived with their gender dysphoria for an extended period of time, some youth show limited patience with their parents' slower process of adjustment to disclosure and making a transition plan. Anticipating this lag between youth and parent acceptance is important in making transition plans. Just as gender nonconforming youth may face rejection from their peers and social environment, parents may experience rejection from family members who are not accepting of their child's asserted identity. It may become necessary for the parents to identify those family members who are supportive of the child's asserted identity, and protect the child from those family members who may outright reject the child. Parents can also experience increased conflict if their approaches to helping the transgender youth differ, and in those cases marital or co-parenting counseling may be of assistance.

The role of the mental health professional varies with each case. For children who do not have any co-occurring psychiatric difficulties and who are in a supportive and accepting environment, support around gender dysphoria and assistance with safe and thoughtful social and medical transition planning may be sufficient. Before and during the time of transition, mental health providers can function as liaisons with schools in order to advocate for the specific needs of the youth. For children for whom social transition may impact their safety, mental health professionals can work with parents to create a supportive environment in the home so that the child can experience a sense of acceptance, while a safer plan is developed for outside the home. Given the crucial aspect of parental support, mental health professionals and physicians can help mobilize parents to become greater sources of support and advocacy.

For some youth and families co-occurring psychiatric struggles present additional challenges. Mental health professionals can be an important asset in assessing comorbidities and treating separate psychiatric concerns. As with their cisgender peers, early identification and treatment of adolescent mental health concerns remains essential and predictive of improved long term health outcomes.

#### CONCLUSION

The increased presentation of gender nonconforming youth poses a challenge for healthcare providers to ascertain the safest and best psychological and medical approach for each patient. By working with the youth and their families in a collaborative manner, supportive interventions can aid youth and families adjust to the new landscape of gender nonconformity. Early identification and appropriate psychoeducation, family support, and referrals that lead to welltimed medical and mental health interventions have the potential to offer long-term physical and psychological benefits for this traditionally high-risk population.

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## An Evaluation of the Utility of an Orthopaedic Surgery Rotation for Emergency Medicine Residents

JOSEPH A. GIL, MD; STEVEN F. DEFRODA, MD; ADAM JANICKI, MD; JESSICA SMITH, MD; CRAIG EBERSON, MD

#### ABSTRACT <sup>-</sup>

**OBJECTIVES:** In collaboration with the Department of Emergency Medicine, we designed a hands-on orthopaedic rotation for emergency residents in their first postgraduate year (PGY1) to introduce them to the appropriate evaluation and management of common orthopaedic injuries and conditions. Our hypothesis was that after the rotation, emergency medicine residents would be more comfortable with the evaluation and management of these injuries and conditions.

**METHODS:** We designed a survey for the emergency medicine residents to query the pre- and post-rotation level of comfort in the management of some of the most commonly encountered orthopaedic injuries and conditions that present to the emergency department.

**RESULTS:** Seventeen PGY1 emergency medicine residents completed the orthopaedic surgery rotation at the time the survey was distributed. Sixteen (94%) completed the questionnaire. Wilcoxon matched pairs testing based on the overall Likert score prior to and after completion of the orthopaedic rotation revealed that the overall Likert score after the rotation was significantly higher (19.4±5 vs.  $27\pm3.6$ ; *P*=0.00098). Comparison of each of the 9 knowledge and skill areas assessed by the questionnaire revealed that the respondents were significantly more comfortable in all of these core content areas (*P*<0.01).

**CONCLUSION:** The orthopaedic rotation designed in collaboration with the emergency medicine residency program may be a useful model for musculoskeletal education for non-orthopaedic surgery residents.

**KEYWORDS:** musculoskeletal education, orthopaedic surgery, emergency medicine, medical education, postgraduate medical education

#### INTRODUCTION

More than 1 out of every 7 patients evaluated in the emergency department present with an orthopaedic problem.<sup>1</sup> Despite the frequency of orthopaedic injuries encountered in the emergency department (ED), the Accreditation Council for Graduate Medical Education (ACGME) has not identified a specific methodology for teaching orthopaedics during emergency medicine residency training, and identifies only one orthopaedic key index procedure ("dislocation reduction") in its Common Program Requirements for emergency medicine training.<sup>2</sup> In 2006, the American Orthopaedic Association identified diminishing coverage of community emergency departments by orthopaedic surgeons as a critical issue.<sup>3</sup> As access to consulting orthopaedic surgeons in community emergency departments continues to decrease, emergency medicine physicians will have a larger role in the primary management of orthopaedic injuries and conditions. A dilemma arises as a result of this increasing responsibility of emergency medicine physicians because undergraduate medical education alone does not adequately prepare new residents to evaluate and manage musculoskeletal injuries and conditions.<sup>1,4–6</sup> These critical skills must be learned during residency training.

At our institution, in collaboration with the Department of Emergency Medicine, we designed a hands-on orthopaedic rotation for emergency medicine residents. The rotation was designed to introduce emergency medicine residents in their first postgraduate year (PGY1) to the appropriate evaluation and management of common orthopaedic injuries and conditions presenting to the emergency department. In our educational model, the emergency medicine resident is paired with a second postgraduate year (PGY2) orthopaedic surgery resident who is responsible for all ED orthopaedic consultations. This model was chosen to maximize the emergency medicine resident's opportunity to learn how to assimilate pertinent information from the history and physical exam, develop a working diagnosis, and perform necessary emergent stabilization or procedures with appropriate supervision. The emergency medicine resident is required to attend daily orthopaedic trauma conference where all consults from the emergency department from the previous 24 hours are presented. The discussion during this conference gives the emergency medicine resident an additional opportunity to understand the thought process associated with every consultation, reinforcing learning points. Additionally, the emergency medicine residents are provided with a reading curriculum for the rotation that introduces them to core orthopaedic principles required to effectively provide acute care for orthopaedic injuries and conditions in the emergency department. Our hypothesis was that after completion of the rotation, the emergency medicine residents would be more comfortable with the evaluation and management of orthopaedic injuries and conditions.

#### **METHODS**

In the 2014–15 academic year, the Emergency Medicine residency at Rhode Island Hospital implemented a one-month orthopaedic consult rotation for their PGY1 residents. The resident spent 3 evenings a week taking overnight ED call with the consulting orthopaedic resident. To evaluate the efficacy of the rotation, we designed and restropectively distributed an 18-question survey to the ED residents who completed the rotation during their intern year. The nine distributed. Sixteen (94%) completed the questionnaire. Wilcoxon matched pairs testing based on the overall Likert score prior to and after completion of the orthopaedic rotation revealed that the overall Likert score after the rotation was significantly higher (19.4 $\pm$ 5 vs. 27 $\pm$ 3.6; *P*=0.00098). Comparison of each of the 9 knowledge and skill areas that were assessed by the questionnaire revealed that the respondents were significantly more comfortable in all of these core content areas (**Figure 1**).

Figure 1. Likert Score for Orthopaedic Skills: Before and After Rotation

Comparison of each of the 9 knowledge and skill areas assessed by the questionnaire demonstrates respondents were significantly more comfortable in all of the core content areas.



core content knowledge and skill areas that were assessed included the following: (1) ankle fractures; (2) distal radius fractures; (3) open fractures; (4) knee arthrocentesis; (5) basic extremity splinting; (6) fingertip injuries; (7) extremity radiographs; (8) post-emergency orthopaedic care; (9) post-emergency room orthopaedic complications. Two questions for each area corresponded to the level of comfort with the knowledge or skill area before and after the rotation. The responses to the questions were designed using a Likert score. This subsequently allowed comparison of each skill area as well as comparison of the overall Likert score before and after completing the orthopaedic surgery rotations. We did not seek IRB approval given that the initial inten-

tion of the survey was to anonymously review the success of an orthopaedic rotation that was already implemented into the emergency medicine residency curriculum. Given the success of the rotation, we wrote the manuscript to bring attention to the rotation as a potential model for musculoskeletal education for emergency medicine residents.

The survey was distributed via the REDCap (Research Electronic Data Capture) program (Vanderbilt University, Nashville, TN) in December 2015. Study data was also collected and managed using the REDCap program, a tool provided by the Lifespan Biostatistics Core. REDCap program is a secure, web-based application designed to support data capture for research studies. REDCap program does not record IP addresses. There were no incentives for participation and participation was voluntary. Statistical analysis was performed utilizing Microsoft Excel (Microsoft Corporation, Redmond, WA) and StatPlus: LE (AnalystSoft Inc., Walnut, CA). A P value of <0.05 was defined as statistically significant. The Wilcoxon paired test was utilized to compare the overall nonparametric Likert score and the nonparametric Likert score for each question.

#### RESULTS

Seventeen PGY1 emergency medicine residents completed the orthopaedic surgery rotation at the time the survey was

#### DISCUSSION

In 2004, the American College of Emergency Physicians' Emergency Medicine Foundation survey of emergency department medical directors revealed that two-thirds of responding emergency departments had insufficient subspecialty coverage. Further, one-third of the respondents reported an increase in the amount of transfers to other emergency departments to obtain subspecialty care.<sup>7</sup> Inadequate physician reimbursement, fear of malpractice litigation, and impact on lifestyle have been cited as factors for these trends.<sup>3</sup> Irrespective of the underlying reason for these trends, the fact remains that emergency medicine physicians must be prepared to provide emergent musculoskeletal care without the assistance of a consultant.

As access to consulting orthopaedic surgeons continues to decrease in community emergency departments, emergency physicians will have a larger role in the primary management of orthopaedic injuries and conditions. A dilemma arises as a result of this increasing responsibility of emergency medicine physicians. Several investigations have revealed that medical education does not adequately prepare residents to evaluate and manage musculoskeletal injuries and conditions.<sup>1,4-6</sup>

In 1998, Freedman et al designed a basic musculoskeletal competency examination that was distributed to 85 PGY1
residents of various specialties on the first day of their PGY1 year.5 They were asked to rate each question for importance and to suggest a passing score. To assess the criterion validity, the examination was administered to eight chief residents in orthopaedic surgery. The study population comprised all eighty-five residents who were in their first postgraduate year at our institution; the examination was administered on their first day of residency. Seventy (82%) of the 85 PGY1 residents failed the examination, demonstrating that their preceding musculoskeletal education was inadequate. Although residents who completed an elective orthopaedic surgery rotation scored higher than those who completed a required orthopaedic rotation or no orthopaedic rotation at all, those residents still failed the examination with a mean score of 68.4%. In 2005, Matzkin et al recruited 334 volunteers, including medical students, residents and staff physicians, to complete an examination designed to assess basic musculoskeletal knowledge.4 Seventy-nine percent of the participants failed this examination, suggesting that musculoskeletal education in both medical school and non-orthopaedic surgery rotations is inadequate. In 2012, Skelley et al performed a cross-sectional study to evaluate the musculoskeletal knowledge of all of the medical students in one institution.6 They distributed a survey, which included a musculoskeletal examination designed to assess musculoskeletal competency, to 460 medical students. The overall mean score was 51%; 80.7% failed. Although fourth-year medical students scored higher (59%) than firstyear students (37.3%), over 65% of students in both groups failed the examination. Additionally, on a scale of one to ten for subjective confidence in taking care of musculoskeletal issues, the mean first year score was 3.18 and the mean fourth year score was 4.77. Scher et al assessed musculoskeletal knowledge amongst 28 internal medicine and 18 emergency medicine residents with an online examination.<sup>1</sup> The mean scores were 56% and 46% for internal medicine and emergency medicine residents, respectively.

During orthopaedic residency training, management of emergent orthopaedics issues poses a steep learning curve in knowledge, skills and confidence. This is often overcome through the guidance of senior residents and attendings, supplemented with a rigorous reading schedule. Our results suggest that giving emergency medicine residents a similar opportunity to learn with an orthopaedic surgery PGY2 offers a unique opportunity to gain necessary knowledge and confidence to care for basic orthopaedic injuries and conditions. Our curriculum enhanced emergency physician confidence in the assessment and management of musculoskeletal injuries in all identified areas. This suggests that our orthopaedic rotation may serve as a useful model for musculoskeletal education for all emergency medicine residents.

There are several limitations of our investigation. First, our retrospective design subjects our data to recall bias. Second, our current sample size is small; however, the results of this preliminary assessment of the rotation are promising given the statistically significant improvement that we observed in our sample. Third, in this preliminary investigation, only subjective confidence was addressed. An additional, prospective assessment of objective musculoskeletal knowledge and skills is warranted.

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### **Disclosures**

The authors have no relevant financial conflicts or competing interests to report. The authors report no external funding source for this study.

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## Transcranial Doppler Ultrasonography As a Non-Invasive Tool for Diagnosis and Monitoring of Reversible Cerebral Vasoconstriction Syndrome

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## ABSTRACT

**BACKGROUND AND PURPOSE:** Reversible cerebral vasoconstriction syndrome (RCVS) is a vascular headache disorder characterized by severe headaches with vasospasm of cerebral arteries. Transcranial Doppler ultrasonography (TCD) has been widely applied and validated in studying vasospasm of intracranial vessels, but the role of TCD in the diagnosis and monitoring of RCVS is less well established. We sought to determine the reliability of TCD for diagnosis and monitoring of RCVS.

**METHODS:** Patients admitted to an inpatient neurology service between 2011 and 2014 with a discharge diagnosis of RCVS were retrospectively analyzed for demographics, neuroimaging, and functional outcomes. Baseline and follow-up TCD flow velocities in the middle cerebral artery ( $V_{mca}$ ) were compared relative to the final diagnosis. **RESULTS:** The cohort consisted of fifteen patients (93% females; mean age 46.7 +/- 12.4 years); initial TCD evaluation was performed 10.9 +/- 6.6 (range 1–24) days after headache onset. Fourteen patients (93.3%) had increased flow velocities by initial TCD in at least one major cere-

bral blood vessel (MCA, ACA, PCA, vertebral, basilar). TCD flow velocities in the middle cerebral artery  $(V_{mca})$  reached a mean peak of 163 cm/s three to four weeks after the onset of thunderclap headache.

**CONCLUSION:** TCD is a non-invasive neuroimaging modality that may have potential for the initial diagnosis and subsequent monitoring of patients with suspected RCVS. Larger studies will be needed to establish its utility.

**KEYWORDS:** Reversible Cerebral Vasoconstriction Syndrome, stroke, intracerebral hemorrhage, transcranial ultrasound, imaging, RCVS, TCD

## INTRODUCTION

Reversible cerebral vasoconstriction syndrome (RCVS) is characterized by thunderclap headaches with vasospasm of cerebral arteries that may lead to other neurological complications such as stroke and subarachnoid hemorrhage.<sup>1-4</sup> Currently, conventional catheter-based cerebral angiography is the gold standard for diagnosis of RCVS.<sup>1, 2</sup> Although it is an invasive procedure, diagnostic conventional angiography is typically safe with complication rates ranging from 0.3% to 4.2%.<sup>5, 6</sup> However, when performed in patients with RCVS, conventional angiography carries up to a 9% rate of neurological complications.<sup>7, 8</sup> Magnetic resonance angiography (MRA) has also been shown to be a valid tool in the evaluation of RCVS.<sup>7</sup> However, MRA has limitations with regard to widespread access and availability. Transcranial Doppler ultrasonography (TCD) is a safe imaging modality that has shown great utility in following vasospasm in patients with subarachnoid hemorrhage.<sup>9:14</sup> The role of TCD in the diagnosis and monitoring of RCVS, however, is less well established. Therefore, we sought to determine the role of TCD in the diagnosis and monitoring of RCVS.

### **METHODS**

The study was approved by the local institutional review board. We retrospectively analyzed charts of patients who were admitted to a single, large academic medical center between 2011 and 2014 with a discharge diagnosis of RCVS who had also undergone testing with TCD. RCVS was defined as any new, abrupt onset headache with or without focal deficits and with a "string of beads" appearance on angiography.<sup>1</sup> When conventional angiography was not available, MRA was used for the diagnosis of RCVS.<sup>7</sup>

Baseline data abstracted from qualifying charts included age, gender, past medical history (diabetes mellitus, hypertension, smoking status, prior disability, medications use, illicit drug abuse history), highest and lowest blood pressure values in the emergency department, and toxicology screen. Functional disability was determined using the modified Rankin scale (mRS) score pre-admission and at discharge.

TCD was performed by experienced sonographers who were instructed to evaluate patients for vasospasm. The sonographers were blinded to the results of angiography. The middle cerebral artery (MCA), anterior cerebral artery (ACA), and posterior cerebral artery (PCA) arterial signals were obtained by insonating through the temporal windows at depths of 45mm-60mm for the MCA and 55–70mm for the ACA and PCA. For the posterior circulation, the vertebral and basilar arteries were detected through the foramen magnum at depths of 60mm–80mm and 80mm–120mm, respectively. All vessels were identified by depth and direction of arterial signal. If elevated blood flow velocities were present, additional waveforms were captured and calculated to determine the highest mean velocity.<sup>16-18</sup> We defined 80 cm/s as the normal upper limit in the anterior circulation and 60 cm/s as the normal upper limit in the posterior circulation.<sup>9, 12, 13, 16, 19</sup> Vasoconstriction of the MCA was defined as a velocity greater than 120cm/sec and severe vasoconstriction was defined as velocity greater than 200cm/sec.

Patients were followed in outpatient clinics. Information on recurrent symptoms was recorded, and TCDs were repeated for follow-up.

Descriptive statistics were presented as means +/- standard deviations. TCD velocities as a function of time were tabulated and averaged from the cohort of patients with positive initial TCD ultrasounds in the middle cerebral artery over different time periods.

## RESULTS

During a three-year period from 2011–2014, we identified 15 patients (93% females; mean age 46.7 +/– 12.4 years) with a discharge diagnosis of RCVS who underwent testing with TCD. Twelve of fifteen patients were diagnosed with Conventional angiography and three were diagnosed with MRA. Clinical characteristics of the patients are summarized in **Table 1**. Eleven of fifteen patients (73.3%) were active smokers. Two-thirds of patients had potential secondary causes of RCVS including consumption of vasoactive medications such as selective serotonin/norepinephrine reuptake inhibitors (n = 6), pseudoephedrine products (n = 1), triptans (n = 2), and use of illicit drugs such as marijuana (n = 5), cocaine (n = 1), and 3,4-methylenedioxy-methamphetamine (n = 1).

Fourteen of the fifteen patients developed neurological complications from their RCVS, including subarachnoid hemorrhage (n = 8), ischemic stroke (n = 6), and intracerebral hemorrhage (n = 4). Sixty percent of patients were discharged with some degree of disability, defined as a modified Rankin scale (mRS) score of 2 or higher.

There were 48 TCD studies in the 15 patients (average, 3.2 studies/patient). Overall, initial TCD evaluation was 10.9 +/- 6.6 (range 1–24) days after headache onset, and angiogram was performed 8.6 +/- 5.2 (range 1–15) days after headache onset. Fourteen patients (93.3%) had increased flow velocities by initial TCD in at least one major cerebral blood vessel (MCA, ACA, PCA, vertebral, basilar). Four patients (36.4%) had some degree of vasoconstriction (V<sub>mca</sub> > 120cm/s) and one patient (9.1%) had severe vasoconstriction (V<sub>mca</sub> > 200cm/s). In patients with positive TCDs, the mean flow velocity in the MCA peaked three to four weeks after headache onset. The temporal trend of TCD velocity data in the MCA is demonstrated in the figure. (Figure 1)

## DISCUSSION

In this retrospective case series of 15 patients with RCVS, we found the initial sensitivity of TCD to be 93.3% compared with conventional angiography or MRA, thereby

### Table 1. Demographics of Patients with RCVS

Demographics	RCVS Cohort (N=15)
Mean Age +/– SD, yr	46.7 +/- 12.4
Female Sex, n (%)	14 (93%)
Hypertension, n (%)	6 (40%)
Diabetes, n (%)	1 (6.7%)
Migraine, n (%)	6 (40%)
Smoking, n (%)	11 (73.3%)
Vasoconstrictive medicationsa, n (%)	7 (47%)
Illicit Drug Exposure b, n (%)	6 (40%)
Initial SBP, mmHg +/- SD	166 +/- 24
Initial DBP, mmHg +/- SD	92 +/- 12
Cerebral Manifestations of RCVS, n (%):	
Ischemic Stroke	6 (40%)
SAH	8 (53.3%)
ICH	4 (26.7%)
SDH	1 (6.7%)
PRES	3 (20%)
Timing of angiogram, days +/- SD	8.6 +/- 5.2
Timing of initial TCD, days +/- SD	10.9 +/- 6.6
mRS > 1 prior to admission	2 (13.3%)
mRS > 1 at discharge	9 (60%)

SD = standard deviation; SBP = systolic blood pressure; DBP = diastolic blood pressure; mRS = modified Rankin scale score; SAH = subarachnoid hemorrhage; ICH = intracerebral hemorrhage; SDH = subdural hemorrhage; PRES = posterior reversible encephalopathy syndrome.

<sup>a</sup>Vasoconstrictive medications included selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, triptans, and prescribed amphetamines or over-the-counter pseudoephedrine-containing products. bIllicit drugs include marijuana, cocaine, or 3,4-methylenedioxy-methamphetamine.



Figure 1. Mean flow velocities in the middle cerebral artery as a function of time.

highlighting the importance of TCD as a diagnostic tool for RCVS. Two prior studies, however, reported lower rates of 69-81% with serial TCD monitoring.<sup>8,16</sup> In addition, the temporal trend of flow velocities in patients undergoing serial TCD suggest that it may also be useful in the monitoring of RCVS.

This cohort was similar in age and gender to that of prior studies, although we observed higher rates of comorbid migraine relative to prior reports, 40% vs. 16-25%.<sup>2, 16</sup> Unlike two large studies with idiopathic and purely cephalalgic RCVS<sup>15, 16, 20</sup>, we noted a high rate of secondary RCVS associated with exposure to potential vasoactive triggers for RCVS including SSRI/SNRI antidepressants, triptans, and recreational drugs like marijuana, cocaine, and MDMA.<sup>4</sup> We also observed a particularly high rate of severe cerebral manifestations in our cohort in that over 90% of our patients developed non-aneurysmal subarachnoid hemorrhage, ischemic stroke, intracerebral hemorrhage, PRES or a combination thereof. The rate of brain lesions seen in our cohort was similar to one other case series<sup>3</sup> but higher than three others.<sup>15, 16, 21</sup>

We observed that mean flow velocities remain elevated up to four weeks after headache onset, similar to what was described in a prior study.<sup>16</sup> Although the severity of vasoconstriction seen on TCD during the first episode of RCVS does not appear to predict the risk of recurrence, greater maximum mean flow velocity may portend a higher risk of PRES and ischemic stroke.<sup>15, 16</sup> Ducros and colleagues suggest that vasoconstriction of major cerebral arteries may be the cause of infarcts during the later stages of RCVS.<sup>21</sup> Serial monitoring of vasoconstriction via TCD may therefore help to identify patients at higher risk of developing neurological complications related to RCVS. To date, there are no specific guidelines for treatment of RCVS; however, patients might benefit from early, aggressive therapy tailored towards normalizing flow velocities.<sup>4</sup>

The timing of vasoconstriction hemodynamics relative to headache onset and resolution are not well understood in RCVS. Ducros and colleagues have proposed a hypothesis of a "centripetal progression" whereby there is underlying disturbance in the control of vascular tone in small distal arteries responsible for thunderclap headaches, hemorrhages, and PRES, followed in turn by a progression towards mediumand large-sized arteries responsible for ischemic events.<sup>8</sup> This theory could explain why thunderclap headaches often precede any detectable vasoconstriction (up to 33% rate of normal early angiograms), and why detectable vasoconstriction may paradoxically persist weeks after headache onset and remission.8, 16, 21 As such, serial TCD monitoring could help non-invasively to identify patients with suspected RCVS in whom vasoconstriction is not yet apparent on initial neuroimaging. TCD could also help identify patients in whom vasoconstriction persists after resolution of thunderclap headaches.

We acknowledge several limitations in this study. First, due to the small retrospective nature of our chart review, we were unable to standardize the timing with which patients received their neuroimaging relative to headache onset. Second, although we tried to blind the sonographers to clinical data, some unintentional disclosure of vascular imaging is possible. Third, TCD may be limited by TCD technique and operator dependency. Forth, the generalizability of our results may be limited by selection bias in that we only included patients with known RCVS who had also undergone assessment with TCD; we did not have data about patients with RCVS who did not undergo TCD. Therefore, we could not determine the specificity of TCD for RCVS. Finally, we did not have a control group to account for potential TCD abnormalities in asymptomatic individuals. A prior cohort revealed normal TCD velocities in healthy control subjects, so it would be unlikely to see transient TCD abnormalities in asymptomatic patients.<sup>16</sup>

## CONCLUSION

In this series, TCD was a sensitive, non-invasive tool that may prove helpful in the diagnosis of RCVS. Further studies of larger numbers of patients are needed to evaluate the utility of TCD in diagnosing and monitoring patients with RCVS.

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### Disclosures

- Dr. Levin, Mr. Benavides, Ms. Caddick, Ms. Laurie, and Dr. Khan have nothing to disclose.
- Dr. Wilterdink is a senior deputy editor for Up-to-Date.

Dr. Yaghi received funding from the New York Stroke Trials Network of Columbia and Cornell (NYCCSTN, NINDS U10NS086728) and NIH StrokeNet.

Dr. Silver discloses receiving personal compensation from the Joint Commission for surveyor activities, UCSF for adjudication in the SOCRATES trial, Fred Hutchinson Cancer Center for adjudication in the Women's Health Initiative, expert review of medico-legal cases, and honoraria for authorship in Ebix, Medlink, and Medscape.

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## Characteristics of Suicide Attempts and Deaths Among those Aged 60 Years and Older in Rhode Island

YONGWEN JIANG, PhD; MARY ANN CIANO, MA; JEFFREY HILL, MS; SAMARA VINER-BROWN, MS

Suicide accounts for the loss of over 42,000 American lives each year,<sup>1</sup> and about 10,000 of these are among adults aged 60 and older with the majority being men.<sup>1, 2</sup> Suicide death rates in the older adult population are high and increase with age, especially in males 75 years and older (38.8 per 100,000 in 2014).<sup>3, 4</sup>

One of the Healthy People (HP) 2020 objectives (set by the US Department of Health and Human Services) is "reducing suicides by 10%".<sup>5</sup> The Centers for Disease Control and Prevention's (CDC) National Violent Death Reporting System (NVDRS) can be used to measure the progress towards achieving the HP 2020 objective.<sup>5</sup> Although NVDRS has successfully provided data for suicide prevention in many states,<sup>2, 4-7</sup> most studies have focused on youth suicides. However, the majority of suicides are among those aged 35–54, and as the baby boomers continue to age, the number of suicides in older adults is expected to climb.<sup>2</sup> It is, therefore, timely to investigate characteristics of suicides among older adult or elderly populations.

Using the 2013 Rhode Island emergency department (ED) visit database and hospital discharge database (HDD), and the 2004–2013 Rhode Island Violent Death Reporting System (RIVDRS), we aimed to characterize the burden of suicide among RI adults aged 60 and older.

## **METHODS**

RI maintains electronic, centralized, and statewide databases of ED and HDD for 11 acute care hospitals and three specialty hospitals. RI hospitals use the standard uniform billing form (UB-04) as the basis for the ED and HDD. The data collected include patient's age, sex, zip code, admission date, length of stay, total charges, principal diagnosis, and secondary diagnoses. We used the 2013 ED and HDD and only focused on suicide attempts among those aged 60 years and older from the 11 acute care hospitals. ED visits covered in this analysis were limited to those not resulting in an admission to the same hospital since most payers require a single bill for patients seen in multiple care settings/units of the same hospital during a single visit/stay.

RIVDRS was established to inform policymakers about the characteristics, magnitude, and trends of violent death and for the development of prevention strategies.<sup>2</sup> It is an active surveillance system that collects information on demographics, place of death, circumstances, toxicology tests, weapon type, and manner and cause of death data. We limited our analysis to suicide deaths from 2004 to 2013 among adults aged 60 years and older (n = 201).

RIVDRS abstractors determined manner of death based on medical examiner and law enforcement reports to identify the underlying cause of deaths. Suicide injuries include diagnostic codes E950-E959 (ICD-9-CM) (E-code: external causes of injury).<sup>8</sup> Using the 2013 ED and HDD, we included age group, sex, race/ethnicity, city/town of residence, insurance, and patient status. Using the 2004-2013 RIVDRS data, we included age group, sex, race/ethnicity, veteran, marital status, city/town of residence, injuries at victim home, weapon type, toxicology tests, and circumstances. Analyses were conducted with SAS version 9.4 (SAS Institute, Inc. Cary, NY).

## RESULTS

In 2013, RI older adults had 30 ED visits and 91 hospitalizations due to suicide attempts (**Table 1**). Although the majority of suicide attempt hospitalizations were among those with Medicare (67%), the proportion was lower for ED visits related to suicide attempts, where 47% were among those with Medicare. One-third of those seen in the ED or hospitalized for suicide attempts were transferred to psychiatric units. A trend analysis of over ten years of data revealed that suicide deaths changed dramatically from 2004 to 2013 (**Figure 1**). During this period, a total of 201 RI older adults died of suicide and over one-third were veterans (**Table 2**). Firearm use was the most common method of suicide. **Tables 1–2** show suicide attempts and deaths among the elderly population are more likely to occur among males, whites, and those living in non-core cities.

Among the 201 suicides, 97% were tested for alcohol, antidepressants, and opiates, and 19.2% tested positive for alcohol, 24% for antidepressants, and 21.4% for opiates (**Table 3**). In 101 (50.3%) cases, the decedent had a current mental health problem. Approximately 82% of older adults with a current mental health problem had a diagnosis of depression/ dysthymia, with anxiety disorder (18.7%), post-traumatic stress (10%; 60% of them were veterans), and bipolar disorder (8%). Less than half of the older decedents were in current mental health treatment. Among older suicide adults, 47.8% had at least one physical health problem, 21.4% had experienced a recent crisis in the past two weeks, and 35.3% left suicide notes.

Characteristic		70	
Characteristic	ED (n=30) <sup>a</sup>	HDD (n=91)	
Age group			
60–69 years	76.7	65.9	
70–79 years	20.0	25.3	
80 years and over	3.3	8.8	
Sex			
Male	60.0	49.5	
Female	40.0	50.5	
Race/Ethnicity			
Non-Hispanic white	90.0	90.0	
Minority	10.0	10.0	
City/Town of Residence			
Core cities <sup>b</sup>	23.3	26.4	
Non-core cities	76.7	70.3	
Out of state	0.0	3.3	
Insurance			
Self-pay	6.7	2.2	
Medicare	46.6	67.0	
Medicaid	0.0	3.3	
Private	46.7	27.5	
Patient Status			
Discharged to home/self-care	50.0	42.9	
Transferred to psychiatric hospital/ part unit of a hospital	33.3	36.3	
Other	16.7	20.8	

**Table 1.** Characteristics of Suicide Injuries Among Those Aged 60 Years and
 Older, 2013 RI Emergency Department (ED) and Hospital Discharge Data (HDD)

<sup>a</sup> ED visits did not include subsequent admission to an inpatient or observation bed of the same hospital.

<sup>b</sup> Core-cities: Central Falls, Pawtucket, Providence, and Woonsocket.

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**Figure 1.** Suicide Deaths Among Those Aged 60 Years and Older, 2004–2013 RIVDRS

 Table 2. Characteristics of Suicide Deaths Among Those Aged 60 Years

 and Older, 2004-2013 RIVDRS (N=201)

Characteristic	n	%			
Age group					
Average age, 70.7 years					
60-69 years	111	55.2			
70-79 years	47	23.4			
80 years and over	43	21.4			
Sex					
Male	155	77.1			
Female	46	22.9			
Race/Ethnicity					
Non-Hispanic white	194	98.0			
Minority	< 5 <sup>a</sup>				
Veteran					
Yes	79	39.7			
No	120	60.3			
Marital Status					
Married/Civil union/Domestic partnership	84	42.0			
Widowed	46	23.0			
Divorced	43	21.5			
Never Married/Single, not otherwise specified	27	13.5			
City/Town of Residence					
Core cities <sup>b</sup>	34	17.0			
Non-core cities	155	77.5			
Out of state	11	5.5			
Injured at Victim Home	1	1			
Yes	149	76.0			
No	47	24.0			
Weapon Type					
Firearm	77	38.5			
Hanging, strangulation, suffocation	50	25.0			
Poisoning	44	22.0			
Other	29	14.5			

<sup>a</sup> Cell contained less than five cases.

<sup>b</sup> Core-cities: Central Falls, Pawtucket, Providence and Woonsocket.

Toxicology Test and Circumstance	n	%			
Tested	192	97.0			
Toxicology test positive					
Alcohol	37	19.2			
Antidepressants	46	24.0			
Opiates	41	21.4			
Mental health/substance abuse circumstance					
Current depressed mood	100	50.0			
Current mental health problem <sup>b</sup>	101	50.3			
Depression/Dysthymia	83				
Anxiety disorder	18				
Post-traumatic stress	10				
Bipolar disorder	8				
Other	14				
Current mental health treatment	90	44.8			
Alcohol problem	22	11.0			
Interpersonal circumstance					
Intimate partner problem	27	13.4			
Other death of family member/friend past 5 years	18	9.0			
Family relationship	16	8.0			
Life stressor circumstance					
Physical health problem	96	47.8			
Crisis in past or impending two weeks	43	21.4			
Financial problem	25	12.4			
Job problem	14	7.0			
Suicide event circumstance					
Left a suicide note	71	35.3			
Disclosed intent to commit suicide	40	19.9			
History of suicide attempt(s)	37	18.4			

**Table 3.** Toxicology Tests and Circumstances of Suicide Deaths Among Those Aged 60 Years and Older, 2004–2013 RIVDRS (N=201)<sup>a</sup>

 $^{\rm a}$  Percentages might exceed 100% because multiple circumstances might have been coded.

<sup>b</sup> One victim can have two or three current mental health diagnoses.

### DISCUSSION

Our study shows that the 30 ED visits for suicide attempts resulted in charges of almost \$135,000 dollars and the average charge per suicide attempt ED visit was approximately \$4,500. The total charges for the 91 hospitalizations for suicide attempts was nearly 2.6 million dollars; the length of stay was 513 days and the cost was over \$800,000 (data not shown).

Our findings are consistent with previous reports.<sup>2, 4</sup> Public

health professionals, community advocates, and healthcare providers should coordinate to facilitate early recognition and preventive interventions.<sup>4</sup>

Healthcare providers have opportunities to improve suicide prevention efforts.6 Older adults who attempt or commit suicide often have mental and physical health problems that can worsen with age.2 Mental health problems are a major risk factor for suicides and better mental health care can help prevent suicides among older populations.6 Studies have shown that those who received mental health treatment often had more severe symptoms and treatment helped reduce suicidal behavior.6 Over half of the older adults who committed suicide were reported to have mental health problems, but less than half were receiving mental health treatment. However, a majority of older adult suicide victims visited their primary care physician before they died.<sup>4</sup> Oregon integrates older adult suicide prevention efforts into primary care practice, and helps primary care and mental health providers collaborate to identify and treat suicidal behavior among the elderly population. As a result of these efforts, suicide decreased 8% among older adults in Oregon.5

Instead of focusing on why people take their lives, suicide prevention efforts should focus on the means they use.<sup>9</sup> Men have higher suicide rates than women and are more likely to die through firearms or hanging, whereas females are more likely to use poisonings (drugs) than males.<sup>10</sup> Access to firearms is a risk factor for suicide; many suicide attempts occur during a short-term crisis and without a plan. Restricting access to firearms has been shown to reduce suicide deaths.<sup>4,9,11</sup> Primary care providers should be encouraged to ask patients about guns as screening.

**Limitations:** (1) Some hospitalizations were transferred from other hospitals; however, we cannot account for transfers. There will be a small proportion of double-counting. In the future, we will use data from HealthFacts RI, Rhode Island's All Payer Claims Database (APCD), to validate these data. (2) Mental health status could be underestimated. The mental health status of the victims can be determined via medical records, or the presence of certain prescription drugs, but not all persons with a mental illness seek treatment. (3) Social isolation, depression, and functional impairment are common risk factors among long-term care residents, and these facilities are important locations for preventing suicide among older adults.<sup>7</sup> Our data showed that only one older adult suicide occurred in a supervised residential setting.

### CONCLUSION

Routine screening of the elderly population for mental illness and suicidal ideation, and limiting access to lethal means, may help to prevent older-adult suicide.<sup>4</sup> ED, HDD, and RIVDRS can be used for the evaluation of efforts to prevent suicide among the elderly population.

## Acknowledgments

This brief was funded by CDC grant (1U17CE002615-01 Revised). We would like to express our special thanks to data abstractors Karen Foss and Shannon Young, who spent hours compiling the data and constructing sound narratives to make RIVDRS one of the best. We would also like to thank Kathy Taylor who provided the 2013 emergency department and hospital discharge data. The authors thank Megan L. Ranney for commenting on the tables for this article. We gratefully appreciate James Dealy for reviewing and commenting on the draft of this article.

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### Disclosure

The authors have no financial interests to disclose.

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

	REPORTING PERIOD					
	MARCH 2016	12 MONTHS EN	IDING WITH MARCH 2016			
VITAL EVENTS	Number	Number	Rates			
Live Births	985	11,628	11.0*			
Deaths	879	10,168	9.6*			
Infant Deaths	3	67	5.8#			
Neonatal Deaths	2	53	4.6#			
Marriages	276	6,711	6.4*			
Divorces	324	3,136	3.0*			
Induced Terminations	195	2,501	215.1#			
Spontaneous Fetal Deaths	40	600	51.6#			
Under 20 weeks gestation	35	542	53.3#			
20+ weeks gestation	5	58	5.0#			

\* Rates per 1,000 estimated population

# Rates per 1,000 live births

	REPORTING PERIOD					
Underlying Cause of Death Category	SEPTEMBER 2015	12 MONT	HS ENDING WITH	SEPTEMBER 2015		
Underlying Cause of Death Category	Number (a)	Number (a)	Rates (b)	YPLL (c)		
Diseases of the Heart	180	2,421	229.2	3,774.0		
Malignant Neoplasms	203	2,288	216.6	5,237.5		
Cerebrovascular Disease	30	449	42.5	507.5		
Injuries (Accident/Suicide/Homicide)	57	839	79.4	13,105.0		
COPD	31	542	51.3	555.0.		

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

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

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

NOTE: Totals represent vital events, which occurred in Rhode Island for the reporting periods listed above. Monthly provisional totals should be analyzed with caution because the numbers may be small and subject to seasonal variation.



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### August 1–4, Monday–Thursday

AMA Advocacy Resource Center State Legislation Conference; Steve DeToy, Director of Public and Government Affairs

## August 2, Tuesday

RIMS Physician Health Committee: Herbert Rakatansky, MD, Chair

### August 4, Thursday

Conference call AMA, RIMS, DOH, and BHDDH regarding the Memorandum of Understanding (MOU) to develop an Opioid Prescriber Toolbox

## August 5, Friday

Regional Osteopathic Medical Education conference, RIMS staff exhibiting

## August 8, Monday

Closed for Victory Day

## August 9, Tuesday

Meeting with various organizations regarding American Heart Association Million Hearts Project

Warren Alpert Medical School student orientation, RIMS staff

### August 10, Wednesday

Visit by Patrice Harris, MD, MA; Chair, AMA Board of Trustees

- Breakfast with RIMS leadership
- Meeting of the Governor's Opioid Task Force to sign the MOU and to recognize Governor and Legislature for their efforts
- Lunch with residents, Rhode Island Hospital
- Joint interview, Elinor McCance-Katz, MD, Medical Director, BHDDH; with Kristin Gourlay, RI Public Radio

### August 11, Thursday

RI Affiliate ACLU Legislative Wrap Up; Steve DeToy, Director of Public and Government Affairs, presenting on opioid legislation

## August 15, Monday

Community Health Center Week, Thundermist Health Center, West Warwick

### August 16, Tuesday

Meeting with American Heart Association, Greater Providence YMCA to organize November 4, 2016 Weight and Wellness Summit

### August 23, Tuesday

Meeting with RI ACEP regarding legislation and nursing practice act

## August 24, Wednesday

Meeting with Peter Marino, CEO, Neighborhood Health Plan of RI Membership Committee Meeting, Elaine Jones, MD, and Diane R. Siedlecki, MD, Co-chairs

### August 25, Thursday

Meeting of Mental Health Coalition, Steve DeToy, Chair

### August 29, Monday

Meeting with Department of Human Services and other stakeholders regarding new mental health initiative

### August 31, Wednesday

"Data Breach and Your Practice" seminar, hosted by RI Medical Society

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 5:00-6:30 pm
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 6:50-8:30 pm
 Teams participate in one of three games

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RHODE ISLAND Medical society



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

Contact Megan Turcotte for more information: 401-331-3207 or mturcotte@rimed.org



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# AMA partners with Rhode Island Medical Society, state to combat opioid epidemic

*Pilot program designed to reduce prescription opioid misuse and heroin use* 

PROVIDENCE – The American Medical Association (AMA), the Rhode Island Medical Society (RIMS), and officials from the Rhode Island Department of Health and the Rhode Island Department of Behavioral Healthcare, Developmental Disabilities and Hospitals announced on Aug.10th a partnership to develop and distribute a statewide educational toolbox for healthcare providers to help reverse the state's opioid epidemic. Rhode Island and Alabama are the first two states participating in this pilot program with the AMA.

The pilot program will build a toolbox – available online and in print – that incorporates the best information from the AMA, the RI Medical Society, and state health officials. It will be provided to physicians and other health care professionals with key data, valuable resources, and practice-specific recommendations they need to enhance their decision-making when caring for patients suffering from chronic or acute pain and opioid use disorders, as well as for patients needing overdose prevention education.

The toolbox will be released in September, and the AMA, RIMS and state officials will work together to distribute it throughout Rhode Island.

The AMA was awarded funding through the Prescriber Clinical Support System for Opioid Therapies, funded by the U.S. Substance Abuse and Mental Health Services Administration (SAM-HSA) and administered by the American Academy of Addiction Psychiatry.

"The opioid epidemic is complex, there are multiple factors that can lead to addiction, and patients have many different needs. We want to provide physicians with a relevant set of useful tools," said **PATRICE A. HARRIS, MD**, chair of the American Medical Association Board of Trustees and the chair of AMA's Task Force to Reduce Opioid Abuse, at the program's launch. "That is why the AMA is collaborating with the Rhode Island Medical Society and the State of Rhode Island to provide physicians and other health care professionals with the data, tools and resources they need to better inform their prescribing practices."

Preventing overdose deaths through safer prescribing is a key strategy in the action plan by the Overdose Prevention and Intervention Task Force, which was created by Rhode Island Gov. Gina M. Raimondo.

"Physicians and other healthcare providers are key partners in our work to address Rhode Island's drug overdose crisis," said **NICOLE ALEXANDER-SCOTT, MD, MPH**, director of the Rhode Island Department of Health and co-chair of the state task force. "Yet to do their jobs most effectively, they need the right resources and support. We are pleased to partner with the American Medical Association and Rhode Island Medical Society to develop this new set of tools for Rhode Island healthcare providers."

**SARAH FESSLER, MD**, presidentelect of the Rhode Island Medical Society, said the following:

"The RI Medical Society is honored to welcome the top physician leader in the country to RI. By choosing our medical society and our state to benefit from this grant, the AMA clearly recognizes the efforts being made here, on so many levels, to battle the opioid epidemic and save lives.

"Our governor has created this opioid task force and committed RI to an action plan that will help get us to the goal of reducing deaths related to opioids by one-third in three years. Our Senate President and House Speaker



Patrice A. Harris, MD, chair of the American Medical Association Board of Trustees and the chair of AMA's Task Force to Reduce Opioid Abuse, at the program's launch.

have strengthened our Good Samaritan law to help ensure that a rescue from an overdose is widely available. They and their General Assembly colleagues passed a budget that provides critical funding for substance use disorder treatment and recovery.

"The RI Medical Society joined with our elected leaders on legislation to limit initial prescriptions for opioids, and to make our prescription drug monitoring program more effective in protecting patient safety.

"Now we are pleased to join with the AMA, the RI Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals to design and develop a Rhode Island-specific toolbox of resources to help us provide consistently excellent care for our patients who are in pain or who suffer from opioid use disorders.

"Our road is still long. However, with this toolbox we will have more resources to guide the care of our pain patients, improve safety, identify non-pharmacological treatment alternatives and provide access to medication-assisted therapy for our patients who need it."  $\diamondsuit$ 

## OHIC approves commercial health insurance rates for 2017

CRANSTON – Health Insurance Commissioner **KATHLEEN C. HITTNER, MD**, announced on August 11 her final decision on commercial health insurance premiums for 2017. She approved lower rates than those requested for most health insurers, resulting in approximately \$18 million dollars in savings for individuals and employees. The rising cost of medical care – the prices insurers pay to providers for particular services and the number of services members use – continues to be the main driver of health insurance premium growth.

"Throughout the rate review process, my staff and I must continuously balance affordability to the consumer with a legal obligation to guard the solvency of insurers," said Commissioner Hittner. "We were encouraged to see several requests filed this year that sought more modest increases than in previous years, or even sought rate decreases. However, too many hardworking Rhode Islanders and business owners still struggle with the increasing cost of health insurance for their families and their employees. There continues to be room to improve affordability as we transform the health care system."

OHIC reviewed increases to premium rates for health plans sold to individuals, small employers, and large employers who purchase their coverage through Blue Cross Blue Shield of Rhode Island (BCBSRI), Neighborhood Health Plan of Rhode Island (NHPRI), Tufts Health Plan (Tufts) and United-Healthcare (United).

All reviews were conducted under OHIC's annual rate review process except for Blue Cross Blue Shield of Rhode Island's individual health plans. BCBSRI's individual plans were subject to a separate rate review hearing that is required by Rhode Island law. OHIC also reviewed each health insurer's contracts to ensure that plans sold in Rhode Island meet all benefit, access, and member cost sharing standards required by the State and the Affordable Care Act. OHIC's final decision includes changes to insurers' medical expenses and contributions to reserves and profit.

In the individual and small group markets, the EHB (Essential Health Benefits) Base Rate represents the premium for a hypothetical plan with no cost-sharing for a 21-year-old. The Weighted Average Overall Rate Change includes adjustments to the plans offered to reflect the benefits selected, including modifications to prior year benefits and pricing. This is the average premium increase to consumers, before reflecting changes in age. Final rates will differ based on a subscriber's age and the benefits he or she chooses. In the large group market, the expected premium increases are averages-employers will see higher and lower rates depending on demographic changes in their workforce and their own company's rates of medical care utilization.

For more detailed information, see the Requested and Approved Summary for 2017 Rates. ◆

## Screening women with endometrial cancer for genetic risk recommended

PROVIDENCE – Women & Infants Hospital of Rhode Island was the fourth largest recruiter of women for a study in which the authors concluded that women with endometrial cancer should also be screened for genetic risk for Lynch syndrome, a hereditary colorectal cancer.

The study - entitled "Combined Microsatallite Instability, MLH1 Methylation Analysis, and Immunohistory for Lynch Syndrome Screening in Endometrial Cancers from GOG210: An NRG Oncology and Gynecologic Oncology Group Study" – was printed in the *Journal of Clinical Oncology*. Authors include **PAUL DISILVESTRO**, **MD**, interim director of the Program in Women's Oncology at Women & Infants and head of the Program's research arm.

"This research reinforces the need for screening, and the value for us is that Women & Infants already does these screenings," notes Dr. DiSilvestro, who is also a professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University. "The study is based on a large cohort of women with endometrial cancer who had information and tissue collected for examination."

The researchers took on the challenge of identifying a best screening practice for Lynch syndrome, which had not been identified to that point despite the fact that endometrial cancer is the second most common malignancy in patients with Lynch syndrome.

Analysis of more than one thousand endometrial cancer tissue samples through the study suggested a probable link to Lynch syndrome in 41 percent of the women. The results also indicated that women of all ages with endometrial cancer should be screened. More than 24 percent of those women identified as genetic mutation carriers as part of this study were over the age of 60.

"Restricting Lynch testing to certain age groups could result in missing a substantial fraction of genetic disease," Dr. DiSilvestro says. "Identifying women with endometrial cancer and Lynch syndrome benefits them as well as their at-risk relatives." **\***  WE CARE BECAUSE YOU CARE

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## Gateway \$1.2M grant focused on homelessness Creating comprehensive, multi-agency resources across state key to program

PAWTUCKET – Gateway Healthcare was awarded a \$1.2 million grant over three years from the Substance Abuse and Mental Health Services Administration (SAMHSA) to develop a program to provide behavioral health treatment to Rhode Island's homeless, Gateway announced today.

The program will offer treatment to homeless adults with chronic mental health issues, including substance abuse disorder, serious mental illness and serious emotional disturbance. Gateway, a Lifespan affiliate, will develop and manage the program using evidence-based mental health care practices endorsed by SAMHSA. Critical to the program is the coordination of diverse community resources that will play a vital role in helping ensure program participants' continuum of care. This includes networking with primary care services, emergency departments, law enforcement, medical benefits agencies and homeless shelters.

"At the core of this effort is community," said **RICHARD LECLERC**, president of Gateway Healthcare. "As a behavioral health care organization, we have the ability to help people regain mental strength and help them work toward a stable and healthier future for themselves and their families. To be successful, this program must involve a health care system that works together, and a community that is understanding and accepting of these individuals as they re-enter society."

"These individuals are highly vulnerable, have very complex needs," added James DiNunzio, administrative director of Gateway Adult Services. "But just like all of us, they have their own background and experiences. With that understanding, we will work with each program participant to determine what care and resources are best for them. This includes helping them break out of addiction cycles, gaining access to specific care and benefits resources, and finding housing options."

The federal grant will fund support services like assessment, community support, crisis intervention and stabilization, housing, and medical benefits research. \*

## Gateway's The Autism Project awarded \$1.26M Will extend reach of autism spectrum disorder and developmental disabilities services throughout Rhode Island

JOHNSTON – Gateway Healthcare's The Autism Project was awarded a \$1.26 million grant from the Health Resources and Service Administration, Gateway announced August 11. The grant will fund Project IDENTIFY, a program designed to improve Rhode Island's system of care integration for children and youth with autism spectrum disorder (ASD) and developmental disabilities (DD). The funding will help The Autism Project provide community resources, innovative telehealth technologies, and family navigation to improve knowledge of and access to ASD and DD diagnoses, services, and supports throughout Rhode Island.

Project IDENTIFY is focused on increasing care coordination for children and adolescents at-risk for ASD/DD and support their families through partnerships with the Rhode Island Department of Health's Screening to Succeed program and Early Intervention, as well as United Way's 2-1-1 program, the Northeast Telehealth Resource Center, and other initiatives.

The project will also educate professionals, key community members and organizations, and medical providers on the early signs of ASD/DD, as well as how to get referrals, screenings, and proper diagnosis. Outreach will be accomplished through family navigators, who will be available face-to-face and via telehealth technologies. Live online trainings and a library of webinars will also be offered. Project IDENTIFY will partner with the Department of Health on the launch of Rhode Island's Medical Home Portal, ensuring that information on ASD/DD resources in the state is current and that families and providers have access to the portal.

"The HRSA grant not only provides critical funding but sends a message that there are critical autism spectrum disorder- and developmental disabilities-related services needed throughout many communities," said **JOANNE QUINN**, executive director of The Autism Project. "We are grateful to have this opportunity to help more families, especially those in underserved areas of the state."

The Autism Project will collaborate with its Lifespan partner Bradley Hospital on other key program components such as evaluation and outcome reporting. \*

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## Brown School of Public Health, Health Dept., form academic partnership

PROVIDENCE – Rhode Island now has two accredited public health entities – the Rhode Island Department of Health (RIDOH) and the Brown University School of Public Health – which have launched a new academic partnership aimed at building healthy communities and creating a hub of public health research and innovation in Rhode Island.

This alliance makes RIDOH an "academic health department", or a teaching health department—the public health equivalent of a "teaching hospital" affiliation that formalizes the relationship between medical schools and hospitals.

The partnership is one outgrowth of the newly formed RIDOH Academic Center, which aims to ensure a highly skilled public health workforce focused on innovation, research, evaluation, quality improvement, and academic collaboration. The Academic Center, under development since **NICOLE ALEXANDER-SCOTT**, **MD**, **MPH** was appointed Director of Health, has four components: the Continuous Quality Improvement Program, which applies the continuous quality improvement training that staff engage in; the Workforce and Career Development Program, which aims to instill a culture of learning within the Department; the Public Health Education Academy, which formalizes partnerships with Rhode Island academic institutions and



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"This new collaboration will allow us to develop, implement, and evaluate cutting-edge public health interventions that will help improve health outcomes and build healthier communities in every zip code in Rhode Island," said Dr. Alexander-Scott. "Good public health does not happen without research and collaboration. I'm proud to be entering into this partnership with the Brown University School of Public Health, and to establish a national model for partnerships between academic institutions and public health departments."

"The Brown University School of Public Health and RIDOH have worked side by side for the well-being of Rhode Islanders for many years as we strive together to improve population health. This new agreement strengthens our ties to better translate public health science into policy and delivery of services across the state," said **TER-RIE FOX WETLE, MS, PHD**, Dean of the Brown University School of Public Health.

The partnership builds upon years of close cooperation and will include: research and evaluation collaboration, data exchanges, staff and faculty exchanges, public health job placement initiatives, teaching agreements, and technical assistance and consultation.

In particular, the two agencies will:

- Co-lead the Public Health Academic Working Group that was established to place students in the RIDOH Academic Center's Public Health Scholars Program to work on pressing public health projects for academic credit;
- Promote opportunities for collaborative research with School of Public Health faculty and RIDOH staff;
- Refine the mechanisms for RIDOH staff to be reviewed for faculty appointments at the School of Public Health, and for School of Public Health faculty to participate on RIDOH committees and project teams; and
- Establish a centralized mechanism for sharing public health data and information, such as preventoverdoseri. org, which supports the work of Governor Gina M. Raimondo's Overdose Prevention and Intervention Task Force to reduce overdose deaths by one-third in three years.

The School of Public Health was accredited recently in June by the Council on Education for Public Health, to join with RIDOH that was accredited by the Public Health Accreditation Board in November 2015 to become the state's public health- accredited entities.  $\diamond$ 

# Charles Eaton, MD, awarded \$2.6M NIH grant to study the effect of exercise on heart failure in elderly women

PAWTUCKET – CHARLES EATON, MD, director of the Center for Primary Care and Prevention at Memorial Hospital recently received a \$2.6-million grant from the National Heart, Lung and Blood Institute to launch the first and largest community-based primary prevention trial on the effects exercise and strength training have on heart failure in elderly women.

The five-year Women's Health Initiative Strong and Healthy (WHISH)-2 Prevent Heart Failure Study - an extension of the Women's Health Initiative that has continued for the past two decades across the country, including a site at Memorial – will examine the effects of physical activity both on the prevention of heart failure and the burden of the disease in women who were previously diagnosed with it.

"Poor outcomes for the sub-type of heart failure called 'heart failure with preserved ejection fraction' or 'diastolic heart failure' in the elderly have changed little in the past two decades, despite advances in therapy for the other type of heart failure associated with reduced ejection fraction," Dr. Eaton explains. The incidence of heart failure, he continues, is more common in women than in men, and affects people as they age, when they typically exercise less and lose muscle strength and physiologic reserve.

"We believe that improving exercise capacity and muscle strength could attenuate and even reverse heart failure as the person ages," Dr. Eaton says. "Previous observational research has shown that even modest levels of physical activity can help, in comparison to a sedentary lifestyle."

There have, however, been no research trials to date that probe whether changing levels of physical activity is effective in reducing one's risk of heart failure, especially in older adults. In addition, the amount of physical activity needed for such protection is unclear. The WHISH-2 Prevent Heart Failure study will address the following aims:

• Test whether older women who do not initially have heart failure avoid it by beginning a physical activity regimen compared with women who do not exercise. • Test whether older women with or without heart failure at the beginning of the trial see a reduction in the burden of the disease, in the form of hospitalizations and death, by engaging in physical activity compared with women who do not exercise.

In addition, Dr. Eaton says the study will analyze the type, intensity and frequency of physical activity, including skeletal muscle strengthening, to see if there's a related reduction in the risk of heart failure and heart failure burden in the study participants.

"We believe we will find that women who increase or maintain light or moderate intensity physical activity will experience reduced rates of heart failure," he says. "Those who add skeletal muscle strengthening will see additional health benefits."

All study participants have already been recruited and randomized to receive the physical activity intervention or not.  $\Leftrightarrow$ 

## Pet Scans not effective enough in identifying lymph nodes with cervical cancer

PROVIDENCE – Despite their popularity, positron emission tomography (PET) scans are not effective in uncovering cervical cancer in a woman's lymph nodes, according to research recently published by a team of oncologists.

In the study – entitled "Utility of PET-CT to Evaluate Retroperitoneal Lymph Node Metastasis in Advanced Cervical Cancer: Results of ACRIN6671/GOG0233 Trial," published in the trade journal *Gynecologic Oncology* – the researchers compared the effectiveness of using computed tomography (CT) scans alone and combined with PET scans to find cervical

cancer in the lymph nodes of more than 150 women.

"What we found is that the combination of CT and PET scans is only 50 percent effective if the cancer is located in the lymph nodes in the patient's abdomen," explains **PAUL** 



**DISILVESTRO, MD**, interim chief of the Program in Womens' Oncology at Women & Infants and head of the program's research division. He is also a professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University. "We feel that the PET scan doesn't add anything."

Women & Infants was one of the lead enrolling facilities for this study, which Dr. DiSilvestro says underscores the need for physicians to assess each situation before recommending screening or treatment.

"Often, advanced technology doesn't provide the best information," he begins. "Our job is to combine our clinical diagnostic strategizing skills with the new technology to help create the best treatment regimen for our patients." •

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## Research evaluates 18-month neurobehavioral outcomes in single-family room neonatal intensive care units

PROVIDENCE – New research suggests that the environment of care in a neonatal intensive care unit (NICU) contributes not only to the short-term, but also to the long-term neurobehavioral development of preterm infants.

Research led by **BARRY M. LESTER**, PhD, director of the Brown Center for the Study of Children at Risk at Women & Infants Hospital of Rhode Island and professor of psychiatry and pediatrics at The Warren Alpert Medical School of Brown University, found the single greatest contributor to longterm neurobehavioral development in preterm infants is maternal involvement - and that a single-family room NICU allows for the greatest and most immediate opportunities for maternal involvement. The research, entitled "18-Month Follow-Up of Infants Cared for in a Single-Family Room Neonatal Intensive Care Unit," has been published in the current issue of The Journal of Pediatrics.

"We found that the amount of maternal involvement was greater shortly after birth, increased rapidly, peaked within the first two weeks, and was then sustained in the single-family room NICU, in contrast to a more gradual increase in maternal involvement in an open bay NICU," explained Dr. Lester. "In other words, the single family room NICU appears to 'jump start' high maternal involvement."

Dr. Lester and his colleague, JAMES F. PADBURY, MD, pediatrician-in-chief and chief of Neonatal/Perinatal Medicine at Women & Infants Hospital and the William and Mary Oh - William and Elsa Zopfi Professor of Pediatrics for Perinatal Research at the Alpert Medical School, published research in September 2014 in Pediatrics, which found that a single-family room NICU environment provides for appropriate levels of maternal involvement, developmental support, and staff involvement, which are essential to provide the kind of care that can optimize the medical and neurodevelopmental outcome of the preterm infant and lead to the development of preventive interventions to reduce later impairment.

An 18-month follow-up was undertaken that compared infants born earlier than 30 weeks gestation at Women & Infants Hospital - 93 were cared for in an open bay NICU and 123 were cared for in the single-family room NICU. Infants were divided into high vs. low maternal involvement based on days per week of kangaroo care, breastfeeding, bottle feeding, and maternal care. Infants with high vs. low maternal involvement in the single-family room and open bay NICUs were compared on the Bayley Cognitive, Language and Motor scores and Pervasive Developmental Disorders autism screen.

Dr. Lester said, "What we learned is that of the four components of maternal involvement, kangaroo care (a method of caring for premature babies in which the infants are held skin-to-skin with a parent, usually the mother, for as many hours as possible every day) was the most important contributor, followed by maternal care. It is likely that kangaroo care, when started early, triggers a cascade of maternal care, breastfeeding and bottle feeding."

"In the original study, we found that the single-family room model of care facilitated maternal involvement, and that more maternal involvement was related to better neurobehavioral outcomes at NICU discharge," continued Dr. Lester. "For this most recent study, we hypothesized that maternal involvement would be associated with improved neurodevelopmental outcome at 18 months, especially in infants cared for in a single-family room NICU. Our study results suggest, as hypothesized, that the improvements are sustained through 18 months. The fact that the early findings were maintained through 18 months suggests that the improvements could be permanent. Notably, infants in a single-family room NICU also had fewer symptoms of autism spectrum disorder (ASD), so that model of care might also help combat ASD in preterm infants."

The research team also included Women & Infants/Brown University colleagues Amy L. Salisbury, PhD; Kathleen Hawes, PhD; Lynne M. Danserreau, MSPH; Rosemary Bigsby, ScD; Abbot Laptook, MD; Marybeth Taub, RN; Linda Lagasse, PhD; Betty R. Vohr, MD; and James F. Padbury, MD. ◆



Pharmacy residents Kristen Butler, PharmD and Sarah Hendrick, PharmD.

# Kent Hospital announces new pharmacy residency program

WARWICK – Kent Hospital has established a pharmacy residency program affiliated with the University of Rhode Island College of Pharmacy. The hospital's first class of pharmacists began in July and will take part in a one-year residency offering competency development in a broad area of pharmacy practice.

Kent's pharmacy residency program is one of four post-graduate, year-one pharmacy residency programs in the state of Rhode Island. Pharmacy residents contribute to the hospital's mission by providing patient care rounds, target drug monitoring and patient monitoring.

"We are very excited to announce our new pharmacy residency program which is a tremendous benefit to not only the new pharmacists taking part, but to the clinical staff here at Kent Hospital," said Michael J. Dacey, president and COO, Kent Hospital. "The program allows us to grow as a teaching hospital, while enriching educational opportunities for pharmacists, physicians and nurses. This residency will allow the opportunity for increased pharmacy presence and expanded clinical services within the hospital."

Areas of rotations/learning experiences include: cardiology, critical care, infectious disease, internal medicine, neonatology, psychiatry, outpatient oncology, practice management and drug information. Pharmacists who comprise the program are:

The Kent Hospital Pharmacy Department is comprised of 27 pharmacists, 28 pharmacy technicians and inventory support personnel, and a department director.

For more information on the Kent Hospital Pharmacy Residency Program, contact Michelle Kelley, PharmD, clinical coordinator of pharmacy services, director of Kent Hospital Pharmacy Residency Program, at 401-737-7000 ext. 31762. ◆

## Hepatitis C virus-related hospitalizations and deaths rise in the last decade

PROVIDENCE – Rhode Island has seen a significant increase in hepatitis C virus-related hospitalizations and deaths in the last decade, underscoring the importance of diagnosis and treatment, according to a new report released recently by the Rhode Island Department of Health (RIDOH) and the Rhode Island Public Health Institute (RIPHI).

"Building healthy communities and a healthy, thriving Rhode Island means working to eliminate infectious diseases such as hepatitis C," said Director of Health, **NICOLE ALEXANDER-SCOTT, MD, MPH**. "As the first comprehensive epidemiological profile of hepatitis C in Rhode Island, this report will be an invaluable tool in our work in the areas of hepatitis C prevention, testing, diagnosis, and treatment, which together will saves lives." Some key findings of the report include:

- Hepatitis C-related deaths rose from 25 in 2005 to 102 in 2014, based on death certificate data, which may underreport hepatitis C-related deaths.
- The number of inpatient hospitalizations with a primary discharge diagnosis of hepatitis C increased six-fold between 2005 and 2014.
- Clinical and laboratory reports since 2009 suggest significant increases in hepatitis C diagnoses at hospital systems throughout Rhode Island, and screening data from both inpatient and outpatient clinical settings suggest that hepatitis C prevalence is much higher than previously estimated.
- The Rhode Island Department of Corrections has significantly increased its efforts in the areas of screening and treatment since 2013.
- Safe, highly effective hepatitis C medications are now available. These medications create an opportunity to reduce rates of hepatitis C and, cure the virus in a few weeks or months.

"The rise in hepatitis C-related death rates is alarming. However, the good news is, we have medications that can cure people living with hepatitis C," said DR. AMY NUNN, Director of RIPHI. "The first step in curing Rhode Islanders of hepatitis C is screening. Both Baby Boomers and anyone who is at high risk, such as people who have used injection drugs or people who received blood transfusions prior to 1992, should ask their physicians to screen them for hepatitis C. People should then seek evaluation and treatment if they have hepatitis C."

RIDOH is working closely with the Rhode Island Department of Corrections and with insurers, including Medicaid, to continue expanding access to hepatitis C treatment for Rhode Islanders who would benefit.  $\Leftrightarrow$ 

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## Appointments

## Rebecca H. Allen, MD; Elisabeth D. Howard, PhD named associate professors of obstetrics and gynecology

PROVIDENCE – **REBECCA H. ALLEN, MD, MPH, FACOG**, staff physician in the Obstetrics and Gynecology Care Center at Women & Infants Hospital of Rhode Island, and **ELISABETH D. HOWARD, PHD, CNM, FACNM**, director of the Division of Nurse Midwifery at Women & Infants have both been promoted to the rank of associate professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University.

Dr. Allen, of Providence, joined Women & Infants in 2007 after completing a fellowship in family planning and a research fellowship in medicine through Harvard Medical School at Brigham and Women's Hospital Division of Women's Health. She completed the dual medical degree - masters of public health degree program at Columbia University College of Physicians and Surgeons. She fulfilled residency requirements at Brigham and Women's Hospital and is board certified by the American Board of Obstetrics and Gynecology.

Dr. Howard, of Warwick, joined the faculty and has been teaching at Women & Infants and Brown since 2004. A graduate of William Smith College in Geneva, NY, Howard completed her midwifery training at the Yale University School of Nursing and her PhD in nursing science from Vanderbilt University School of Nursing.



## John Holiver named CharterCARE CEO

PROVIDENCE – JOHN J. HOLIVER, ACHE, has been named Chief Executive Officer of CharterCARE Health Partners. Holiver most recently served as Interim President of Roger Williams Medical Center. He succeeds Lester Schindel, who has moved into the role of Chief Strategy and Development Officer for the New England region for Prospect Medical Holdings, the parent company.

As CEO, Holiver will lead the further development of CharterCARE, a joint venture company that operates two hospitals, an elder care services network, a major cancer treatment and research center, a leading behavioral health program, a home health agency and an independent physician association comprised of more than 200 Rhode Island primary care physicians and specialists. Specifically, Holiver will oversee the implementation of CharterCARE's strategic plan, which envisions an integrated, multi-level network of healthcare providers to provide convenient access to high quality care at lower costs. The complete network is expected to include urgent care centers, diagnostic services centers and additional physician groups.

Prior to joining Prospect Medical Holdings in 2015 as Chief Integration Officer, Holiver held several executive leadership positions in the Steward Health Care System. At Steward, he served as President of St. Elizabeth's Medical Center, that system's flagship hospital, and in the same capacity at both Norwood and Good Samaritan Hospitals. He also served as Chief Executive Officer of Manet Community Health System in Massachusetts. Holiver is a member of the American College of Healthcare Executives (ACHE). \*

## Richard Gillerman, MD, PhD, named Lifespan's chief medical information officer

PROVIDENCE-**RICHARD G. GILLERMAN, MD, PhD**, has been named chief medical information officer (CMIO) and vice president at Lifespan, the state's largest health care system, effective September 4.

A pediatric anesthesiologist at Hasbro Children's Hospital for the last 20 years, Gillerman has been

active in numerous information technology initiatives at the hospital and across Lifespan. He will be responsible for the oversight of medical informatics in the planning, implementation and advancement of information systems that span all Lifespan clinical and research programs. He will continue to work as



an anesthesiologist at Hasbro Children's Hospital on a parttime basis.

Gillerman, a resident of Rehoboth, Massachusetts, is a clinical assistant professor of surgery (anesthesiology) at The Warren Alpert Medical School of Brown University. He is board certified by the American Board of Anesthesiology and the American Board of Pe-

diatrics. He has a subspecialty certification in clinical informatics from the American Board of Preventative Medicine.

Gillerman serves on the Lifespan Physician Informatics Council and the Lifespan Clinical IT Committee, and is a board member of the Lifespan Physician Group.

"I am thrilled that Dr. Gillerman will

be leading this vital and complex component of Lifespan's information technology services. As a physician, he has seen firsthand how IT innovation within an integrated system can benefit clinicians, and understands its rich potential moving forward," said Cedric J. Priebe III, MD, Lifespan's senior vice president and chief information officer.

Priebe noted that Gillerman played an important role in the implementation of several programs tied to LifeChart, Lifespan's Epic-based electronic health record system launched in 2015.

"I am very excited about the opportunity to work closely with our clinicians as we all strive to improve their IT experience, identify and resolve problems, and, of course, expand and refine the system's functionality," said Gillerman. \*



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## Recognition

## Roger Williams recertified in Advanced Palliative Care

PROVIDENCE – Roger Williams Medical Center, the first and only hospital in Rhode Island to hold certification for Advanced Palliative Care, has been recertified following a June 29th survey from The Joint Commission.

The Palliative Care service is led by DR. JOHN STOUKIDES and DR. MARIA AILEEN SORIANO-PISATURO. The program is guided by a committee co-chaired by Dr. Soriano-Pisaturo and LYNN LEA-HEY, RN, Director of Clinical Services, that includes members from a variety of clinical and complementary disciplines.

The Advanced Certification Program for Palliative Care emphasizes:

- A formal, organized palliative care program led by an interdisciplinary team whose members have advanced training in palliative care;
- Leadership endorsement and support of the program's goals for providing care, treatment and services;
- A special focus on patient and family engagement;
- Processes which support the coordination of care and communication among all care settings and providers;
- The use of evidence-based national guidelines or expert consensus to support patient care processes.



## Linda Nelson named fellow of American Society of Health System Pharmacists

PROVIDENCE-LINDA A. NELSON, PharmD, BCCCP, of East Greenwich, a clinical pharmacy specialist in the Integrated Program for High-Risk Pregnancy at Women & Infants Hospital of Rhode Island, was recently named a fellow of the American Society of Health System Pharmacists (ASHP). Dr. Nelson is also co-director of Women & Infants' Antimicrobial Stewardship Program and an adjunct clinical associate professor of pharmacy practice at the University

of Rhode Island (URI) College of Pharmacy.

The ASHP Practitioner Recognition Program recognizes excellence in pharmacy practice and promotes public awareness of pharmacists who have distinguished themselves in practice. Fellows have made significant contributions to health system pharmacy practice, have contributed extensively to the professional literature, and have presented at professional meetings and been involved in professional activities.

Dr. Nelson has devoted her career to creating functional, sustainable, valueadded services that promote the unique and collaborative contributions of pharmacists in emergency medicine, ambulatory care, critical care, high-risk pregnancy, and antimicrobial stewardship. She has pioneered efforts in collaborative drug therapy management and has developed an ambulatory care specialty residency and a critical care residency. She has published in peer-reviewed journals and has been recognized for contributions to quality and safety in health care. Dr. Nelson is an active member of ASHP and is currently serving as chair of the ASHP Commission on Affiliate Relations. Prior to this, she served as a member of the ASHP Section of Clinical Specialists and Scientists (SCSS) Educational Steering Committee and as a delegate to the ASHP House of Delegates. Dr. Nelson has served on the Rhode Island Society of Health System Pharmacists (RISHP) Board of Directors for six years. During her term as RISHP president in 2011, she collaborated with URI faculty to establish a statewide Antimicrobial Stewardship Task Force. Dr. Nelson was recognized with the RISHP Health System Pharmacist of the Year Award in 2013.

A graduate of the University of Rhode Island, Dr. Nelson earned a doctor of pharmacy degree at the Philadelphia College of Pharmacy and Science. She achieved certification in advanced antimicrobial stewardship (MAD-ID) and is a specialist critical care pharmacist (BCCP).

## Affinity Orthopedics & Sports Medicine hold high school pre-participation exams event

PAWTUCKET – For the past 26 years, **DRS. ROB-**ERT SHALVOY and RAZIB KHAUND have been providing pre-participation exams for all athletes throughout Rhode Island and neighboring Massachusetts, and they continued this tradition at their practice at Memorial Hospital. Affinity Orthopedics & Sports Medicine (AOSM) held its second annual Memorial Hospital of Rhode Island pre-participation physicals July 30th. They had 20 volunteers assist with the physicals and 90 athletes were seen and obtained their physical examination for the upcoming scholastic season.

AOSM will also be providing high school injury and post-game injury clinics at Memorial Hospital. The injury clinics are designed to accommodate those athletes injured in competitive play. They are committed to offering state-of-the-art evaluation and treatment with or without previous appointment. Monday clinics are from 3 to 5 pm and Saturday clinics run from September 10, 2016 through November 12, 2016 from 8 to 11 am. 💠



Physicians, staff and volunteers at Affinity Orthopedics & Sports Medicine (AOSM) held its second annual Memorial Hospital of Rhode Island pre-participation physicals for Rhode Island athletes on July 30.



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## Obituaries



**JOHN J. BERT, MD**, 67, of Warwick died unexpectedly, while fighting a courageous battle with cancer, on July 25, 2016. He was the beloved husband of Teresa C. (Punzi) Bert.

Born in New York City, he lived in the Edgewood section of Cranston for 21 years before moving to Warwick Neck 8 years ago. He was a graduate of Xavier High School in NY, Manhat-

tan College and Georgetown University School of Medicine. He was in the US Air Force ROTC, a veteran of the Vietnam War and honorably discharged as a First Lieutenant.

Dr. Bert practiced obstetrics and gynecology since graduating from residency in 1976. He was in private practice in Bristol, RI until he joined Ob-Gyn Association in Providence in 1989. As a senior partner, he was instrumental in bringing obstetrics into the Lifespan system. He was a Clinical Professor of the Warren Alpert Medical School of Brown University. He loved teaching and caring for his patients through all the stages of their lives. He will be remembered for his skill as a healer and his kind compassion. He was a gentle man who loved to tell a story.

Dr. Bert loved reading, studying history, traveling and the arts. He was an avid photographer, cyclist and sailor who was happiest on the water.

In addition to his wife, he is survived by a sister, Diane Ranes of Maine; two brothers, Robert Bert of Cranston and Dr. Arthur Bert of Providence; and two nieces, Brittany Bert and Jacqueline Bert.

Contributions in his memory may be made to St Mary's Home for Children, North Providence, RI or to The Wounded Warrior Project.

**NEIDA Q. OGDEN DIMEO, MD**, 93, died August 4, 2016 at Hallworth House in Providence. She was the wife of the late Alexander J. Dimeo.

Dr. Dimeo was a pediatrician, with an office in Westerly, practicing into her late sixties. Upon closing her practice in Westerly, she worked at the Providence Community Health Centers in Providence, retiring at eighty-six. She was deeply committed to her patients and practiced throughout her long career with compassion and dedication.

Dr. Dimeo was a graduate of the Shipley School in Bryn Mawr, Pennsylvania, Vassar College and McGill University Medical School in Montreal, Canada. She not only had a great love for science and the natural world but was a classicist, reading ancient Greek and Latin and was an avid reader, a passion which she maintained with vigor throughout her life.

Dr. Ogden was prominent in many civic and other organizations and was a member of the Rhode Island Woman's Medical Association, being named Physician of the Year in 2003. Born in New York, New York she was a daughter of the late Herbert and Neida Quackenbush Ogden. She lived in South Kingstown for thirty-five years moving to Providence twenty-five years ago. In South Kingstown, Dr. Ogden and her late husband maintained a two hundred acre farm, an idyllic haven for their cherished family and friends, which Dr. Ogden maintained for many years after her husband's death. She was an avid sailor, spending many afternoons on Narragansett Bay on her boat, "Quest" and was passionate about swimming, tennis and squash. She is survived by her daughter, Lindsay Dimeo Daskalopoulos and her beloved grandchildren, Alexander J. and Dimitrios A. Daskalopoulos, all of East Greenwich and her son, Jonathan L. Q. Dimeo of Providence. She was the mother of the late Alexander P.O. Dimeo.

Her legacy is a lifetime of devoted service, to her patients, community, and to her family. Donations in her memory may be made to Hallworth House, 66 Benefit Street, Providence, RI 02904.

**DR. RUTH E. TRIEDMAN** passed away in her home on August 15, 2016 at the age of 83 surrounded by her loving family.

She was the wife of the late Dr. M. Howard Triedman, the daughter of the late Mary and Saul Seiden of Jamaica Estates, New York and the sister of the late George Seiden of Bow, New Hampshire. She was the mother of Karen Triedman (Ronald C. Markoff), Nancy Goldman (Louis) and Russell Triedman (Melissa). She is also survived by her dear friend, Dr. John Yashar and her grandchildren, Sidra and Allegra Scharff, Stephanie Cohen (Charles) and Miranda, Thomas and Eleanor Triedman. She will be missed by all of her devoted caregivers especially Courtney Whynter and Gina Robinson.

A graduate of Wellesley College, Dr. Triedman went on to receive her medical degree from Columbia University School of Physicians and Surgeons as one of a few women in her class. She then completed her residency at the Harvard Combined Dermatology Residency Training Program.

Dr. Triedman spent over thirty years in private practice in Providence as a dermatologist and served on the staff of the Miriam Hospital. In addition, she served on the faculty of the Brown University Medical School.

She was a long-time member of the board of the Miriam Hospital Women's Association and was the first physician to serve as President and recently received their lifetime achievement award. She also served on the Board of the Samaritans for many years.

In lieu of flowers, donations to The Miriam Hospital or to your favorite charity may be made in her memory.

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# Fighting TB with Fresh-Air Schools *RIMS' doctors launch a movement*

MARY KORR RIMJ MANAGING EDITOR

Two women Fellows of the Rhode Island Medical Society, **DRS. MARY S. PACK-ARD** and **ELLEN A. STONE**, launched a nationwide movement when the first fresh-air school for tubercular children opened in Providence in 1908.

Packard, the first woman to graduate from the Johns Hopkins School of Medicine in 1897, and Stone, a 1900 Hopkins' graduate and a medical inspector for the Providence schools, had earlier founded the League for the Suppression of Tuberculosis in Providence. When a summer day camp they conducted for frail, tubercular children proved a success in 1907, they thought to open a fresh-air school similar to the "open-air recovery" schools in Europe.

Packard wrote a letter to Dr. Jay Perkins, president of the League, who was vacationing in Maine. "Do you think it is too early to attempt to have a single small school, necessarily

ungraded, for those children, arranged so as to approximate an out-of-door school? It would, of course, be an experiment...It is suggested that the horse sheds of the Friends' Meeting House on North Main Street could be arranged..."

Perkins formed a committee to present the concept to Providence education officials; the school board approved the idea and authorized the use of an empty brick schoolhouse at 24 Meeting Street. The second-floor classroom had windows on three sides. A brick wall on the south side was replaced with floor-toceiling wall hinged windows, which were kept raised.

In winter, the children studied at their desks inside "Eskimo sitting bags" with heated soapstones to warm their feet. Four visiting nurses employed by the League referred students to the school. For the most part, they were children who had been exposed to tuberculosis, and except for a few instances, were without active lesions.

"In light of the amount of tuberculosis found at autopsy in children dying of other diseases and from accident, we must recognize the fact that many school children are carrying about hidden The first fresh-air school in the country opened on Jan. 27, 1908. Although it was a severe winter in Providence, the classroom temperature was never more than 10 degrees

Do you think it is too early to attempt to have a single small school, necessarily ungraded, for those children, arranged so as to approximate an out-of-door school? It would, of course, be an experiment...It is suggested that the horse sheds of the Friends' Meeting House on North Main Street could be arranged...

#### - Dr. Mary Packard

foci of this disease, and is it not probable that those who are suffering from anemia, debility, etc., are likely to be the ones?" Stone later wrote in a national journal, *Outdoor Life*.



higher than the outside air. Pupils faced the teacher, with their backs to the open wall, to allow light and the fresh air to wash over them.

A fire in a cylinder stove arrested the chill. In addition to her teaching duties, Marie E. Powers heated soup and puddings for the students on a cooking range. In winter, the children studied at their desks inside "Eskimo sitting bags" with heated soapstones to warm their feet. In addition to their studies, the students did gentle exercises, including "wand drills," and practiced proper breathing. In the spring, they tended a garden.

Stone regularly supervised the children's medical status, noting their progress, and did a monthly hemoglobin count.

Soon the initial 10 students swelled to 25, the maximum number allowed at that time for an ungraded school.

At the National Association for the Study and Prevention of Tuberculosis in 1909, the eminent William Osler, MD, opened the assembly. He noted, "a great deal can be done by persons who are connected with school work and by trained nurses," but suggested it would take several generations "at least, before we have the mortality from tuberculosis reduced to the rate, say, of that of typhoid fever in well-regulated countries. Whether tuberculosis will be finally eradicated is an open question. It is a foe that is very deeply entrenched in the human race."

After Osler spoke, Perkins gave a presentation on the first year of Providence's open-air school experiment. He reported there were no cases of contagious diseases among the children – not even a head cold. All except one showed marked improvement; and several had returned to regular school.

Perkins related Ebba, 9, had been operated on at Rhode Island Hospital for tubercular glands of the neck. The wound didn't heal and she was sent to the fresh-air school, and in a week it began to heal. In the first few months, she gained over six pounds.

Annie, he reported, was a 9-year-old student whose father had died of tuberculosis in 1908. She showed signs of the disease and began to lose weight, and ate and slept poorly. She thrived almost immediately in the fresh-air school and advanced two grades.

And Harold, 7, prone to respiratory infections, grew into a robust boy. He didn't have TB, but his mother, an observant neighbor to the school, liked what she saw and insisted he be admitted.

The school garnered the attention of the national press, and two years later there were 65 in the country. Additional fresh-air schools were opened in Providence and Pawtucket; by 1926 the city had 11.

In 1912, Stone was appointed the director of child hygiene in the Providence health department, a position she held for 21 years. As the incidence of tuberculosis receded with antibiotics, the last fresh-air schools in Providence closed in 1957.

### Dr. Chapin's Golden Rules

Providence's Superintendent of Health, Dr. Charles V. Chapin, instituted a simple set of guidelines for school children in the early 1900s to prevent the transmission of contagious diseases.

#### **Remember These Things**

Never spit on a slate, floor, or sidewalk.

Do not pick the nose or wipe the nose on the hand or sleeve.

Do not wet the finger in the mouth when turning the leaves of books.

Do not put pencils into the mouth or wet them with the lips.

Do not put anything into the mouth except food and drink.

Do not swap apple cores, candy, chewing gum, half-eaten food, whistles, or bean blowers or anything that is put in the mouth.

Never cough or sneeze in a person's face. Turn your face to one side. Keep your face and hands clean; wash the hands with soap and water before each meal.



The first fresh-air school in the country opened on Meeting Street in Providence in 1908.