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Sotto voce

JOSEPH H. FRIEDMAN, MD
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It is never a good idea for a doctor to get angry at a patient or family. I am sure it happens to all of us, even the most saintly. Nothing upsets me more than a patient who shows up late and then insists on taking time to describe trivial problems or simply to socialize, completely unconcerned about the patients waiting to be seen. I ask a question and get a tangential response, with the spouse adding an even more minimally related observation, or perhaps even a theory as to why the fried chicken was the real culprit.

I will admit that I have a problem with running late. I hate to keep people waiting. It runs in my family. We are almost never late for anything. I often feel miserable excoriating Mr. Jones in my mind when a secretary asks if I’ll still see him, as he is 10 minutes late and that’s the upper limit we use in my clinic. I agree, as I always do, and in totters an incredibly frail, elderly man with his equally frail and elderly wife apologizing for one of them having to stop in a bathroom, and for the accident on Route 95 which stopped traffic and which they had nothing to do with. I am a sinner, and know it. I think that I cover up pretty well, but who knows? When a patient arrives late, without an apology, or an excuse, I try not to ask what held them up, although I may tell them that if the next patient arrives on time, I might have to cut short the visit. But I apologize for this, as if this is my own fault, although I don’t really mean it that way.

I was stunned recently to receive a copy of an office note from a primary care doctor describing an interaction with our mutual patient, who is, to be honest, sometimes rather demanding, hence, annoying. The PCP actually charted his loss of savoir faire. The patient, probably for the tenth time, including a few phone calls, asked why he was not responding to a medication I, not the PCP, had given him, and the PCP, obviously a bit beyond the end of his tether, said, “I’m not your f____ing neurologist. Go ask him!” The next note records the apology the doctor made to the patient. His inclusion of the interaction, with quotes, was, on the one hand, honest, brave and appropriately apologetic, while on the other, illuminating on the difficult interactions these two have had. Having shared many patients with this doctor, I have never heard any complaints about him, and certainly never had cause to wonder if he had a behavioral abnormality.

That office note made me reflect on my own sub-optimal patient interactions. Like most doctors, I spend a lot of time every day returning phone calls to patients. Many years ago I realized that when I became short with some annoying patients, I became a bit louder than usual. I’m sure many of us do that, but I realized that this was always a bad way to interact. I also sometimes cut them off, although ever mindful of the famous study that reported that American doctors, on average, allow their patients to speak for 17 seconds before interrupting. While I abhor the notion that I might be included in that statistic, I do sometimes fantasize that I could emulate it, but there is always a power differential between the doctor and the patient, whether the doctor perceives it or not, and that it should never be abused. I made a decision to try to always lower my voice when annoyed. I figured that was the easiest way to keep myself from showing anger. I might have to repeat a question or a request, and, if the patient was deaf, I could shout anyway without appearing to express annoyance. I don’t think that any of the many medical observers, house staff and students, have ever remarked on my occasional soft voice. I, of course, find the use of the soft voice pretty obvious, and I have noticed that I often adopt the voice before I am consciously aware that I am annoyed. When I’m really angry, I think of gangster movies where the bad guy makes his most serious threats in an almost whispered voice. “When I asked you when the tremor began, I really meant, when did the tremor begin. I didn’t ask what you were eating when
you first noticed it. I doubt that the jelly roll played much of a role.” I think this is akin to the really bad guy telling the lesser bad guy, “I don’t care why you needed the money. Who doesn’t? I just need to know who hired you...or else.”

No one has ever asked me, once I’ve lowered my voice, if I’m angry or upset. I think that’s an indication of success. I hope that I don’t use this technique to try to get away with bullying patients. The soft voice is reassuring to me. It reminds me that I need to monitor what I say and how I say it but also provides a sense of being better in control. It allows a degree of flexibility in how I say things. Sometimes I also slow down how fast I talk as I believe this conveys a sense of greater import to what I say, as if slower words are more important, that the slowness of phrasing carries a greater density of meaning.

I have no idea if this helps my patients or me in any way. I don’t think anyone’s noticed. I hope not.

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

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CLARIFICATION

Physician/PA supervisory ratio

Since 1999 in Rhode Island, there are no limits placed on the number of physician assistants (PAs) a physician can supervise or collaborate with. A sentence in the August issue of the Journal, which focused on PAs in the state, misstated this in an early edition release, which was subsequently changed.

RIMJ followed up with the American Association of Physician Assistants (AAPA) to determine the numbers nationwide and key provisions of the states’ laws. While the majority of states place restrictions, as of July 2018, RI is one of more than a dozen states with no restrictions on the number of PAs a physician can oversee. Other states include: AK, AR, CT, ME, MA, MI, MN, MS, MT, NM (medical board), NC, ND, TN, VT.

For more information click: Key Provisions in State PA Laws, July 2018
Insurance News that’s Beneficial for Medical Professionals

Medical professionals now save on their business and personal insurance through the Rhode Island Medical Society’s exclusive partnership with Butler & Messier.

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The Aronson Tree and the Roots of Brown’s Medical School

SUTCHIN R. PATEL, MD; ANTHONY A. CALDAMONE, MD

Somewhere on the Brown University campus sits an unmarked tree, a descendent of the tree that Hippocrates taught under on the Greek island of Kos. The seedlings of the *platanus* tree were presented to the medical dean’s office upon the founding of the Brown Medical School in 1972. It was nurtured by our founding dean, STANLEY M. ARONSON, MD, and planted on campus where it now stands proudly today.

We cannot think of a better symbol of our medical school. Dean Aronson nurtured the seedling prior to planting it and watched it grow into the tree that stands today, just as he nurtured our medical school as its founding dean and watched our school grow. When the medical school moved to its new home in the Jewelry District in 2011, it heralded an important step in the growth and evolution of our school. The seeds from this tree now grow in various places in Rhode Island and neighboring Massachusetts much like the graduates of our medical school, some who practice nearby and others who have spread outside of Providence to practice medicine.

In today’s world of technologic innovations in medicine, the Aronson Tree serves as a quiet reminder of the roots and history of our medical school on the Brown University campus and our humanistic roots. We should all take the time to read something other than medicine under the many trees on campus and escape, if only for an afternoon, the hectic pace of medicine today.

For Brown medical students today and those interested in our school’s history, we leave you with this treasure hunt. To find the tree’s location, search and read the writings of our founding dean. Hopefully you will gain an appreciation for the writings of a true medical humanist and you will also make the not-so-far trip to the roots of our medical school.

[Please check next month’s *Rhode Island Medical Journal* for the location of the Aronson Tree]

References

That would be cheating! Search Stanley Aronson’s writings for an appreciation of our founding dean and to find the location of the Aronson Tree.

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Eliminating parental consent for adolescents receiving human papillomavirus vaccination

NICHOLA HADDAD, BA; REBECCA H. ALLEN, MD, MPH; DARIA SZKWARKO, DO, MPH;
MICHELLE FORCIER, MD, MPH; CHERIE PAQUETTE, MD, MS

ABSTRACT

Human papillomavirus (HPV) is a sexually transmitted infection (STI) causing nearly all cases of cervical carcinoma and genital condyloma worldwide. While HPV vaccination rates are higher in Rhode Island compared to other states, still 27% of female adolescents are not fully vaccinated. The requirement for parental consent for vaccination administration poses a barrier to HPV vaccine uptake and hinders adolescent autonomy. This requirement lies in stark contrast to the goals of the Family Planning Title X Program, which provides all adolescents with access to contraception and STI prevention and treatment without parental consent. In this commentary, we propose that HPV vaccination should be available to all pre-teens and adolescents as part of teen reproductive and sexual healthcare, and thus be exempt from parental consent in a similar way to other reproductive and sexual health services such as STI testing and contraception.

KEYWORDS: HPV, parental consent, vaccination, Title X, sexual health

Human papillomavirus (HPV) is a sexually transmitted infection (STI) with an annual incidence of 14 million in the U.S. and causes nearly all cases of cervical carcinoma and genital condyloma.1 To aid in prevention of HPV-related diseases, the Centers for Disease Control and Prevention (CDC) and Advisory Committee on Immunization Practices (ACIP) recommend HPV vaccination for girls and boys between ages 11 and 12.1,2 Rhode Island requires HPV vaccination for entry into 7th grade.3 According to the most recent available data from 2016 as described by Kim et al. in the Rhode Island Medical Journal in March 2018, 73% of girls and 69% of boys aged 13- to 17-years-old were fully vaccinated against HPV with a three-part series, demonstrating clear “missed opportunities for vaccination”.4 These numbers stand in contrast to a 2015 CDC report that 97% of RI youth have had at least one vaccination for tetanus and meningitis.5 What factors contribute to these missed opportunities for vaccination and long-term cancer prevention?

HPV vaccination is accessible through RI’s school-based “Vaccinate Before You Graduate” program or through any primary care provider. The Rhode Island Department of Health [RIDOH] immunization requirements include medical and religious exemptions, and parents have the right to refuse any vaccine if they have a “deep conviction” against it, reducing access for eligible children/adolescents.3 Hence, parents who have strong beliefs about adolescent and/or premarital sexual activity may impact HPV vaccination programs.6 While there is a wide diversity of adolescent privacy protections varying state-by-state across the U.S., this lack of patient autonomy stands in stark contrast to the aim of the Family Planning Title X Program, which gives all adolescents access to contraception and STI prevention and treatment without parental consent.7

Title X was created in 1970 and expanded in 1978 to include services for adolescents.7 This federal program encourages adolescents to discuss their reproductive healthcare decisions with their parents/guardians, while also protecting adolescents’ access to confidential care. With these statutes in place, many adolescents, who do not feel comfortable discussing these issues with parents, can have greater autonomy in decision-making when it comes to certain sexuality-related topics.

Several studies have explored what specific factors fuel parents’ resistance to HPV vaccination and have found that parents express concerns about: 1) how the vaccine is related to adolescent sexuality, 2) how the vaccine might interfere with joint parent-child decisions, and 3) potential side effects.3,8,9 We will address the first two parental areas of concern.

Among parents, the HPV vaccine may be categorized differently than other vaccines administered to teens because HPV is predominantly sexually transmitted. Interestingly, the hepatitis B vaccine also targets a sexually transmitted disease, yet timing of vaccination [recommended during infancy] and other predominant modes of transmission are likely factors in less parental pushback.10 The HPV vaccine is a harder sell as some parents express concern that adolescents will view the vaccine as permission to engage in sexual activity.11 Research on this subject consistently demonstrates that this is not true. For example, one retrospective cohort study of 1398 females found no association between HPV vaccination and increased sexual activity-related outcomes (i.e. STI testing) in 11- to 12-year-olds.11 We expect that some parents may not be comfortable addressing
sexuality issues when talking with their pre-teen, and so are uncomfortable with a discussion of HPV vaccination that brings these issues to the forefront.

Misinformation is a barrier for parents appreciating how HPV vaccination might offer preventive benefits. A Canadian study found that many parents who distrusted the vaccine agreed with the following two statements: “not important for daughter to get HPV vaccine before sexual debut” and “daughter is too young to need HPV vaccine.”9,10 Thus, incomplete understanding of HPV infection biology and discomfort around teenage sexuality raise unnecessary concerns about promoting early sexual debut/promiscuity. These concerns appear to play a critical role in parental resistance to immunization efforts.

Some parents also believe that waiving parental consent for the HPV vaccine directly interferes with joint parent-child decision-making. One survey found that 86% of adults against waiving parental consent agreed that vaccination against “HPV should be a parent’s decision.”12 Interestingly, this belief stands in contrast to the fact that most of these same adults also support laws that allow adolescents to receive medical care for STIs and contraception without parental consent.12 Additionally, some parents have argued that giving the HPV vaccine requires a discussion with their children about sex and takes away their parental right to pick an appropriate time.3,12 In reality, primary care providers, school nurses, educators, and peers also contribute to adolescents’ understanding of sexuality-related topics; parents play an important role in these conversations, but certainly not the only role.

It is unrealistic to assume that all parental concerns about the HPV vaccine can be adequately addressed through education, especially when concerns are oftentimes deeply rooted in religious, cultural, or personal beliefs. So, what can we do to ensure that all adolescents have access to effective, safe and potentially life-saving preventive STI-related healthcare?

One approach would be policy change through legislation. An important strategy to protect pre-teens/adolescents may be to waive the requirement for parental consent for the HPV vaccine. There is precedent that HPV vaccination may be considered STI prevention akin to other methods of STI prevention [i.e. barrier methods] which have long been supported by medical, public health, and policy experts. As long as receiving the vaccine is not medically contraindicated, adolescents should be given the opportunity to make this decision for themselves.13

The Title X program recognizes the importance of providing confidential preventive and reproductive healthcare to adolescents.7 Since the HPV vaccine is a form of STI prevention, it should fall into the same category as other Title X services. In 2018, approximately 13,000 women in the U.S. will be diagnosed with cervical cancer and 4,000 of these women will die.14 Removing requirements for parental consent would align the HPV vaccine with other STI-related services provided to adolescents and aid in further reducing the burden of HPV-related morbidity and mortality for RI’s youngest citizens, now and for years to come.

References
Acknowledgment
This project was supported by the Barkley Stuart and Ann Glazer Gift to the Women’s Reproductive Health Scholarly Concentration at Warren Alpert Medical School of Brown University.

Disclaimer
The views expressed herein are those of the authors and do not reflect the views of the Warren Alpert Medical School of Brown University, Women & Infants Hospital of Rhode Island, or Hasbro Children’s Hospital.

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3. UK  8. Germany
4. Canada  9. Brazil
5. India  10. China

BARCELONA, SPAIN
Nitasha Khanna, MD, and Dean Loporchio, MD, residents in Ophthalmology at Rhode Island Hospital, viewed the journal while attending the World Ophthalmology Congress in Barcelona to present their research.

Dr. Khanna presented her research poster, *Premature Termination of Interventional Clinical Trials from International Registries: A 15-Year Analysis*

Dr. Loporchio presented his research poster, *Corneal Disease-related Interventional Clinical Trials Analysis*

Wherever you may be, or wherever your travels take you, be sure to check the journal on your mobile device, and send us a photo: mkorr@rimed.org.

Construction on the Basilica de la Sagrada Familia started in 1882 and is scheduled for completion in 2026, the 100th anniversary of the death of Antoni Gaudi, the Modernista Catalanian architect who oversaw its revolutionary design and construction for 43 years until his death at age 73. The basilica’s primary spire, now only partially completed, will rise to a height of 566 feet, 110 feet taller than the four spires that will surround it, and 230 feet higher than the basilica’s other 13 spires.
Newborn Screening for Hemoglobinopathies in Rhode Island, 2017
PHILIPPA SPRINZ, MD, MSc; KAREN LEMKE, BSN, RN; JAMES PADBURY, MD; CHRISTELLE FARROW, MPH

ABSTRACT

BACKGROUND: Newborn screening (NBS) is a national initiative for early identification of serious illnesses, the clinical consequences of which can be reduced by disease-specific early interventions. The Rhode Island Department of Health (RIDOH) has been screening for sickle cell disease (SCD) since 1990. In this work the authors sought to determine the success of NBS and explore aspects of the program that could be improved.

METHODS: A convenience sample of PCPs with privileges at Women and Infants Hospital of Rhode Island was surveyed by a Survey Monkey® questionnaire to determine exactly how NBS results were handled in each PCP’s office and to gather information on how to improve the process as it currently stands.

RESULTS: The process appeared to work efficiently. Recommendations were made to improve the service, examples of which are provided with this paper.

DISCUSSION: Although NBS has a national focus, the responsibility of ensuring that babies are screened successfully and that follow-up is complete, rests with individual states. This study revealed that the screening process in Rhode Island for SCD is successful but provided suggestions for improvements. The investigators have followed up with the suggestions.

KEYWORDS: newborn screening, hemoglobinopathies, quality improvement

BACKGROUND

Newborn screening for hemoglobinopathies is a service provided by all states and the District of Columbia since 2006. The indication to screen for hemoglobinopathies came from the sentinel paper by Gaston et al: Prophylaxis with Oral Penicillin in Children with Sickle Cell Anemia, reported in the New England Journal of Medicine (NEJM) in 1986. This study demonstrated that both the morbidity and the mortality in children with sickle cell anemia (SCA) could be reduced dramatically with the institution of penicillin (PCN) prophylaxis (twice daily PCN from birth to 5 years) for children with Hemoglobin (Hb) SS pattern on hemoglobin electrophoresis. One year after the publication of the study, the National Institutes of Health (NIH) convened a Consensus Conference on newborn screening (NBS) for Sickle Cell Disease (SCD) and other hemoglobinopathies. The primary outcome of this conference was the recommendation that there should be universal hemoglobin screening of all infants born in the US.

Although the NIH made the recommendation that all states should provide hemoglobinopathy screening, NBS is the responsibility of individual states and the processes and technology vary between states. The purpose of all NBS is to identify infants born with treatable conditions. In the case of hemoglobinopathies, this includes sickle cell disease (HbSS disease), Hemoglobin SC disease and Hemoglobin S beta thalassemia. Certain other thalassemias are also included. In 2007 a survey of the US NBS programs was conducted to learn details and successes of the individual state programs with regard to communicating positive SCD hemoglobinopathy results. The results showed significant variation in communication. One hundred percent of primary care providers and 81% of hematologists were informed of a screen positive for SCD. Notably, however, 88% of primary care providers, 63% of hospitals and only 37% of families were notified of sickle cell trait (SCT) results. Thirteen percent of hematologists were informed of SCT results.

In RI approximately 10 babies are born with SCD and 200 with SCT each year. In 2015 (most recent complete data) there were 12 babies born with SCD, 5 with non-sickle hemoglobinopathies, 184 with SCT, 154 with other traits and 46 reflecting transfusion before screening. Testing is done though dried blood spots, obtained 24–48 hours after birth, analyzed by the New England Newborn Screening Program/ UMass Medical School, in Worcester Massachusetts, and reported to the baby’s pediatrician. In RI all babies with abnormal results are referred to a pediatric hematologist for education, evaluation and management. With the goal of addressing quality improvement of this process in RI, the authors sought to learn how results of NBS for hemoglobinopathies were handled by primary care providers (PCPs) in RI, and determine what should be done to improve on it.
HYPOTHESIS
The State of Rhode Island has been screening for hemoglobinopathies since 1990. Our hypothesis was that RI undertakes NBS for hemoglobinopathies, (through the State of Rhode Island Department of Health), by means of an efficient, provider friendly program, but that there may be gaps in the translation of the results to the appropriate providers and opportunities to identify the means to improve these gaps.

METHODS
We sent a questionnaire by email to all providers who had staff privileges in Pediatrics at Women & Infants Hospital of Rhode Island [180] asking specific questions on how they review, document, and communicate abnormal NBS results. We also asked for recommendations on how the service could be improved. This survey was conducted between January and March 2017. The study was a quality improvement project and determined ‘exempt’ by the Women & Infants’ Institutional Review Board. The survey was sent to each provider’s preferred email address recorded in the Medical Staff Office at Women & Infants Hospital.

RESULTS
Forty-nine of 180 PCPs completed the survey between January and March 2017, for a 27% response rate. As the study was designed to improve the existing service, and valuable recommendations were made in the responses received, a decision was made to analyze, act and report on those results rather than keep the survey open longer. When a baby has a positive screen the state notifies the family, the PCP of record and the pediatric hematology service at Hasbro Children’s Hospital. How PCPs then handle results can be seen in Figure 1 and Table 1. All providers entered SCD results and SCT results into patients’ records. The communication of positive results was split between families being informed by telephone and the information being shared at the time of the next scheduled office visit. Twenty percent of providers reported that they scheduled an appointment specifically to discuss newborn screening results. All providers shared SCD and SCT results with the families. Thalassemia results were shared with the families by greater than 95% of providers. With regard to the prescribing of prophylactic penicillin (125 mg by mouth twice daily, as recommended by the NIH5), almost 50% of providers prescribed this for patients positive for SCD, whilst almost 50% waited for the baby to be seen by

**Figure 1. Survey Results**

![Survey Results](image)
Table 1. Survey Questions and Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer Choices</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What kind of medical record system do you use?</td>
<td>• Paper records</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>• Epic</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>• Cerner</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>• Centricity</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Allscripts</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• eClinicalWorks</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
<td>35%</td>
</tr>
<tr>
<td>2. Who reviews the results of the NBS (answer as many as are involved)?</td>
<td>• Office staff</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>• RN</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>• Midlevel</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>• Physician</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
<td>12.5%</td>
</tr>
<tr>
<td>3. Which results of the NBS are entered into the medical record?</td>
<td>• Sickle cell disease</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>• Sickle cell trait</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>• Other Hb diseases</td>
<td>97.9%</td>
</tr>
<tr>
<td></td>
<td>• Other Hb traits</td>
<td>97.9%</td>
</tr>
<tr>
<td>4. How are the NBS results entered into the medical record?</td>
<td>• Scanning</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>• Free text</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>• Paper copy</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>• Custom-made screen</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
<td>35%</td>
</tr>
<tr>
<td>5. Do you keep a paper copy of the results?</td>
<td>• Yes</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>• Sometimes</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• No</td>
<td>75%</td>
</tr>
<tr>
<td>6. If you keep a paper copy, is it readily accessible to providers?</td>
<td>• Readily accessible</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>• In storage in office</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>• In storage off-site</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>• Do not keep a copy</td>
<td>68%</td>
</tr>
<tr>
<td>7. Who is responsible for sharing positive NBS results with the family?</td>
<td>• Office staff</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>• RN</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>• Mid level</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>• Specialist</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>• Pediatricist</td>
<td>90%</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
<td>13%</td>
</tr>
<tr>
<td>8. How are the results of the NBS provided to the family?</td>
<td>• Phone call</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>• Designated visit</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>• Email</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Letter</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>• Next sched. visit</td>
<td>51%</td>
</tr>
<tr>
<td></td>
<td>• Other – eportal</td>
<td>0.5%</td>
</tr>
<tr>
<td>10. For which diagnoses do you prescribe penicillin?</td>
<td>• Sickle cell anemia</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>• Sickle cell trait</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>• Neither</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>• Wait for hematologist</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>No SCD/T patients</td>
<td></td>
</tr>
<tr>
<td>11. Do you provide (written) resources for the family?</td>
<td>• RIDOH</td>
<td>41%</td>
</tr>
<tr>
<td></td>
<td>• Office generated</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>• From Web</td>
<td>41%</td>
</tr>
<tr>
<td></td>
<td>• None</td>
<td>27%</td>
</tr>
<tr>
<td>12. How many patients do you have with a hemoglobinopathy? Provide approximate number.</td>
<td>• Sickle cell anemia</td>
<td>0 to 1-5</td>
</tr>
<tr>
<td></td>
<td>• Sickle cell trait</td>
<td>0 to &gt;10</td>
</tr>
<tr>
<td></td>
<td>• Thalassemia disease</td>
<td>0 to 1-5</td>
</tr>
<tr>
<td></td>
<td>• Thalassemia trait</td>
<td>0 to &gt;10</td>
</tr>
<tr>
<td>13. How could we improve the service provided?</td>
<td>Free comments</td>
<td>See details in paper</td>
</tr>
</tbody>
</table>

The hematology at Hasbro for the penicillin prophylaxis to be initiated. Penicillin was not prescribed by any respondent [appropriately] for babies who screened positive for SCT. For families with whom contact is not initially achieved, the RI Newborn Screening Program uses different outreach methodologies. These include the Federal Women, Infants and Children (WIC) program, RI DOH First Connections program, and other family visiting programs. Outreach would be made to those programs to engage, educate families and help them make an appointment to a pediatric hematologist.

Table 1 shows the questions asked and the responses provided. The most important outcome of this study was the set of recommendations made by PCPs to help improve the process. Respondents particularly asked for more and improved written informational material. A request was made to be sure that the screening results reached the providers in the Newborn Intensive Care Unit (NICU) Follow-up Clinic. Streamlining the referral into the Hasbro Children’s Hospital pediatric hematology service was asked for, to allow an early visit and the institution of PCN quickly, for the PCPs who prefer to leave that prescription to the hematologist. Suggestions were made that a document detailing recommended follow-up, necessary further testing and immunization details be developed and sent out with the NBS results to the PCPs. This would make it easier for the PCPs to know what care is expected for a newborn with a sickle hemoglobinopathy. This has been made (Appendix 1). Concern was raised over the time it took for screening results to reach the PCPs offices. Under ideal circumstances normal results are mailed from the test laboratory to the PCP, within a week of receipt of the sample. Abnormal results are telephoned immediately upon identification [less than 24 hours after determination of a positive result]. Turnaround time is constrained in obtaining the sample, the time that it takes to get to the laboratory (for RI this is the regional laboratory at the University of Massachusetts in Worcester), for the lab to run the test and the communication of the results. Comment was made on the [positive] value of the State’s KIDSNET database for finding results ahead of the results arriving in the PCPs’ offices and no changes were requested with this.

**DISCUSSION**

This was a study of selected primary care providers responsible for newborn care in RI. Although the number of responses (49 out of 180 [27%]) was not large, all the responses were complete and significantly helped in recognizing what is working and what needs to be improved. There are limitations to this study. Using an electronic survey [Survey Monkey®] allowed ease of administering and collating answers, but did not allow for personal contact with the providers. Direct contact would have allowed us to make clearer the purpose of this study (data gathering but also quality improvement) and how their responses might improve their office
flow and patient care. Such a small number of responses does mean that caution must be applied to interpreting the results and not to make too many program changes based solely on these findings. This sample (taken from providers with privileges at Women & Infants Hospital of Rhode Island only) may not be reflective of other PCPs involved in the care of infants across the state. Of importance, however, this was intended as an opportunity to obtain feedback on the process of newborn screening in the state and to provide some suggestions as to how the process might be improved upon. This was achieved.

**FUTURE DIRECTIONS**

The results of this survey show that the Program is achieving some goals very well: 100% of providers stated that they entered the results of a screen positive for sickle cell disease and sickle cell trait into the patients’ charts. Not all did so for other hemoglobin abnormalities (essentially traits and not diseases that need immediate attention). All respondents wanted better informational documents. Fifty percent of respondents started prophylactic penicillin while 50% waited for the hematologist to do this.

As a consequence of this work:

1. RIDOH will work on getting NBS results into the NICU and to the NICU follow-up clinic
2. Hasbro Children’s Hospital will facilitate earlier appointments into the Hematology Clinic
3. RIDOH has developed a document that provides guidance on what tests, immunizations and routine health care maintenance PCPs should know about [Appendix 1]. These will now be mailed with the NBS result to all PCPs in RI.
4. RIDOH and the Hasbro Hematology team will work on developing web-based educational material for parents and providers to facilitate ease of access. These will be based on NHLBI guidelines. RIDOH has now included this reference in the Results Letter [Appendix 2]. Any time an inherited condition [trait or disease] is identified, genetic counseling should be offered. The authors will work to provide a streamlined method for this. As appropriate and if supported by the community, we would like to consider sharing information by means of a Project ECHO® [Extension for Community Healthcare Outcomes] type model, offering videoconferencing to enhance PCPs knowledge around newborn screening and an opportunity for them to ask questions, to increase their comfort of care around this topic.

**Acknowledgments**

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**References**


**Disclaimer**

The views expressed in this article are the views of the authors and do not necessarily reflect the opinions or support of the Rhode Island Department of Health.

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Evaluation of Orthopaedic Interest Groups in American Medical Schools
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ABSTRACT

BACKGROUND: Orthopaedic interest groups (OIGs) are student-run organizations that can provide medical students with early exposure to orthopaedic surgery. OIGs can serve as venues for musculoskeletal education, clinical experiences, and mentorship to students with otherwise limited access to orthopaedics. The purpose of this study was to evaluate the prevalence and opportunities offered by OIGs.

METHODS: The websites of all allopathic medical schools in the United States were evaluated. Each website was examined for an established OIG and any pertinent information regarding shadowing, research opportunities, lectures, workshops, or opportunities to interact with residents. OIGs were categorized based on the number and type of offerings provided to their members.

RESULTS: Of the 141 allopathic medical school websites evaluated, 108 (108/141, 76%) had evidence of an orthopaedic interest group. Sixty-nine (69/108, 64%) of these schools described the opportunities provided. The most common opportunities were clinical skills workshops (41/69, 59%), lectures (32/69, 46%), and opportunities to interact with current residents (30/69, 43%). The majority of OIGs (39/69, 57%) offered fewer than half of the possible opportunities and only 6 groups (9%) offered all five opportunities.

CONCLUSION: The majority of allopathic medical schools in the United States have an OIG; however, the opportunities provided to orthopaedic interest group members vary widely from institution to institution.

KEYWORDS: orthopaedics, medical education, student-run interest groups, orthopaedic interest groups

INTRODUCTION

Student-created specialty interest groups (SIGs) have become prevalent in medical schools within the United States. Interest groups can serve as a foundation for like-minded students to form small communities outside of the formal medical school curriculum. Furthermore, these groups can provide medical students with opportunities to learn about and experience the diverse specialties of medicine prior to their clinical years. Several SIGs (Pediatrics, Family Medicine, Psychiatry, Emergency Medicine) are nationally interconnected, which allows them to provide uniform and structured opportunities at individual medical schools. Since the cost to run a SIG is relatively small and a correlation between membership in a SIG and entrance into the same specialty has been demonstrated, these groups can serve as a preliminary recruitment ground. The connection between participation in a SIG and subsequent entrance into the specialty has been well-described for general surgery and family medicine; however, this potential link has not been studied within the field of orthopaedic surgery. The majority of medical students who pursue orthopaedic surgery as a career make this decision prior to their third- and fourth-year clinical rotations, supporting the potential role of pre-clinical experiences in SIG. Furthermore, numerous studies have shown that exposure to elective orthopaedic lectures and literature, musculoskeletal instruction, and formal mentorship opportunities has increased interest and application to orthopaedic residencies.

Given the limited instruction in musculoskeletal (MSK) medicine in most U.S. medical schools, orthopaedic interest groups (OIGs) may be the first exposure medical students have to MSK education. Therefore, the variety of lectures, clinical workshops, shadowing, and research opportunities provided by OIGs may be extremely influential. The primary purpose of this investigation was to evaluate the prevalence and opportunities offered by OIGs in U.S. allopathic medical schools. We hypothesized that most medical schools would have OIGs; however, the activities and experiences provided by the groups would vary between institutions.

MATERIALS AND METHODS

A list of allopathic medical schools within the United States was obtained from the FREIDA online database provided by the American Medical Association (AMA). Medical school websites were searched for descriptions and/or links to the website of SIGs. If OIGs were not identified, search terms including the name of the medical school and either the term “interest group” or “orthopaedic interest group” were entered into Google to broaden the search.

If an OIG was identified, descriptions or websites were evaluated.
CONTRIBUTION further explored for contact information, mentorship opportunities, and educational experiences. The presence of contact information (e-mail or phone number), listing of student leadership, and identification of faculty advisors was recorded. Mentorship opportunities included shadowing, research with faculty, or interactions with residents. Finally, the availability of lectures or workshops/skills labs was noted. Descriptive statistics were used to analyze the data.

RESULTS
The FREIDA database contained 141 allopathic medical schools, 124 of which (87.9%) included a list of SIGs on their websites. One hundred five of these schools (84.7%) had an OIG among the SIGs listed. An internet search of the 19 medical schools without an OIG reported on their website revealed that 3 additional schools with unofficial, non-university-related websites described an established OIG, bringing the total number of OIGs to 108 (77% of all medical schools). Contact information was listed by 63 of the 108 (58%) OIGs. OIG student leadership was reported by 66 (61%) of the groups, while faculty advisors were listed by only 44 of the 108 (41%) websites.

Of the 108 OIGs with an online presence, only 69 (64%) provided information regarding the opportunities available to interest group members. Twenty-three of the 69 groups (33%) reported shadowing opportunities for their members, 29 (42%) reported research opportunities, 41 (59%) highlighted workshops/clinical activities, 30 (43%) described opportunities to interact with current residents, and 32 (46%) reported that lectures were hosted by the interest group (Figure 1).

There was variability in the number of opportunities offered by the OIGs. Only 6 of the 69 OIGs (9%) reported offering all five opportunities to their members. Most OIGs (39/69, 57%) offered fewer than half of the possible opportunities. Ten of the 69 groups (14.5%) listed no specific opportunities, eleven groups (15.9%) offered one, 18 groups (26.1%) offered two, 17 of the 69 OIGs (24.6%) offered three, and seven groups (10.1%) offered four opportunities. Twenty-nine of the 69 OIGs (42%) offered both hands-on workshops and lectures related to orthopaedics and MSK medicine. The three opportunities most commonly reported together were workshops, lectures hosted by the interest group, and interactions with residents (16/69, 23%).

DISCUSSION
This investigation demonstrates that although most allopathic medical schools in the United States have OIGs, there is variability in the reported opportunities provided by each group. Previous literature demonstrates that shadowing, research, hands-on workshops, interactions with residents, and orthopaedic-related lectures are the most valuable activities for medical students interested in pursuing a career in orthopaedic surgery.3,9,13,14 These could serve as initial points of interest in further research to determine if opportunities provided by OIGs (or OIGs themselves) lead to higher rates of students matching into orthopaedic residency. In 2013, Reardon et al. surveyed 172 psychiatry residency program directors (PDs) and the psychiatry student interest group (PSIG) student leaders that belonged to the national PSIG Network listserv to identify activities that would be influential and effective at providing exposure to the field.9 The authors received responses from 64 PDs and 44 PSIG student leaders and determined that panel discussions with psychiatry residents or fellows, mentorship programs, case conferences, and events exploring the different psychiatry subspecialties and practice settings were most important.9 Unfortunately, we have found that most OIGs do not report offering these activities.

Hinchey et al. surveyed all fourth-year U.S. medical students with a military service obligation regarding membership in 18 interest groups, the benefit of participation, and their top specialty choice for residency.10 The authors found a positive correlation between interest group membership and entering that specialty upon graduation. The students, however, did not attribute their final specialty choice to interest group participation. Despite this discrepancy, the authors suggested continuation of interest groups as the actual and perceived benefits to students can be attained at a relatively small cost.10 Salna et al. tracked the national general

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**Figure 1.** Shaded areas represent the prevalence of opportunities offered to members of orthopaedic interest groups (OIGs) at allopathic medical schools in the United States.
surgery matriculation rate and the rate specific to Columbia University College of Physicians and Surgeons (P&S). The authors noted a decline in both national and P&S rates beginning in the 1980s with a nadir (4.3%) in P&S matriculation rates that fell below the national average in the early 2000s. This low-point coincided with the foundation of their general surgery interest group and since its inception, P&S general surgery matriculation rates increased and surpassed the national average from 2002-2014.11 Despite the increase in matriculation, the authors acknowledge that a student’s decision to pursue a career in surgery is influenced by multiple factors. 

There are several weaknesses to this investigation. Despite the important nature of this topic, there is a paucity of information available. All of the data collected in this study was based on information that could be accessed online. Medical schools that did not include information about OIGs on their websites may, in fact, have these groups, despite a lack of an online presence. Additionally, websites may not have been updated to include the most current opportunities offered by OIGs and many of these groups may provide additional opportunities for their members that were not explicitly stated online. Furthermore, a number of medical schools do not offer orthopaedic residencies, which could be another variable in the number and quality of opportunities offered to OIG members.

Our results bring attention to an important educational experience that is likely underappreciated in the field of orthopaedic surgery. Furthermore, the involvement of a nationally-based orthopaedic organization could facilitate the standardization of OIG opportunities offered to student members. The American Orthopaedic Association (AOA) or American Academy of Orthopaedic Surgeons (AAOS) may find that serving as a parent organization for a national network of OIGs can be mutually beneficial, as this would not only facilitate the expansion of MSK education to medical students, but potentially increase the membership base in one or both of these organizations as has been seen with the AMAnote Currently, there is not enough data in the literature to support a direct correlation between involvement in an OIG and a higher likelihood of pursuing a career in orthopaedic surgery. This relationship is particularly difficult to prove given that students may join an OIG if they already have an interest in pursuing a career in orthopaedics since the activities offered to members often include networking with faculty and residents, education in the field, or interaction with like-minded students. However, numerous studies support the value of early exposure to orthopaedics and OIGs could be an ideal way to deliver those experiences.14–17

CONCLUSIONS

The results of this study demonstrate that while most allopathic U.S. medical schools have OIGs, there is substantial variability in the opportunities offered to students. A national effort to define the most beneficial opportunities and standardize their implementation is essential to MSK education.

References


Disclaimer
The views expressed herein are those of the authors and do not necessarily reflect the views of: Drexel University College of Medicine, Warren Alpert Medical School, or Tulane University School of Medicine.

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State Unintentional Drug Overdose Reporting Surveillance: Opioid Overdose Deaths and Characteristics in Rhode Island

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ABSTRACT
Unintentional opioid overdoses are a growing public health epidemic in the United States. Rhode Island is also faced with a challenging crisis of drug overdose deaths. The State Unintentional Drug Overdose Reporting Surveillance (SUDORS) data from the second half of 2016 were used to present opioid overdose deaths and characteristics in Rhode Island. During July-December 2016, 142 individuals died of opioid overdose in Rhode Island. People who died by opioid overdose were more likely to be 25–65 years old, male, and non-Hispanic white. The most common precipitating circumstances were substance abuse (88%), current mental health problems (43%), and physical health problems (27.5%). Over 83% of decedents had 2 or more substances attribute to causing their death, with fentanyl (71.1%) as the most common substance. Only 36.6% of decedents had naloxone administered. Fatal opioid overdose data are important for understanding this public health crisis and can guide overdose intervention efforts.

KEYWORDS: death; Rhode Island; State Unintentional Drug Overdose Reporting Surveillance (SUDORS); surveillance system; unintentional opioid overdose

INTRODUCTION
Drug overdose continues to be a large public health crisis in the United States and in 2015 there were 33,091 deaths due to drug overdose involving opioids [e.g., oxycodone, hydrocodone, heroin].1 Rhode Island is no exception. Opioids interact with opioid receptors on nerve cells in the brain and body to provide pain relief and can produce euphoria, which leads to dependence and subsequent opioid use disorder.2 Formerly, prescription opioid pain relievers were the major cause of drug overdose deaths; however, by 2015, a rapidly increasing number of deaths were due to illicit opioids, such as heroin, illicitly manufactured fentanyl [IMF], and fentanyl analogues.1 Illicit drug deaths continue to increase in Rhode Island, and 67% of the fatal drug overdose deaths in 2016 involved an illicit opioid.

In fiscal year 2016, the Centers for Disease Control and Prevention [CDC] issued a Funding Opportunity Announcement (FOA) for Enhanced State Surveillance of Opioid-Involved Morbidity and Mortality (CDC-RFA-CE16-1608), which funded 12 states, including Rhode Island.3 Effective in September 2017, the CDC’s Enhanced State Opioid Overdose Surveillance (ESOOS) program expanded to 32 states and the District of Columbia to better track and prevent opioid-involved overdoses.1

The National Violent Death Reporting System [NVDRS], created in 2002, is a state-based surveillance system that pulls together data on violent deaths from multiple sources in 40 states, the District of Columbia, and Puerto Rico.4 ESOOS states were required to use a module that was created in NVDRS to collect data on opioid overdose deaths.3 The State Unintentional Drug Overdose Reporting Surveillance (SUDORS) data for the period July-December 2016 were closed out on August 31, 2017. Based on comprehensive information collected by SUDORS, we present data regarding unintentional opioid overdose deaths and characteristics in Rhode Island. To our knowledge, this study is the first to use statewide SUDORS data to report opioid overdose deaths and relevant characteristics.

METHODS
The Rhode Island Violent Death Reporting System [RIVDRS] became a component of the NVDRS in 2003. The primary data sources of RIVDRS include medical examiner reports with toxicology results, vital statistics records, and law enforcement reports.4 As part of the CDC ESOOS grant, Rhode Island is required to abstract medical examiner reports and death certificate records on unintentional opioid overdose deaths. SUDORS does not require the collection of law enforcement data. An opioid overdose death is a drug poisoning death in which the death certificate or medical examiner report indicates that an opioid contributed to the drug overdose death.3 The death must have occurred in Rhode Island. The CDC includes opioid overdose deaths in which the manner of death is undetermined (i.e. cases in which there is uncertainty of whether the overdose was accidental or intentional). Three undetermined opioid overdose deaths were excluded from the analysis and only the unintentional opioid overdose deaths were included.

SUDORS has five data components regarding demographics, injury & death, circumstances, toxicology results, and
overdoses. The circumstance component comprises history of mental health/substance abuse, life stressors, interpersonal circumstance, etc. The toxicology component includes positive toxicology findings, all substances that are listed on the death certificate as a contributing cause of death, and all metabolites of controlled substances such as opioid pain relievers and illicit drugs (e.g., heroin and cocaine). The overdose component covers number of substances causing death, history of substance abuse, scene indication of drug use and drug types, and response to drug overdose information. Data on unintentional opioid overdose deaths was obtained from SUDORS during July–December 2016 [N=142]. The CDC recommends suppressing data involving fewer than five cases to preserve confidentiality.1 Analyses were conducted in SAS.

RESULTS
Decedents of opioid overdose had a mean age of 40.5 years; 65.5% were not married. Most people who died by opioid overdose were aged 25–65, male, and non-Hispanic white. There were no opioid overdose deaths among teens during July–December 2016 in Rhode Island. Almost 19% of decedents were unemployed, and 16.7% were disabled. Urban [core cities] and suburban regions had higher proportions of opioid overdose deaths compared to rural areas of the state. Most opioid overdose deaths occurred at a house or an apartment (Table 1). Among the 142 decedents, 10 (7.1%) were homeless and 12 (8.5%) were veterans, with no overlap between them [data not shown].

The most common associated circumstances were substance abuse including alcohol [88%], current mental health problems [43%], and physical health problems [27.5%]. Diagnosed mental health problems included depression/dysthymia [60.7%], anxiety disorder [54.1%], and bipolar disorder [16.4%]. Over 60% of decedents who died by opioid overdose were not in mental health treatment (Table 2). About 39% of cases tested positive for cocaine, 31.2% for alcohol, 24.1% for benzodiazepines, and 23.2% for marijuana. Most of them [83%] died due to two or more substances. Fentanyl [n=101], cocaine [n=53], alcohol [n=28], heroin and/or morphine [n=44] were the most common substances identified as contributing to the cause of these 142 deaths. Methadone [n=16] and buprenorphine [n=8] represented 16.9% of the opioid overdose deaths (Table 3).

Most decedents had a history of opioid abuse (73.9%), and 57% had no history of treatment for substance abuse. More than one third of victims [38%] had evidence of active intravenous injection (Table 4). There was more evidence of illicit drugs [39.4%] than evidence of prescription drugs [31%] at the scene. Few decedents (n=23, 16.2%) were actively being treated for pain at the time of the fatal overdose. Only 52 [36.6%] of decedents had naloxone administered (Table 5).

### Table 1. Characteristics of Unintentional Opioid Overdose Deaths from July–December, 2016 in Rhode Island (N=142)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age group (mean: 40.5 years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24 years</td>
<td>11</td>
<td>7.8</td>
</tr>
<tr>
<td>25-44 years</td>
<td>77</td>
<td>54.2</td>
</tr>
<tr>
<td>45-65 years</td>
<td>54</td>
<td>38.0</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>112</td>
<td>78.9</td>
</tr>
<tr>
<td>Female</td>
<td>30</td>
<td>21.1</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
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</tr>
<tr>
<td>White, non-Hispanic</td>
<td>116</td>
<td>81.7</td>
</tr>
<tr>
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<td>6</td>
<td>4.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>19</td>
<td>13.4</td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>36</td>
<td>26.3</td>
</tr>
<tr>
<td>High school graduate/GED completed</td>
<td>69</td>
<td>50.4</td>
</tr>
<tr>
<td>Some college/technical school or more</td>
<td>32</td>
<td>23.3</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
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<td></td>
</tr>
<tr>
<td>Never married/single</td>
<td>93</td>
<td>65.5</td>
</tr>
<tr>
<td>Divorced/married, but separated</td>
<td>31</td>
<td>21.8</td>
</tr>
<tr>
<td>Married/civil union/domestic partner</td>
<td>18</td>
<td>12.7</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed/self-employed</td>
<td>82</td>
<td>59.4</td>
</tr>
<tr>
<td>Unemployed</td>
<td>26</td>
<td>18.8</td>
</tr>
<tr>
<td>Disabled</td>
<td>23</td>
<td>16.7</td>
</tr>
<tr>
<td>Other (student/artist/military)</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>City/town of residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban/core cities</td>
<td>57</td>
<td>40.4</td>
</tr>
<tr>
<td>Suburban regions</td>
<td>57</td>
<td>40.4</td>
</tr>
<tr>
<td>Non-metro/rural areas</td>
<td>16</td>
<td>11.4</td>
</tr>
<tr>
<td>Out of state</td>
<td>11</td>
<td>7.8</td>
</tr>
<tr>
<td><strong>Injury location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House or apartment</td>
<td>117</td>
<td>89.3</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>10.7</td>
</tr>
<tr>
<td><strong>Injured at victim home</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>97</td>
<td>75.2</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>24.8</td>
</tr>
</tbody>
</table>

Data are not presented for cells containing fewer than five cases. N/A, not available. a Urban/core cities: Central Falls, Pawtucket, Providence, and Woonsocket.
Table 2. Circumstances of Unintentional Opioid Overdose Deaths from July-December, 2016 in Rhode Island (N=142)

<table>
<thead>
<tr>
<th>Precipitating circumstance*</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health/Substance abuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other substance abuse problem (excludes alcohol)</td>
<td>119</td>
<td>83.8</td>
</tr>
<tr>
<td>Alcohol problem</td>
<td>27</td>
<td>19.0</td>
</tr>
<tr>
<td>Current diagnosed mental health problemb</td>
<td>61</td>
<td>43.0</td>
</tr>
<tr>
<td>Depression/dysthymia</td>
<td>37</td>
<td>--</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>33</td>
<td>--</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>10</td>
<td>--</td>
</tr>
<tr>
<td>Post-traumatic stress disorder (PTSD)</td>
<td>5</td>
<td>--</td>
</tr>
<tr>
<td>Attention deficit or hyperactivity disorder</td>
<td>5</td>
<td>--</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>--</td>
</tr>
<tr>
<td>History of ever being treated for a mental health problem</td>
<td>76</td>
<td>53.5</td>
</tr>
<tr>
<td>Life stressor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical health problem</td>
<td>39</td>
<td>27.5</td>
</tr>
<tr>
<td>Recent criminal legal problem</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>History of child abuse/neglect</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>Job problem</td>
<td>5</td>
<td>3.5</td>
</tr>
<tr>
<td>Interpersonal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intimate partner problem</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>Family relationship problem</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>Suicide event</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of suicide attempt</td>
<td>8</td>
<td>5.6</td>
</tr>
</tbody>
</table>

| Precipitating circumstance known | 140 | 98.6 |

Data are not presented for cells containing fewer than 5 cases.
* Percentages might exceed 100% because multiple circumstances might have been coded.
b One victim can have two or three current mental health diagnoses.

Table 3. Toxicology Tests of Unintentional Opioid Overdose Deaths from July-December, 2016 in Rhode Island (N=142)

<table>
<thead>
<tr>
<th>Toxicology test positive*</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance class and drug cause of death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opioid</td>
<td>142</td>
<td>100.0</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>101</td>
<td>--</td>
</tr>
<tr>
<td>Heroin and/or morphine</td>
<td>44</td>
<td>--</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>17</td>
<td>--</td>
</tr>
<tr>
<td>Methadone</td>
<td>16</td>
<td>--</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>8</td>
<td>--</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>7</td>
<td>--</td>
</tr>
<tr>
<td>Cocaine</td>
<td>55</td>
<td>38.7</td>
</tr>
<tr>
<td>Alcoholb</td>
<td>43</td>
<td>31.2</td>
</tr>
<tr>
<td>BAC &gt;= 0.08 g/dl</td>
<td>22</td>
<td>--</td>
</tr>
<tr>
<td>BAC &lt; 0.08 g/dl</td>
<td>21</td>
<td>--</td>
</tr>
<tr>
<td>Benzodiazepine</td>
<td>34</td>
<td>24.1</td>
</tr>
<tr>
<td>Alprazolam</td>
<td>18</td>
<td>--</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>13</td>
<td>--</td>
</tr>
<tr>
<td>Marijuana</td>
<td>33</td>
<td>23.2</td>
</tr>
<tr>
<td>Antidepressant</td>
<td>25</td>
<td>18.4</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>16</td>
<td>11.4</td>
</tr>
<tr>
<td>Anticonvulsant</td>
<td>14</td>
<td>9.9</td>
</tr>
<tr>
<td>Antipsychotic</td>
<td>8</td>
<td>5.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of substances causing death</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24</td>
<td>16.9</td>
</tr>
<tr>
<td>2</td>
<td>55</td>
<td>38.7</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>21.8</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>14.1</td>
</tr>
<tr>
<td>5 or more</td>
<td>12</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Data are not presented for cells containing fewer than 5 cases.
* Percentages might exceed 100% because multiple circumstances might have been coded.
b One victim can have two or three current mental health diagnoses.

Subcategories do not sum to 100% because test results of victims can be positive for alcohol or multiple drugs.
b BAC, blood alcohol concentration. BAC ≥0.08 g/dL is over the legal limit and is used as the standard for intoxication.
### Table 4. Substance Abuse and Scene Indications of Drug Use of Unintentional Opioid Overdose Deaths from July-December, 2016 in Rhode Island (N=142)

<table>
<thead>
<tr>
<th>Substance abuse and scene indication of drug use</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of drug poisoning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overdose related to substance abuse</td>
<td>134</td>
<td>95.0</td>
</tr>
<tr>
<td>Wrong dosage/overmedication</td>
<td>7</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Substance abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous drug overdose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No previous overdose reported</td>
<td>116</td>
<td>81.7</td>
</tr>
<tr>
<td>Previous OD within the past year</td>
<td>13</td>
<td>9.2</td>
</tr>
<tr>
<td>Previous OD that occurred more than one year prior</td>
<td>13</td>
<td>9.2</td>
</tr>
<tr>
<td>Recent opioid use relapse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No evidence</td>
<td>101</td>
<td>71.1</td>
</tr>
<tr>
<td>Relapse mentioned, timing unclear</td>
<td>16</td>
<td>11.3</td>
</tr>
<tr>
<td>Relapse occurred &lt; 2 weeks of fatal overdose</td>
<td>14</td>
<td>9.9</td>
</tr>
<tr>
<td>Relapse occurred &gt; 2 weeks &lt; 3 months of fatal overdose</td>
<td>11</td>
<td>7.8</td>
</tr>
<tr>
<td><strong>Treatment for substance abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No treatment</td>
<td>81</td>
<td>57.0</td>
</tr>
<tr>
<td>No current treatment, but treated in the past</td>
<td>32</td>
<td>22.5</td>
</tr>
<tr>
<td>Current treatment</td>
<td>29</td>
<td>20.4</td>
</tr>
<tr>
<td><strong>History of opioid abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>37</td>
<td>26.1</td>
</tr>
<tr>
<td>History of substance abuse, specific substances unknown</td>
<td>33</td>
<td>23.2</td>
</tr>
<tr>
<td>Current or past abuse of heroin</td>
<td>51</td>
<td>35.9</td>
</tr>
<tr>
<td>Current or past abuse of prescription opioids</td>
<td>14</td>
<td>9.9</td>
</tr>
<tr>
<td>Current/past abuse of both prescription opioids/heroin</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>Scene indications of drug use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any evidence of drug use</td>
<td>100</td>
<td>70.4</td>
</tr>
<tr>
<td>Evidence of rapid overdose</td>
<td>27</td>
<td>19.0</td>
</tr>
<tr>
<td>Needle close to the body/in hand/inserted</td>
<td>19</td>
<td>--</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>--</td>
</tr>
<tr>
<td><strong>Route of drug administration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evidence of injection</td>
<td>54</td>
<td>38.0</td>
</tr>
<tr>
<td>Needle/syringe</td>
<td>42</td>
<td>--</td>
</tr>
<tr>
<td>Track marks on victim</td>
<td>26</td>
<td>--</td>
</tr>
<tr>
<td>Cooker</td>
<td>23</td>
<td>--</td>
</tr>
<tr>
<td>Filter/tourniquet/witness report</td>
<td>14</td>
<td>--</td>
</tr>
<tr>
<td>Evidence of ingestion</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>Evidence of snorting</td>
<td>6</td>
<td>4.2</td>
</tr>
<tr>
<td>Evidence of smoking</td>
<td>6</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Data are not presented for cells containing fewer than 5 cases.

### Table 5. Drug Type and Response to Drug Overdose of Unintentional Opioid Overdose Deaths from July-December, 2016 in Rhode Island (N=142)

<table>
<thead>
<tr>
<th>Drug type and response to drug overdose</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drug type and response to drug overdose</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illicit or prescription drug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illicit drug</td>
<td>56</td>
<td>39.4</td>
</tr>
<tr>
<td>Evidence of illicit drug: powder</td>
<td>39</td>
<td>--</td>
</tr>
<tr>
<td>Evidence of illicit drug: witness report</td>
<td>10</td>
<td>--</td>
</tr>
<tr>
<td>Prescription drug</td>
<td>44</td>
<td>31.0</td>
</tr>
<tr>
<td>Prescribed to the victim</td>
<td>32</td>
<td>--</td>
</tr>
<tr>
<td>Unknown who prescribed</td>
<td>12</td>
<td>--</td>
</tr>
<tr>
<td>Not prescribed to the victim</td>
<td>5</td>
<td>--</td>
</tr>
<tr>
<td>Form of prescription drug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pills/tablets</td>
<td>34</td>
<td>--</td>
</tr>
<tr>
<td>Bottle</td>
<td>27</td>
<td>--</td>
</tr>
<tr>
<td>Patch</td>
<td>5</td>
<td>--</td>
</tr>
<tr>
<td><strong>Response to drug overdoses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bystanders present at time of overdose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No bystanders present</td>
<td>39</td>
<td>42.9</td>
</tr>
<tr>
<td>One bystander present</td>
<td>30</td>
<td>33.0</td>
</tr>
<tr>
<td>Multiple bystanders present</td>
<td>13</td>
<td>14.3</td>
</tr>
<tr>
<td>Bystanders present, unknown number</td>
<td>9</td>
<td>9.9</td>
</tr>
<tr>
<td><strong>Drug use witnessed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No person witnessed drug overdose</td>
<td>68</td>
<td>86.1</td>
</tr>
<tr>
<td>1+ person witnessed drug overdose</td>
<td>11</td>
<td>13.9</td>
</tr>
<tr>
<td>Naloxone administered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>52</td>
<td>36.6</td>
</tr>
<tr>
<td>No</td>
<td>84</td>
<td>59.2</td>
</tr>
<tr>
<td>Unknown</td>
<td>6</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>Who administered naloxone</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By EMS/firefighter/law enforcement</td>
<td>44</td>
<td>--</td>
</tr>
<tr>
<td>By hospital (ED/Inpatient)</td>
<td>17</td>
<td>--</td>
</tr>
<tr>
<td>By intimate partner/family member</td>
<td>5</td>
<td>--</td>
</tr>
<tr>
<td><strong>Medical history</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, treated for pain</td>
<td>23</td>
<td>16.2</td>
</tr>
<tr>
<td>No/unknown</td>
<td>119</td>
<td>83.8</td>
</tr>
<tr>
<td>Prescribed buprenorphine/methadone</td>
<td>18</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Data are not presented for cells containing fewer than 5 cases.

a Subcategories do not sum to 100% because multiple options may be selected for one death.

b Multiple groups can be checked because a decedent may have received naloxone from multiple groups (e.g., EMS administered naloxone and additional naloxone was administered by physicians in the emergency department).
Although opioid prescribing rates in the U.S. have declined since 2012, deaths from synthetic opioids containing fentanyl have risen abruptly.\(^1\) In the U.S., about two thirds of opioid overdose decedents tested positive for fentanyl.\(^1\) Fentanyl is 50–100 times more potent than morphine, and can be legally prescribed for cancer pain, severe chronic pain, and postoperative pain.\(^5\) However, most of the increase in opioid overdose deaths are due to illicitly manufactured fentanyl.\(^3,5\) Recently, overdose deaths related to fentanyl have dramatically increased in Rhode Island. Fentanyl is listed as a contributing cause of death in 71% of the opioid-related deaths that occurred during July–December 2016.

Opioid overdose has many risk factors such as: concurrent use of sedatives, tranquilizers, stimulants, misuse of prescription opioids, use of long-acting opioids, the presence of substance use, mental health disorder comorbidities, and recent release from a jail, rehabilitation facility, or hospital.\(^5\) Patients with mental health problems are more likely to die from drug overdose due to psychoactive drugs and opioid analogues.\(^6\) A study conducted by Boscarino et al demonstrates that common comorbidities among patients with overdose include mental health disorders, cardiovascular disease, diabetes, and cancer.\(^6\) Our results show that more than eight in ten decedents (83.8%) had a substance abuse problem (excluding alcohol), 43% had a current mental health problem, and 27.5% had physical health problem. Our findings also identified that 53.5% of decedents had a current mental health problem and/or physical health problem. People with substance use disorders may have stigma issues that restrict them from seeking treatment.\(^7\) Public stigmatization may make policymakers less apt to allocate resources, and primary care clinicians unwilling to address substance abuse issues.\(^8\) Intervention programs need to educate the public about stigma issues surrounding drug overdose and provide information to individuals who need treatment.\(^9\)

Opioid overdose deaths rarely relate to a single substance.\(^10\) This study displays that two or more drugs in combination were attributed to the cause of death in 83% of the opioid overdose deaths. Specifically, alcohol was an attributing cause of death among 20% of decedents. Opioid users who drink alcohol need less opioids to overdose than those who do not drink.\(^10\) Interventions should address the use of multiple drugs taken in combination and focus on concurrent drug users.\(^7\) It is critical to train healthcare prescribers to counsel patients on the increased risk of overdose when combining opioids with alcohol or benzodiazepines, sedatives, tranquilizers, and stimulants.

Naloxone is a safe and effective drug that can reverse an opioid overdose when given promptly.\(^5,6\) This antidote can be administered by EMS, law enforcement, family members, friends, bystanders, and high-risk overdose individuals.\(^5\) Good Samaritans can use this life-saving intervention to reverse a suspected opioid overdose and save lives. This study shows that only 36.6% decedents were treated by naloxone after their opioid overdose.

The findings in this report are subject to at least two limitations. [1] Rhode Island is small and therefore the number of cases in our dataset is relatively small. [2] Data abstractors are limited to the information included in medical examiner reports, and records might not fully reveal all data known about an overdose.

Despite the challenges, the strengths of this analysis include: [1] Rhode Island has a centralized statewide medical examiner system. [2] SUDORS combines multiple data sources including information related to circumstances, toxicology results, and scene evidence on opioid overdose decedents is used which provide insight into the who, when, and where of an overdose death.\(^8\) [3] To our knowledge, Rhode Island is the first state to use SUDORS to report statewide opioid overdose deaths and relevant characteristics.

In summary, fatal opioid overdose data are important for understanding this public health crisis and can guide overdose intervention efforts. Prevention strategies should comprise the following: developing fentanyl-specific warning messages; counseling patients and family members; and expanding access to naloxone.

Acknowledgments
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References
CONTRIBUTION


Disclaimer
The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Rhode Island Department of Health and Brown University.

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Food Insecurity and Child Maltreatment: A Quality Improvement Project

RACHEL SILLIMAN COHEN, MD, FAAP; JESSICA L. MOORE, BA; CHRISTINE E. BARRON, MD, FAAP

ABSTRACT

Food insecurity affects both children and adults in 8% of households in the United States and 12.8% of households in Rhode Island, negatively impacting childhood health and development. Children with a history of child abuse or neglect are at higher risk for food insecurity than other pediatric populations. Patients evaluated at a child protection clinic – which completes evaluations for all forms of suspected child maltreatment – were screened for food insecurity using a validated two-item questionnaire. Data were collected over a four-month period, with three quality improvement cycles. A quality improvement cycle is a planned sequence of systematic and documented activities aimed at improving a process. Prior to the implementation of this protocol, children in the clinic were not screened for food insecurity. With the initiation of food insecurity screening, 8% of all households eligible for screening were found to be food insecure. Pediatric providers should identify food insecurity in their patients, including in subspecialty care clinics, to optimize care for pediatric patients and their families. When food insecurity is identified, referral to resources and support services is important.

BACKGROUND

The condition of unpredictable or decreased access to adequate food or nutrition is known as food insecurity. Food insecurity – and, in its most severe form, hunger – is very common in children in the United States. In 2016, 12.9 million children were living in food-insecure households and 6.5 million children lived in households in which one or more child was food insecure. Of US households with children, 16.5% were food insecure [with adults also experiencing food insecurity]. Both children and adults experienced food insecurity in 8% of US households. In 2016, 12.8% of R.I. households were food insecure and 6.1% of households reported hunger (very low food insecurity). The prevalence of food insecurity for children living in Rhode Island has not been measured. However, 20% of children live at or below the poverty line in Rhode Island and 27% of children received Supplemental Nutrition Assistance Program (SNAP) Benefits in Rhode Island.

The presence of food insecurity is associated with poverty, employment, and household demographics [the size of a family, the presence of a single parent, parental divorce, and immigrant status]. Adverse childhood experiences, including parental incarceration, parental mental illness, parental substance abuse, parental death or separation, household violence, and child abuse or neglect, increase the odds of food insecurity in households. Moreover, the association between child maltreatment and food insecurity extends into adulthood; adults with a childhood history of child maltreatment – specifically child sexual abuse – also have increased odds of experiencing food insecurity. In qualitative studies, food insecurity in adolescents has been noted to be associated with high-risk behaviors, including commercial sexual exploitation of minors (CSEC), which is a form of child sexual abuse.

Additionally, short- and long-term negative health outcomes associated with food insecurity in childhood include poorer overall health, iron deficiency, developmental problems, behavioral problems, and mental health diagnoses. For these reasons, the American Academy of Pediatrics (AAP) recommends that pediatricians screen children for food insecurity, using a two-question validated screening tool.

Our child protection clinic evaluates and treats children and adolescents, when there are concerns for any form of child maltreatment. Literature reveals that child abuse and neglect are factors associated with food insecurity. Therefore, the objectives of this study were to: 1) measure the implementation of a food insecurity screening protocol in an outpatient clinical setting and 2) assess food insecurity in our patient population. Through more frequent screening for food insecurity of patients who present to medical attention for allegations of abuse and neglect, we hope to improve quality of care for food insecure households in Rhode Island by offering support services.

METHODS

Rhode Island Hospital Institutional Review Board approval was obtained. All attending physicians (3) and fellow physicians (2) who provide regular outpatient care at the child protection clinic were eligible for participation in implementing screening for food insecurity. This project encompassed four
months, with the average cycle duration of four weeks. A quality improvement cycle is a planned sequence of systematic and documented activities aimed at improving a process.

The food insecurity protocol utilized an iterative plan-do-study-act (PDSA) quality improvement model. Eligible households were those with children less than 18 years old, for children evaluated in the outpatient setting at the child protection clinic, and caregivers who spoke either English or Spanish. Children were not eligible if they were placed in foster care or group homes. For households with more than one patient being evaluated, only one food insecurity screen was administered. The screening tool, a validated two-part questionnaire (Figure 1), was administered to caregivers of the patients.6 The tool was administered in English and in Spanish. A positive response was identified with a positive [yes] answer to either question.

For patients whose households were found to be food insecure based on the screening tool, their caregivers were provided with written information (in English or in Spanish) about resources available. When the part-time clinic social worker was present, caregivers were also referred to meet with the social worker for resource referrals and support services.

A physician self-reporting tool was utilized to track information about whether a patient was screened for food insecurity, whether the patient was food insecure, and whether resource provision and referral occurred. This tool also collected de-identified data regarding the demographic and medical characteristics about the patients who were screened for food insecurity. Data were collected over a four-month period, using separate cycles in order to implement quality improvement changes. Data were collected via Research Electronic Data Capture (REDCap), a secure data collection web application.

RESULTS
A total of 5 child abuse pediatricians participated; 3 were attendings and 2 were fellows. Provider 1 screened 4 out of 11 patients (36%), provider 2 screened 7 out of 12 patients (58%), and provider 3 screened 9 out of 13 patients (69%). Providers 4 and 5 did not fill out forms regarding whether they screened eligible households.

First quality improvement cycle: Prior to implementation of the food insecurity screening program, providers saw 52 patients eligible for a food insecurity screening questionnaire. None of these patients were screened for food insecurity.

Second quality improvement cycle: The food insecurity screening protocol was initiated in clinic. During this period, patients from 37 households eligible for food insecurity screening were evaluated at the child protection clinic. Some households contained one child and others contained more than one child. Of these eligible households, 10 (29.7% of eligible households) were screened for food insecurity. Of those screened, 3 households screened positive for food insecurity. 8.1% of households eligible to be screened were food insecure and 30% of those households screened were food insecure. Of food insecure households, 2 (66.7%) were provided with both written resources and a referral to the social worker.

Third quality improvement cycle: Patients from 25 households were eligible for food insecurity screening. Of this group, 11 (44% of eligible households) were screened for food insecurity. Two households who were screened for food insecurity (18%), were found to be food insecure. All of the food insecure households were given written resources. One of the households was referred to the clinical social worker.

Of all eligible households during the three cycles, 46.7% were screened for food insecurity. The caregiver most often screened was the mother (62%), followed by the father (19%) and grandparent (14%). The majority of patients screened were white (68%) and presenting for concern of sexual abuse (51%) followed by diagnoses of other maltreatment (20%) and physical abuse (17%).

Of all the households that were eligible for screening, a total of 5 were positive for food insecurity (8%). The majority of identified food insecure households were provided written resources (80%) and/or referred to a clinical social worker (60%). Of food insecure households, 40% were Caucasian, 20% were mixed race, and 40% had race identified as unknown by the provider. 60% were Hispanic and 40% were non-Hispanic. The majority of food insecure patients were at the child protection clinic for evaluation of sexual abuse (60%) or sexual assault (20%). All patients who were food insecure were insured.

DISCUSSION
Prior quantitative data has demonstrated that food insecurity is common in U.S. households where there are children, including those in Rhode Island. In particularly vulnerable populations, including children and adolescents with a history of child abuse and neglect, food insecurity may be more prevalent than in the general population. The need for improvement in screening for food insecurity was identified during the three cycles of quality improvement at the child protection clinic. When providers screened eligible households, 8% (5 households) of eligible households were positive for food insecurity and the majority were given written resources and referred to a clinical social worker.

Due to the low rate of screening for food insecurity identified within the clinic, multiple process changes were

---

**Figure 1. Screening for food insecurity**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Within the past 12 months, we worried whether our food would run out before we got money to buy more. (Yes or no.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Within the past 12 months, the food we bought just didn’t last and we didn’t have money to get more. (Yes or no.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
implemented after the second quality improvement cycle. Providers were reminded to administer the screening tool via email and during staff meetings. Additionally, resources about food insecurity were placed in a more central location in the clinic for both providers to utilize during patient visits and for caregivers to take. Resources provided were in English and Spanish and included information about SNAP benefits, Women, Infants, and Children Food and Nutrition Services (WIC), the Rhode Island Food Bank, and Rhode Island Coalition for the Homeless “Street Sheets,” which provide information about emergency shelters, pantries, and other emergency services. When the part-time clinic social worker was present, caregivers were also referred to meet with the social worker for resource referrals and support services. [Table 1]

Table 1. Resources for food insecurity in Rhode Island

<table>
<thead>
<tr>
<th>Service</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIC</td>
<td><a href="http://www.health.ri.gov/programs/wic/1-800-942-7434">http://www.health.ri.gov/programs/wic/1-800-942-7434</a></td>
</tr>
<tr>
<td>SNAP</td>
<td><a href="http://www.dhs.ri.gov/Programs/SNAPEligibility.php1-855-697-4347">http://www.dhs.ri.gov/Programs/SNAPEligibility.php1-855-697-4347</a></td>
</tr>
<tr>
<td>Rhode Island</td>
<td><a href="http://www.uwri.org/get-help-2-1-1/">http://www.uwri.org/get-help-2-1-1/</a></td>
</tr>
<tr>
<td>211</td>
<td><a href="http://www.211info.org">http://www.211info.org</a></td>
</tr>
</tbody>
</table>

In the current study, when physicians screened households for food insecurity, 8% of all eligible households and were identified as food insecure. Considering prior research has found that households with children are at increased risk for food insecurity, all pediatricians should screen for food insecurity during medical visits.18 Additionally, providers who care for pediatric patients who are at increased risk, such as those with histories of child maltreatment, low socioeconomic status, and immigrant status should integrate screening in their practice. The type of maltreatment associated with food insecurity deserves further research.

Notably, families who were in process of applying for legal residency or citizenship declined food insecurity resources. When individual caregivers were asked about this refusal, they identified a belief that citizenship or legal status would be affected by utilization of welfare services. Providers should be aware of this perceived barrier to resource utilization and the possible vulnerability undocumented households have, with regards to food insecurity. Undocumented households may be less likely to report food insecurity due to concern about deportation. Furthermore, households who have legal status in the US but are awaiting legal citizenship may also under-report food insecurity [or access resources less frequently] because of concerns about the effect on their residency applications.

There are several limitations to the current study. We implemented the screening in a single pediatric subspecialty clinic over a short period of time, thus limiting the generalizability of our findings. In addition, data collection was limited by barriers to implementation of this screening protocol, such as limited physician participation. It is likely that reporting bias affected these data, as caregivers may have been reluctant to disclose economic vulnerability. Finally, these data do not differentiate between households with food insecurity affecting just adult caregivers versus adults and children, together.

It is important to identify and address food insecurity in the primary care and pediatric subspecialty setting. Once identified, families should be referred to SNAP, WIC, 211, the Rhode Island Coalition for the Homeless (for information about emergency food shelters and other services), the Rhode Island Community Food Bank, or other community agencies for food and emergency service provision.

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References


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Engaging College-Level Baccalaureate-MD Students in Clinical Research

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ABSTRACT
College students in baccalaureate-MD (BA/MD) programs are well situated to get involved with clinical research as a component of their scholarly enrichment. The authors review the educational and professional development benefits of BA/MD college research in the United States (US), the lack of evidence-based strategies to guide program innovation, lessons from non-US medical school research enrichment efforts, and teaching models that can help boost BA/MD research engagement at the college level. Collaboration on part of program directors, faculty and students can help strengthen the quality and accessibility of research opportunities with a focus on longitudinal skills building and professional mentorship.

KEYWORDS: medical education, baccalaureate-MD, research

INTRODUCTION
Combined medical (BA/MD) programs in the United States (US) offer students the opportunity to gain their baccalaureate and medical degrees in six, seven, or eight years.1 For many BA/MD programs, the motivation is to allow students to pursue a broad-based liberal education, free from the academic stressors of applying and gaining acceptance to medical school.1,2 Especially in eight-year (non-accelerated) programs, which comprise 27 out of 49 (55%) of BA/MD programs,2 early acceptance into medical school can free up time for college students to explore new experiences in and outside of the classroom that will help them become well-rounded future physicians. Engaging in research is an excellent case in point. However, there is a dearth of literature on the research experience of college students in US BA/MD programs.1,2 Herein, we highlight the educational opportunities to engage BA/MD students in scholarly research and potential strategies to spearhead these efforts during their baccalaureate years. We focus on programs in the US as most medical training outside the US begins at the undergraduate level.3

WHY RESEARCH EXPERIENCE MATTERS
Early research experience can confer essential skills that aid students as future clinicians and researchers.4 Many of these skills are in line with competency-based curriculum goals outlined by medical schools, such as the Alpert Medical School of Brown University, which requires graduates to develop knowledge, skills and personal and professional values surrounding The Nine Abilities.5 Also, students can work longitudinally with academic faculty during college and medical school. Clinician-research mentors can provide insight on the application of research in different fields and provide students with shadowing opportunities in the clinic, hospital and operating room. In addition, early exposure to clinical medicine can help inform the students’ decision-making regarding medical specialty and future research endeavors.

Table 1. Skills that college BA/MD students can gain from research involvement

<table>
<thead>
<tr>
<th>Category</th>
<th>Skill/Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork</td>
<td>- Communication5,6</td>
</tr>
<tr>
<td></td>
<td>- Collaborating on multidisciplinary teams7</td>
</tr>
<tr>
<td></td>
<td>- Project management6</td>
</tr>
<tr>
<td></td>
<td>- Leadership</td>
</tr>
<tr>
<td>Interpreting and</td>
<td>- Problem solving skills8</td>
</tr>
<tr>
<td>conducting scientific</td>
<td>- Asking the right questions and stimulating intellectual curiosity</td>
</tr>
<tr>
<td>research</td>
<td>- Connecting basic science to the practice of medicine and clinical decision making</td>
</tr>
<tr>
<td></td>
<td>- Contributing to study design</td>
</tr>
<tr>
<td></td>
<td>- Critically evaluating new literature4</td>
</tr>
<tr>
<td></td>
<td>- Disseminating research findings through presentations at professional meetings</td>
</tr>
<tr>
<td></td>
<td>- Contributions to the peer-reviewed literature</td>
</tr>
<tr>
<td>Professional development</td>
<td>- Explore a specialty of interest5,6</td>
</tr>
<tr>
<td></td>
<td>- Gain mentorship</td>
</tr>
<tr>
<td></td>
<td>- Improve understanding of career opportunities in academic medicine11</td>
</tr>
</tbody>
</table>

NEED FOR EVIDENCE-BASED APPROACHES
In 2011, 31 (79%) of 39 surveyed BA/MD programs reported offering extracurricular activities that “entailed community service or some type of clinical experience but could also take other forms such as research or field work.” Moreover, 42 (53%) of BA/MD programs aimed to “decrease competitive
pressures, provide strong support services, integrate the liberal arts with the biomedical sciences, or include clinical or research experience” during the baccalaureate years. Several BA/MD programs require college research participation for medical school (Table 2). However, to our knowledge, there is no published research on the implementation and effectiveness of research enrichment strategies in BA/MD programs and the few published reports on BA/MD programs do not include an assessment of student research.1,2

While there are no studies focused specifically on BA/MD college student research, scholarly research programs for medical students at Duke and Stanford demonstrated that research enrichment can cultivate appreciation for research, teach research study methodologies, stimulate scholarly research, and influence career choices related to academic medicine.11 Furthermore, these two programs provide several lessons that can inform the development of research programs for college BA/MD students: (1) academic faculty should be prepared to provide time to work with students prior, during, and after the completion of their research projects; (2) administrators should ensure students have the resources and support to maximize their potential for success; and (3) research programs should aim to accommodate the interests of a diverse student body.11

LESSONS LEARNED FROM RESEARCH PROGRAMS AT NON-US MEDICAL SCHOOLS WHERE TRAINING BEGINS AT THE UNDERGRADUATE LEVEL

Studies of undergraduate research programs at non-US medical schools offer several lessons regarding the stewardship of research enrichment in post-secondary school education:

- The Medical Research Volunteer Program (MRVP) at the American University of Beirut emphasized four major pillars for success: the students, the faculty members, the MRVP committee, and an online portal which helps generate suggestions of potential student-project matches based on student, faculty, and project characteristics.12

- Belgium researchers found that training in literature analysis skills and statistics can help improve the link between medical education and research at the undergraduate level.13

- An analysis of 475 undergraduate student research projects in the United Kingdom identified information gathering (418, 88%), data processing (304, 64%), critical analysis (147, 31%), and research methods (87, 18%) as research skill developmental opportunities offered by the projects.14

- Dutch researchers found that undergraduate research as a didactic format is more effective at conferring writing and information retrieval skills relative to a traditional lecture-based skills course.15

STRATEGIES AND TEACHING MODELS TO BOOST THE AVAILABILITY, QUALITY, AND ACCESSIBILITY OF RESEARCH OPPORTUNITIES

The success of BA/MD research enrichment depends on the students’ ability to find research opportunities with dedicated faculty, build skills longitudinally, and contextualize their research experiences with their future training as clinicians. Key BA/MD program stakeholders can utilize several strategies to help facilitate these goals (Table 3).

Furthermore, we highlight three innovative teaching models that can be used by BA/MD programs to boost research engagement at the college level:

- Group-Effort Applied Research (GEAR): Some programs may choose to offer GEAR projects, by which students gain research training in a class format and work together in teams on research projects.17 This approach helps address inefficiencies related to the one student-one mentor model, namely limited availability of research opportunities to a few students, variability in project outcomes, and sparse peer support.17 Also, GEAR provides standardized learning experiences for all students involved.

- Structured research experiences: The BA/MD program directors may also sponsor faculty-student projects that emphasize structured undergraduate research as a teaching model.18 Several BA/MD programs have structured research opportunities in place (Table 4). Faculty mentors and students work together to design a research plan and set of assignments that will guide the student in achieving their goals related to skills development and content mastery. Also, students receive and provide mentorship through scheduled meetings with the faculty mentor, research staff, medical students, and college students with different levels of research experience. In addition to research training, this approach confers project management and teaching experience.

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Length (years)</th>
<th>Duration of research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida A&amp;M University Medical Scholars Program</td>
<td>8</td>
<td>One summer</td>
</tr>
<tr>
<td>Augusta University Professional Scholars Program</td>
<td>7</td>
<td>One summer</td>
</tr>
<tr>
<td>University of South Florida Seven Year Medical Program</td>
<td>7</td>
<td>Two semesters</td>
</tr>
<tr>
<td>University of Pittsburgh Guaranteed Admissions Program</td>
<td>8</td>
<td>No specific duration</td>
</tr>
</tbody>
</table>

Table 2. BA/MD Programs that Require College Participation in Research
• **Clinician-researcher skills-based workshops:** Some BA/MD programs are not affiliated with a major research institution,\(^1^9\) which may make it difficult to access research opportunities. Program directors can arrange for visiting clinician-researchers to host research methodology workshops focused on biostatistics, epidemiology, and scientific writing in the context of live research projects. Short of conducting actual research, these workshops can provide students with exposure to research principles that can improve their likelihood of landing research positions during their summer college months and medical school.

The BA/MD program directors also can leverage the unique strengths of their research faculty and alumni networks as well as the proximity of academic hospitals to enhance the research enrichment of BA/MD students. For example, this year, college students in the Program in Liberal Medical Education (PLME) at Brown University who receive a Summer Research Assistantship\(^2^0\) will be required to present either a poster or an oral report at a fall research symposium. At the symposium, PLME deans and faculty will review strategies for students to apply for research funding and find faculty mentors. The PLME could also organize large scale networking events and coffee chats among college students.

### Table 3. Developing Student Enrichment Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Action Items</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make it easier for students to find faculty mentors</td>
<td>- Boost the accessibility of research faculty for students</td>
<td>- Host a networking event for students to meet faculty that are interested in mentoring students</td>
</tr>
<tr>
<td>Improve the quality of student involvement in research activities</td>
<td>- Encourage students and their faculty mentors to synthesize a list of skills and techniques that the students should gain throughout their research involvement</td>
<td>- Targeted skills list example: “Asking questions, building and evaluating models, proposing hypotheses, designing studies, selecting methods, using the tools of science, gathering and analyzing data, identifying meaningful variation, navigating the messiness of real-world data, developing and critiquing interpretations and arguments, and communicating findings”(^1^6)</td>
</tr>
<tr>
<td>Emphasize longitudinal research experiences</td>
<td>- Provide support for faculty and students to design projects that take place during the summer and academic year</td>
<td>- Provide opportunities for students to gain academic credit or funding for year-long involvement in research</td>
</tr>
</tbody>
</table>

### Table 4. BA/MD Programs with Structured Research Opportunities

<table>
<thead>
<tr>
<th>Name of BA/MD Program</th>
<th>Name of Research Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown University, Program in Liberal Medical Education</td>
<td>Summer Research Assistantship in Social/Behavioral Sciences, Clinical Medicine, or Biomedical Sciences; Summer Research Assistantship in Emergency Medicine; Undergraduate Research and Teaching Award (open to all Brown University students)</td>
</tr>
<tr>
<td>Rensselaer Polytechnic Institute-Albany Medical College</td>
<td>Physician-Scientist Program (longitudinal research experience)</td>
</tr>
<tr>
<td>Northwestern University, Honors Program in Medical Education</td>
<td>Summer Research Program</td>
</tr>
</tbody>
</table>
and faculty to facilitate the dissemination of research project opportunities offered at affiliated teaching hospitals or offer student travel grants to present research at scholarly conferences during the academic year.

LOOKING AHEAD

Specific teaching models aside, research enrichment programs should help students gain a greater appreciation of the research process, ways to connect basic science to the bedside, and the excitement of contributing to the research community.

More evidence-based research and best practice guidelines are needed to identify effective ways to engage these unique students in research. With institutional support and engagement among program directors, faculty and students, BA/MD programs can take additional steps to target research experience as a complement to a broad-based liberal education. Research engagement is a special opportunity to help BA/MD students develop critical thinking, communication, and teamwork skills that are paramount to the practice of evidence-based medicine, while also strengthening their professional development and the physician-scientist pipeline.

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Disclaimer

The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

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Use of Language Services for Telephone Advice by Limited English Proficiency Families in a Pediatric Primary Care Setting

DELMA-JEAN WATTS, MD; NIZAR DOWLA, MD; PRIYA HIRWAY, ScM; MAURICE HAJJAR; SHUBA KAMATH, MD, MPH

ABSTRACT

BACKGROUND: Families limited in English proficiency (LEP) often do not receive appropriate medical language services, resulting in health disparities. Little is known about the use and effectiveness of language services provided via telephone when families call for medical advice.

OBJECTIVE: To characterize language service provision to LEP families calling for medical advice in a pediatric primary care setting.

METHODS: A self-administered survey was given to parents of children presenting for sick visits at an urban academic pediatric primary care practice.

RESULTS: 277 out of 300 surveys were completed, 92% in English and 8% in Spanish. 7% (19/271) of those who answered the language proficiency question reported LEP (spoke English “not well,” or “not at all”). Among LEP parents, 68% calling for advice during clinic hours received appropriate language services (a trained interpreter or a bilingual provider). 53% received these services when calling after hours.

CONCLUSIONS: Over half of LEP families seeking telephone advice from their pediatric primary care office received adequate language services. Future research should identify barriers to providing telephone language services to LEP families.

KEYWORDS: limited English proficiency, pediatrics, primary care, language services, telephone advice

BACKGROUND

An increasing number of children in the United States are living in homes with parents who are limited in English proficiency (LEP). As of 2011, approximately 60 million people aged 5 years and older spoke a language other than English at home and about 40% of these individuals were identified as LEP.[1] Language barriers have been shown to affect medical care for pediatric patients and lead to health disparities, including lack of health or dental insurance, lack of usual source of care, and difficulty in obtaining specialty care. (2) Pediatric patients from LEP households have been shown to be at greater risk for returning to the emergency department for admission,[3], having fair/poor health status, and not being brought in for needed medical care compared to those in English-speaking families.[4] Language barriers can also lead to medical errors, especially when untrained interpreters are used. (5)

Despite these concerns for medical errors and health disparities, as well as legal requirements for the provision of appropriate language services, studies have shown that many LEP families are not provided with these services in medical settings. (6) DeCamp, et al found that most pediatricians report using family members to communicate with patients and families and only about half of US pediatricians use in-person or telephonic interpreters.[7]

Access to appropriate telephone advice is important for all pediatric patients regardless of language spoken because communication problems with the primary care office may lead to non-urgent visits to the emergency department. (8) One study in our institution found that English-speaking families who presented to the primary care clinic rather than the emergency department for acute illness were more likely to have called the clinic first and to feel that they could easily get in touch with the office. (9)

Although research has been done to characterize interpreter use in clinical care, less is specifically known about the provision of language services when families call the pediatric office for medical advice. Our objective was to determine the provision of language services to LEP patients when they called a general pediatric office for medical advice.

METHODS

Setting

Hasbro Children’s Hospital Primary Care is an urban, academic pediatric primary care clinic. The practice has approximately 10,000 patients; 73% identified as English speaking, 22% Spanish, 5% other language and 4% unknown. On average over a 3-year period (2011-2014), there were approximately 23,000 visits per year, and of these, about 8,800 were urgent care (“sick”) visits. A trained professional interpreter was present at 9% of visits, but no data on telephone interpreter or bilingual provider use is available. The practice receives approximately 1,000 calls seeking medical advice after hours per year.
Participants
Parents/guardians of all patients presenting with their child for an urgent care visit in the Hasbro Children Hospital Primary Care clinic were offered an anonymous, self-administered one-page survey during the usual registration process. One side was in English and the other Spanish. Some clinic families speak languages other than English or Spanish and generally have a trained interpreter from an outside agency present. These families were given the option of completing the research survey with interpreter help if they chose, as they would fill out other clinic forms. The criterion for inclusion was parents/guardians presenting with a child for a sick visit in the urgent care section of the primary care clinic. Adolescents under age 18 presenting without a parent or guardian were excluded.

Measure/Data Collection
A self-administered, 11-item survey was used. Survey questions included usual language spoken, means of communicating with provider over the phone and at visit, and barriers encountered when accessing telephone advice when the clinic was open and closed. English proficiency was measured with the question used by the U.S. Census Bureau, “How well do you speak English?” with 4-point scale: “very well”, “well”, “not well” and “not at all”. [10]

Human Subjects Protection
The research protocol was reviewed and deemed exempt by the Lifespan Institutional Review Board.

RESULTS
Language proficiency
Overall, 277 out of 300 surveys were completed. Of the completed surveys, 8.3% (n = 23) were completed in Spanish (Table 1). Most LEP respondents (16) reported Spanish as their usual language spoken at home and 3 reported “other”.

Communication with clinic
In Table 2, we show the means of communication utilized during the provider visit varied by English proficiency.

The use of language services over the phone by individuals who identified as LEP when the clinic was open and closed is shown in Table 3. Table 4 shows language problems reported by LEP families.

DISCUSSION
Despite the growing number of children with LEP parents as well as the presence of legal guidelines to provide appropriate language services, these services often are not adequate in medical settings, which can lead to adverse health outcomes. Less is known about the use of telephone advice and the use of language services over the phone by LEP parents.

This small descriptive study showed that in an urban academic pediatric practice a majority of LEP families [68%] received appropriate language services, which was defined as a trained interpreter [47%] or bilingual provider [21%], at their clinic sick visit. A similar number of LEP families [69%] reported receiving advice over the phone with either a trained interpreter [37%] or a provider who spoke their language [32%] when the clinic was open. Fifty-three percent received these services [32% with a trained interpreter and 21% with a bilingual provider] when the clinic was closed. The main limitation of this study is the small number of LEP patients. Further research is needed to determine if language service provision significantly differs

Table 1. Baseline characteristics of parent respondents (n = 277).

<table>
<thead>
<tr>
<th>Language in which survey was completed</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>91.7 (254)</td>
</tr>
<tr>
<td>Spanish</td>
<td>8.3 (23)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Language usually spoken at home</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>61.4 (167)</td>
</tr>
<tr>
<td>Spanish</td>
<td>18.0 (49)</td>
</tr>
<tr>
<td>English and Spanish</td>
<td>14.3 (39)</td>
</tr>
<tr>
<td>Other</td>
<td>6.3 (17)</td>
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</table>

<table>
<thead>
<tr>
<th>English proficiency</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficient (speaks English “well” or “very well”)</td>
<td>93.0 (252)</td>
</tr>
<tr>
<td>Limited (speaks English “not well” or “not at all”)</td>
<td>7.0 (19)</td>
</tr>
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</table>

Table 2. Use of language services in clinic by English proficiency.

<table>
<thead>
<tr>
<th>Limited (n = 19)</th>
<th>Proficient (n = 258)</th>
<th>Total (n = 277)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfortable speaking English</td>
<td>21.1 (4)</td>
<td>88.4 (228)</td>
</tr>
<tr>
<td>Comfortable speaking preferred language</td>
<td>21.1 (4)</td>
<td>7.4 (19)</td>
</tr>
<tr>
<td>Using an interpreter provided by the clinic</td>
<td>47.4 (9)</td>
<td>2.3 (6)</td>
</tr>
<tr>
<td>Using a family member as an interpreter</td>
<td>15.8 (3)</td>
<td>0.8 (2)</td>
</tr>
<tr>
<td>Bringing own non-familial interpreter</td>
<td>5.3 (1)</td>
<td>0</td>
</tr>
</tbody>
</table>
CONTRIBUTION based on whether or not clinic is open or closed as the current small study was not powered to detect a difference. Although most LEP families received appropriate language services at their sick visit, 21% of LEP parents spoke English with their provider at the visit and 16% used a family member. This may be due to inappropriate provision of services by the provider, patient insistence, or misclassification as LEP. A majority of parents who completed the survey were proficient in English (93%) and most completed it in English. Fewer identified their usual language as English (61%), however, a significant percent chose both English and Spanish as their usual language. It is likely that this discrepancy is due to families who are comfortable communicating in either language; however, it could also be due to limitations in self-report measures of language ability. There are multiple ways of measuring language proficiency, including the U.S. Census language proficiency question, “How well do you speak English?” which was used in this study. It can be used with a cutoff below “Well” as used in this study, or with a higher cutoff, which would identify anyone answering less than “Very Well” as LEP. Usual or preferred language at home can also be used as a marker to identify those with a need for language services. Flores et al found that parental report of LEP was a better measure to measure the effect of language barriers on child health outcomes than language spoken at home. [4] Karliner et al evaluated the accuracy of the census question in predicting the ability of patients to effectively communicate in English. [11] They found that use of the higher threshold (less than “Very Well”) had the highest sensitivity but the lowest specificity. However, when it was paired with a question asking about language preference for medical care, specificity increased with little loss of sensitivity. In future research, this two-step process may more accurately identify patients and families in need of language services.

In conclusion, this small descriptive study found that over half of LEP families in an urban academic pediatric primary care clinic received appropriate language services over the phone when seeking telephone advice. Further research in a larger sample is needed to identify and minimize language and other barriers to the access of primary care telephone advice, particularly after hours.

<table>
<thead>
<tr>
<th>CLINIC</th>
<th>Limited (n = 19) % (n)</th>
<th>Proficient (n = 257) % (n)</th>
<th>Total (n = 277) % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN</td>
<td>Comfortable speaking English with provider 10.5 (2) 77.5 (200) 72.9 (202)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comfortable speaking preferred language with provider 31.6 (6) 8.9 (23) 10.5 (29)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Used an interpreter provided by the clinic 36.8 (7) 0.8 (2) 3.2 (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Used a family member as an interpreter 10.5 (2) 0.4 (1) 1.1 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spoke English but would have preferred using an interpreter 0 2.3 (6) 2.2 (6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Did not feel the need to call prior to bringing in child 10.5 (2) 10.5 (27) 10.5 (29)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Never called when clinic was open 15.8 (3) 8.1 (21) 8.7 (24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLOSED</td>
<td>Comfortable speaking English with provider 5.3 (1) 64.7 (167) 60.6 (168)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comfortable speaking preferred language with provider 21.1 (4) 6.6 (17) 7.6 (21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Used an interpreter provided by the clinic 31.6 (6) 1.2 (3) 3.2 (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Used a family member as an interpreter 5.3 (1) 0 0.4 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spoke English but would have preferred using an interpreter 0 2.7 (7) 2.5 (7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Did not feel the need to call prior to bringing in child 31.6 (6) 22.5 (58) 23.1 (64)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Never called when clinic was closed 31.6 (6) 15.9 (41) 17.0 (47)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Use of language services via telephone when calling clinic for advice by English proficiency.

<table>
<thead>
<tr>
<th>CLINIC</th>
<th>Limited (n = 19) % (n)</th>
<th>Proficient (n = 257) % (n)</th>
<th>Total (n = 276) % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN</td>
<td>No one understood me when I called 0 0.4 (1) 0.4 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>There was no interpreter 5.3 (1) 0.8 (2) 1.1 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I never had problems when I called 52.6 (10) 55.0 (142) 54.9 (152)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLOSED</td>
<td>No one understood me when I called 0 0.4 (1) 0.4 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>There was no interpreter 5.3 (1) 0.4 (1) 0.7 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I never had problems when I called 36.8 (7) 55.0 (142) 53.8 (149)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Problems encountered when calling clinic by English proficiency.
References


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ABSTRACT

OBJECTIVE: Point-of-care (POC) Hemoglobin A1C (HbA1C) testing is frequently used to assess glycemic control in diabetes management. Studies are lacking on the comparison of POC with high performance liquid chromatography (HPLC) when the POC HbA1C is ≥ 14%.

METHODS: Retrospective chart review of children with T1DM at Rhode Island Hospital from 2007–2013. Primary objective was to delineate the range of HPLC HbA1C values when the POC is ≥ 14% and characterize these patients.

PRIMARY RESULTS: There were 72 patients, 5–21 years old, with corresponding POC and HPLC tests. Nineteen children, mean age 16.1 years, had a POC HbA1C ≥ 14%. Their mean HPLC value was 14.1% (95% CI [13.4, 14.8]), with range 11.1–16.3 and standard deviation 1.4%.

CONCLUSION: There is wide variation when POC HbA1C values are ≥ 14%. We suggest routine central HbA1C testing when the POC is ≥ 14% for proper counseling and follow-up of glycemic control. Tracking relative changes in HbA1C at subsequent clinic visits is important as it allows clinicians to gauge whether or not interventions are effective. Additionally, knowledge that their HbA1C is trending down may provide positive reinforcement to adolescents.

KEYWORDS: pediatrics, diabetes, Type 1, HbA1C, point-of-care

ABBREVIATIONS: POC = point-of-care, HbA1C = Hemoglobin A1C, HPLC = high performance liquid chromatography, T1DM = type 1 diabetes, NGSP = National Glycohemoglobin Standardization Program, ADA = American Diabetes Association, CV = coefficient of variation

INTRODUCTION

The Diabetes Control and Complications Trial (DCCT) showed that good glycemic control is crucial to delay the progression of diabetic retinopathy, neuropathy and nephropathy.1 Hemoglobin A1c (HbA1C), a reflection of average blood glucose over the preceding 2–3 months, is a good predictor of the risk of developing diabetes-related complications.5 Measurement of HbA1C was initiated in the 1970s.4 There are different ways to assess HbA1C, including immunoassays and ion-exchange or affinity chromatography.5 Chromatography assays are based on either charge differences or structure differences, as glycation of hemoglobin adds an extra negative charge.4,6 Most of the commercially available platforms, of which there are 15–20, use either type of chromatography.4 HbA1C lab tests are standardized by the National Glycohemoglobin Standardization Program (NGSP).

Point-of-care (POC) HbA1C has been utilized for over two decades, and while it is not standardized for diagnosing diabetes it is comparable to standard central laboratory testing.7 While POC hemoglobin A1C correlates with values obtained by central lab testing there is little data on the accuracy of POC testing when the HbA1C ≥ 14%. An accurate HbA1C is vital for monitoring glycemic control and appropriate counseling.8,9

The Diabetes Research in Children Network (DirecNet) study found that the DCA 2000 POC HbA1C values had good correlation with central laboratory values ($r=0.94$, $p < 0.001$), albeit higher with a mean difference of 0.2% [95% confidence interval, 0.14–23%, $p < 0.001$].7 The POC HbA1C range in the DirecNet study was 7–11%.7 In our clinic we have a significant number of patients with poor glycemic control and POC HbA1Cs ≥ 14%. The primary goal of this study was to compare POC testing to central lab testing when POC testing is ≥ 14% and to characterize those patients. Our secondary objective was to compare both methods of testing when the A1C is 9–13.9%.

METHODS

We performed a retrospective chart review of all children treated for diabetes at Rhode Island Hospital between the years 2007–2013. Of the 1002 patients with POC tests, 72 children with T1DM aged 5–21 years old had a corresponding central lab value done on the same day. Twenty-seven children had a POC HbA1C < 9%, and these patients were excluded from the study, as this HbA1C range has been previously studied and our focus was on patients with poor glycemic control. Twenty-four had a POC HbA1C between 9–13.9% and 19 patients had a POC HbA1C ≥14%. The POC test does not report numbers higher than 14%.
During routine clinic visits, HbA1C was measured on a fingerstick blood sample via the DCA 2000 (until April 2010) or DCA Vantage methods (Seimens, Tarrytown, NY, USA). Both of these methods use latex immuno-agglutination inhibition methodology and are certified by the NGSP. The predecessor to the DCA Vantage, the DCA 2000, has been shown to correlate well to HPLC methods \(r=0.939, p < 0.000110\) and \(r=0.94, p < 0.00111\). The whole blood sample, obtained by venipuncture, was analyzed via the Tosoh Automated Glycohemoglobin Analyzer HLC-723G8 (Tosoh Bioscience Inc, South San Francisco, CA, USA). This method utilizes non-porous ion exchange, high performance liquid chromatography (HPLC). It is also certified by the NGSP.

For patients with POC HbA1Cs ≥ 14%, we collected data on age, duration of diabetes, pubertal status (Tanner stage), and insulin regimen. Their duration of diabetes was rounded to the nearest year. Pubertal status was determined using the Tanner Method of pubertal staging. Those on a basal-bolus insulin regimen were taking multiple daily injections with both rapid-acting insulin and one dose of Glargine or Detemir as their basal insulin. Those on a split-mixed regimen were taking NPH with a rapid-acting insulin, divided in 2–3 injections daily.

Each patient whose POC HbA1C was in the range of 9–13.9% was included in a concordance analysis of POC and central lab HbA1C. Because both biomarkers contain error, Deming regression and Bland-Altman plots were used to evaluate concordance between POC testing and HbA1C done by HPLC. A Bland-Altman plot was used to evaluate agreement between the two clinical measurements, given that both measurements contain error. This plot was used as it visually illustrates the possibility of systematic bias by plotting the mean of the two measurements (x-axis) by their difference (y-axis).

All data analyses were performed using the base and MethComp packages with R 3.0.0 (R Foundation for Statistical Computing, Vienna, Austria).

### RESULTS

There were 24 patients [12 female, 12 male] with POC values in the range of 9.1–13.2%, mean age was 14.2 years [range 4.6–21.5 years]. There were 19 patients with POC values ≥ 14%, with mean age 16.1 years [range 11.2–18.9 years] and male predominance [11 male, 8 female] [Table 1]. None of the patients in our cohort had a known hemoglobinopathy affecting A1C measurements.

As illustrated in Figure 1, the Deming regression indicates good concordance between the two markers when the POC values were < 14%. In addition, the 95% confidence interval of the intercept contains 0 [i.e., \([-1.68, 3.35]\)], 0 being perfect agreement [the observed intercept was 1.19], and the 95% confidence interval of the slope contains 1 [i.e., \([0.69, 1.13]\)], where a slope of 1 reflects perfect agreement [the observed

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age (years)</th>
<th>Sex</th>
<th>HPLC HbA1C (%)</th>
<th>Duration of DM (years)</th>
<th>Tanner Stage</th>
<th>Insulin Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16.7</td>
<td>F</td>
<td>14.9</td>
<td>7</td>
<td>5</td>
<td>split-mixed</td>
</tr>
<tr>
<td>2</td>
<td>17.3</td>
<td>M</td>
<td>13.7</td>
<td>7</td>
<td>5</td>
<td>basal-bolus</td>
</tr>
<tr>
<td>3</td>
<td>17.7</td>
<td>M</td>
<td>14.4</td>
<td>16</td>
<td>5</td>
<td>split-mixed</td>
</tr>
<tr>
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<td>14.8</td>
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<td>13</td>
<td>1</td>
<td>4</td>
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<tr>
<td>5</td>
<td>14.8</td>
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<tr>
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<td>15.2</td>
<td>3</td>
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<tr>
<td>11</td>
<td>14.6</td>
<td>F</td>
<td>13.5</td>
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<tr>
<td>12</td>
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<td>15.6</td>
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<td>15.6</td>
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<td>14</td>
<td>16.7</td>
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<td>M</td>
<td>12</td>
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</table>

Table 1. Clinical characteristics of patients with POC HbA1C ≥ 14%

Abbreviations: POC = point of care; HbA1C = hemoglobin A1C, HPLC = high performance liquid chromatography, DM = diabetes mellitus.

Figure 1. Deming Regression Comparing POC (point-of-care) HbA1C (hemoglobin A1C) and HPLC (high performance liquid chromatography) HbA1C.
slope was .88), both indicating concordance of the two markers. The Bland-Altman plot indicates no major systematic trend in the difference between the two markers while also revealing only a small systematic bias between the two measures: HbA1C done by HPLC appears to be slightly lower on average compared to POC HbA1C, with a mean difference of .1125 (95% CI [-0.11, 0.33]). In addition, four observations fell outside the 0.5% bounds (a difference of 0.5% is considered clinically significant), of these, only two observations fell outside of the 1.96 standard deviation bounds, all with HPLC values underestimating POC values (Figure 2). Any possible difference between machines could not be assessed given the low sample size.

For the patients with POC HbA1C values ≥ 14% the mean central lab value was 14.1% (95% CI [13.4, 14.8]), with a range of 11.1–16.3 and a standard deviation of 1.4% (Figure 3). The patients with POC HbA1Cs ≥ 14% (Table 1) had diabetes for an average duration of ~6 years (range 1–16 years). Thirteen patients were Tanner 5, four were Tanner 4, one was Tanner 3, and one patient was Tanner 1. Eleven patients were on a split-mixed insulin regimen (9 of those using a pen with pre-mixed insulin) and 8 patients were using a basal-bolus regimen.

DISCUSSION
Our study shows that POC testing is concordant with central lab testing when the A1C is 9–13.9%, with POC values being slightly higher, similar to the findings by DirecNet study.7 When the POC value is ≥ 14%, however, the corresponding central lab value varies greatly. The mean HbA1C value done via central lab testing is 14.1%, but the range is wide, from 11.1–16.3%.

This wide variation makes detecting relative changes in HbA1C at subsequent clinic visits problematic. It is undeniable that when one’s POC A1C is ≥ 14%, the patient is in poor glycemic control whether the actual A1C is 11% or 16%. In fact, the new American Diabetes Association (ADA) guidelines recommend target A1C < 7.5% across all pediatric age groups.15 However, being able to track relative changes in HbA1C at subsequent clinic visits is important as it allows clinicians to gauge whether or not interventions are effective. Additionally, knowledge that their HbA1C is trending down may provide positive reinforcement to adolescents. We therefore suggest routine central HbA1C testing when the POC is ≥ 14% for proper counseling and monitoring of glycemic control.

Studies in adults with Type 1 or Type 2 diabetes have shown that when the HbA1C is immediately available, there is improvement of glycemic control that persists at 12 months.9 The same results have not been found in children, however. Agus et al performed a randomized controlled trial of children less than 18 years of age, and found that having the HbA1C available for immediate feedback did not lead to persistent improvement of glycemic control.8 The study did find that using a POC machine is helpful in reducing the amount of patient-clinician communication required in between visits, thus POC testing is becoming standard practice in many diabetes centers.

It is important to note that while there are many commercially available POC HbA1C machines, not all of them have been found to meet generally accepted analytic performance criteria.16 Lenters-Westra et al tested eight different machines and found that only the DCA Vantage (the machine used in this study) and the Afinion met the acceptance criteria of having a total CV (coefficient of variation)
of < 3% [in the clinically relevant range]. However, there are still differences among the lot numbers of cartridges.\textsuperscript{16,17}

The majority of patients with POC HbA1Cs $\geq$ 14% were male adolescents in mid-late puberty with long-standing diabetes duration. They were typically on a split-mixed insulin regimen, which is not surprising given that poorly controlled T1DM patients are often switched to twice daily injections to improve compliance. The SEARCH study found that in children with type 1 diabetes, there was a correlation between poor glycemic control and longer duration of diabetes.\textsuperscript{18} This correlation is partially explained by the progressive loss of beta cell function with increasing diabetes duration. It is also well known that adolescents with T1DM pose particular challenges to maintaining good glycemic control.\textsuperscript{19} Teenagers often do not adhere to their diabetes care regimen due to avoidance of standing out from their peers and increased incidence of depression.

Interventions found to help adolescents achieve improved glycemic control include involving family members, motivational interviewing [by a trained professional], ensuring regular diabetes clinic appointments (preventing loss-to-follow-up), and improving patient/provider communication by employing technology.\textsuperscript{19} Use of an insulin pump has also been shown to be associated with lower HbA1C levels.\textsuperscript{20}

Our study is limited by the sample size. In our retrospective chart review we found that not many patients had both a POC HbA1C and one done by central laboratory testing, limiting our sample size. Additionally, characterization of those with POC HbA1C values $\geq$ 14% was only done in those with both values available.

**CONCLUSION**

The results from this study provide evidence for good concordance between HbA1C done by HPLC and POC HbA1C values $< 14\%$ and wide variation for POC HbA1C values $\geq 14\%$. We therefore suggest routine central HbA1C testing when the POC is $\geq 14\%$ for proper counseling and follow-up of glycemic control.

**References**


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jose_quintos@brown.edu
Motor vehicle crashes are the leading cause of death and injury among United States adolescents. According to data from the Centers for Disease Control and Prevention (CDC), 2,333 adolescents ages 16–19 were killed and 235,845 were treated in emergency departments due to injuries sustained in crashes in 2015. Per mile driven, teen drivers are nearly three times more likely than those aged 20 and older to be involved in a fatal crash. Driver inexperience and engagement in risky behaviors are primary reasons for the increased number of crashes among teens. Substance use, distracted driving, and lack of seat belt use significantly increase the risk of crashes and/or subsequent injury or death. The purpose of the current analysis was to measure the prevalence of risky transportation-related behavior among Rhode Island high school students.

**METHODS**

Data are from the 2017 Rhode Island High School Youth Risk Behavior Survey (YRBS). The YRBS is a biennial national survey of public high school students designed to monitor health risk behaviors related to leading causes of morbidity and mortality among youth. YRBS employs a two-stage, cluster sample design to produce a representative sample of students. First, schools in the state are selected with probability proportional to school enrollment size. Next, classes from a required subject or period within each school are randomly selected. All students in sampled classes are eligible to participate. A weight is applied to each record to adjust for student non-response and to obtain a distribution of students by grade, sex, and race/ethnicity that approximates that of the state public high school population. The overall response rate, which is determined by the response rates of the selected schools and students, was 67% in 2017. In total there were 2,221 high school students from 19 public high schools who completed the YRBS. This sample is representative of 41,114 students statewide.

Six questions on the YRBS addressed motor vehicle safety—three regarding passenger behavior and three regarding driver behavior. Passenger safety questions included topics of seat belt use: “How often do you wear a seat belt when riding in a car driven by someone else? (never, rarely, sometimes, most of the time, always)” and riding with a potentially impaired driver asking how often in the last 30 days respondents rode with a driver who had been (1) drinking alcohol, or (2) using marijuana. Questions regarding driver safety focused on cell phone use and asked respondents while driving in the last 30 days how often they (1) talk on the cell phone (2) text or email, and (3) use the internet or apps (excluding those for directions). For purposes of data analyses, seat belt use responses were condensed into “always” or “not always” and items assessing riding with an impaired driver and using a cell phone while driving were condensed into “yes” (1 or more times) or “no” (0 times). Respondents younger than 16 years of age or who reported they did not drive in the last 30 days were excluded from analyses of driving behavior.

Descriptive analyses were conducted to obtain estimates for the frequency of all transportation-related behaviors. Additionally, chi square tests were used to examine differences in risky transportation-related behavior across demographic groups and to test whether transportation behavior was associated with mental health and other behaviors. Other risk measures assessed included current alcohol use (drank any alcohol in the last 30 days), binge drinking (≥4 drinks in one sitting for girls or ≥5 drinks in one sitting for boys in the last 30 days), current marijuana use, having felt sad/hopeless for 2 or more consecutive weeks in the last year, and having been bullied in school or electronically in the last year.

**RESULTS**

**Passenger Behavior**

Overall, within the last month, an estimated 12,593 high school students statewide (or about 30% of students) rode in the car with a driver who had been drinking alcohol or smoking marijuana [Figure 1]. An examination of demographic factors found older students and lesbian/gay/bisexual students were more likely to ride in a car with a driver who used marijuana/alcohol than younger students and heterosexual students, respectively [Table 1]. Riding in a car with a driver who had been smoking marijuana was more common (25%) than riding in a car with a driver who had been drinking alcohol (14%). Additionally, 36% of students report they do not always wear a seat belt when riding in a car driven by someone else [Figure 1].
Driving Behavior
Among students 16 years and older who have driven in the last month, 58% (or an estimated 10,893 teenagers) reported using their cell phone while driving at least one time in the last month [Figure 2]. About half (51%) reported talking on the phone while driving and 48% reported either texting, emailing, or using an app/internet while driving. Students ages 17 and older were more likely than 16-year-old students to use a phone while driving, but there were no other significant differences based on demographics (Table 1).

Association with other factors
Analysis of other risk behaviors revealed those who rode in a vehicle with someone who had been using alcohol/marijuana were more likely than those who did not ride with an impaired driver to not always wear a seatbelt, have felt sad/hopeless for 2 or more weeks in the last year, have been bullied in the last year, and have drank alcohol, binge drank, or smoked marijuana in the last month (Figure 3). Similarly, teens who used a phone while driving were more likely than teens who did not use a phone to not always wear a seatbelt, have been bullied, and have drank alcohol, binge drank, and smoked marijuana (Figure 4).

Table 1. Risky transportation-related behaviors among Rhode Island high school students, by selected demographics

<table>
<thead>
<tr>
<th></th>
<th>Total RI Public High School Population (N=41,114)</th>
<th>Rode in car with an impaired driver (n=12,593)</th>
<th>Used cell phone while driving* (n=10,893)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weighted n</td>
<td>Weighted %</td>
<td>Weighted n</td>
</tr>
<tr>
<td>SEX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>19,699</td>
<td>29.8%</td>
<td>4,124</td>
</tr>
<tr>
<td>Male</td>
<td>20,953</td>
<td>30.9%</td>
<td>5,292</td>
</tr>
<tr>
<td>SEXUAL ORIENTATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Straight</td>
<td>33,950</td>
<td>29.2%</td>
<td>8,269</td>
</tr>
<tr>
<td>Lesbian/Gay/Bisexual</td>
<td>4,501</td>
<td>39.4%</td>
<td>771</td>
</tr>
<tr>
<td>RACE/ETHNICITY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>24,678</td>
<td>29.0%</td>
<td>6,448</td>
</tr>
<tr>
<td>Black</td>
<td>3,384</td>
<td>32.1%</td>
<td>236</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9,327</td>
<td>31.0%</td>
<td>398</td>
</tr>
<tr>
<td>Other</td>
<td>2,753</td>
<td>38.6%</td>
<td>112</td>
</tr>
<tr>
<td>AGE GROUP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14 years of age</td>
<td>4,276</td>
<td>24.5%</td>
<td>--</td>
</tr>
<tr>
<td>15-16 years of age</td>
<td>20,368</td>
<td>29.9%</td>
<td>2,182</td>
</tr>
<tr>
<td>17+ years of age</td>
<td>16,360</td>
<td>33.4%</td>
<td>7,328</td>
</tr>
</tbody>
</table>

Source: 2017 RI Youth Risk Behavior Survey
Note: Columns may not add up to total N due to missing data on some demographic variables.
*Excludes those less than 16 years of age and students who have not driven in last month.
*indicates statistically significant difference (p<.05).
DISCUSSION

This brief highlights the burden of risky transportation-related behaviors among high school students. Notably, almost one-third of students reported that in the last month they rode with a driver who had been smoking marijuana or drinking alcohol, and almost 60% of teens who drive reported using their phone while driving in the last month. Additionally, more than one in three respondents reported they do not always wear a seat belt when riding in the car. Students who reported risky transportation behaviors were also more likely to report substance use and having been a victim of bullying.

Distracted and impaired driving are two leading causes of motor vehicle crashes. In 2016, there were 10,497 individuals in the U.S. killed in a crash involving an alcohol-impaired driver – or one every 50 minutes. Among fatally injured drivers with known drug tests results, 38% tested positive for alcohol and 44% tested positive for some other type of drug. Also, nationwide, approximately 26% of all crashes in 2014 were attributed to cell phone use. According to the National Highway Traffic Safety Administration, on average, sending or reading a text takes a driver’s eyes off the road for 5 seconds – the equivalent of driving an entire football field at 55 mph with one’s eyes closed. Lastly, seat belt use is critically important as it is estimated that seat belt use saved about 15,000 lives in 2015 and cuts the risk of serious injury and death in half.

Several laws have been implemented to improve driving safety. Graduated Driver Licensing (GDL) programs have proven to be effective in reducing risk of crash among teens. In Rhode Island, teens cannot obtain a learner’s permit until age 16 and those under age 18 must take a driver’s education course, have at least 50 hours of driver training, and have the permit for a minimum of 6 months before being eligible to take the test to obtain an intermediate/restricted license. The restricted license allows for unsupervised driving but limits passengers to no more than one (non-family) passenger under age 21, and forbids driving from 1 a.m. to 5 a.m. After teens turn 18 years of age or have their license for 12 months, restrictions may be lifted. The state also recently passed a law banning handheld cell phone use while driving for all drivers. Laws did previously exist banning any cell phone use among those under age 18; however, additional focus on the new law regulating behavior of adults will hopefully reinforce laws against teen cell phone use and decrease the chances of teens seeing adults engage in the behavior and thereby modeling the behavior themselves.

Pediatricians can play an important role in transportation-related safety. The American Academy of Pediatrics recommends physicians screen patients and ask about alcohol use, substance use, and reckless and distracted driving and talk to teens and parents about driving safety. According to the CDC, several ways parents and teens can improve safety include: increasing the amount of supervised driving practice, reducing the number of passengers allowed in the vehicle, setting curfews to reduce night-time driving, prohibiting cell phone use while driving, ensuring the vehicle is safe, requiring teens wear their seat belt on every trip, and talking about the risks of driving recklessly or when drowsy or impaired and of getting in a car with another driver who has engaged in any of those behaviors. Pediatricians can also recommend parents and teens develop a written “parent-teen safe driving agreement” as a way to further reinforce safe driving rules. It is also important to remind parents to engage in safe driving behaviors themselves, as teens model much of their behavior from parents. Additionally, pediatricians can help make driving safety information more readily available by having information in their office and/or website.

This study had some limitations. First, data were based on self-report and therefore can be prone to recall bias, which...
may result in overreporting or underreporting of behaviors. Secondly, questions addressing texting were worded such that respondents may have only answered affirmatively if they sent a text while driving rather than just reading messages, which could result in an underreporting of phone use. Additionally, items designed to measure riding with an impaired driver only assessed if respondents rode with a driver who “had been” using alcohol/marijuana and did not assess level impairment or any other types of substance use. This could result in an overestimate or underestimate of the prevalence of riding with an impaired driver. Despite these concerns, the YRBS has been shown to be a reliable and valid measure of risk behavior.12

Car crashes remain a significant risk factor for morbidity and mortality among U.S. teenagers. It is important to continue to reinforce the dangers of driving impaired or distracted and to ensure safe transportation practices are followed.

Acknowledgments
We would like to thank Jolayemi Ahamiojie of the RIDOH and Gabrielle Abbate of the Rhode Island Department of Transportation for their contributions to this brief.

References

Authors
Tracy L. Jackson, PhD, MPH, is a Senior Public Health Epidemiologist in the Center for Health Data and Analysis (CHDA) at the Rhode Island Department of Health (RIDOH).
Tara Cooper, MPH, is a Health Program Administrator who leads the Youth Risk Behavior Survey within CHDA at RIDOH.
# Rhode Island Monthly Vital Statistics Report

## Provisional Occurrence Data from the Division of Vital Records

### Reporting Period

#### VITAL EVENTS

<table>
<thead>
<tr>
<th>Vital Event</th>
<th>January 2018</th>
<th>12 Months Ending with January 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>Live Births</td>
<td>912</td>
<td>11,592</td>
</tr>
<tr>
<td>Deaths</td>
<td>999</td>
<td>10,592</td>
</tr>
<tr>
<td>Infant Deaths</td>
<td>7</td>
<td>75</td>
</tr>
<tr>
<td>Neonatal Deaths</td>
<td>4</td>
<td>55</td>
</tr>
<tr>
<td>Marriages</td>
<td>185</td>
<td>7,049</td>
</tr>
<tr>
<td>Divorces</td>
<td>305</td>
<td>3,105</td>
</tr>
<tr>
<td>Induced Terminations</td>
<td>145</td>
<td>1,738</td>
</tr>
<tr>
<td>Spontaneous Fetal Deaths</td>
<td>65</td>
<td>879</td>
</tr>
<tr>
<td>Under 20 weeks gestation</td>
<td>57</td>
<td>811</td>
</tr>
<tr>
<td>20+ weeks gestation</td>
<td>8</td>
<td>68</td>
</tr>
</tbody>
</table>

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

### Reporting Period

#### Underlying Cause of Death Category

<table>
<thead>
<tr>
<th>Underlying Cause of Death Category</th>
<th>July 2017</th>
<th>12 Months Ending with July 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number (a)</td>
<td>Number (a)</td>
</tr>
<tr>
<td>Diseases of the Heart</td>
<td>193</td>
<td>2,369</td>
</tr>
<tr>
<td>Malignant Neoplasms</td>
<td>164</td>
<td>2,252</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>34</td>
<td>456</td>
</tr>
<tr>
<td>Injuries (Accident/Suicide/Homicide)</td>
<td>81</td>
<td>893</td>
</tr>
<tr>
<td>COPD</td>
<td>42</td>
<td>533</td>
</tr>
</tbody>
</table>

(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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Working for You:
RIMS advocacy activities

August 1–2, Wednesday–Thursday
AMA Advocacy Resource Center (ARC) State Legislative Round Table:
Steve DeToy, RIMS Director of Government and Public Affairs, Executive Board Member

August 6, Monday
RIMS Physician Health Committee: Herbert Rakatansky, MD, Chair
Warren Alpert Medical School Student Interest Group Fair, Bradley Collins, MD, President, and staff
Sheldon Whitehouse Fundraiser: Bradley Collins, MD, President; Peter Karczmar, MD, RIMPAC Treasurer; Thomas Bledsoe, MD, RIMS Councilor at Large

August 9, Thursday
Meeting with the Substance Abuse and Overdose Prevention PAC [SAOPPAC] regarding 2018 election
Interview with Johns Hopkins researchers regarding opioid prescribing cap in RI
Meeting with James McDonald, Chief Administrative Officer, Board of Licensure and Discipline, Bradley Collins, MD, President, Peter Hollmann, MD, President-elect, and staff
SIM Grant Steering Committee: Peter Hollmann, MD, President-elect

August 10, Friday
Meeting with Brown Emergency Medicine regarding high deductible health plans

August 14, Tuesday
Meeting with American Board of Medical Specialties regarding 2019 legislation
Meeting with RI Academy of Physician Assistants regarding 2019 legislation

August 8, Wednesday
Board of Medical Licensure and Discipline
Governor’s Overdose Prevention and Intervention Task Force: Sarah Fessler, MD, Past President
Governor’s press conference promoting recovery-friendly businesses

August 16, Thursday
Substance Abuse and Overdoses Prevention PAC [SAOPPAC] fundraiser

August 20, Friday
“Rhode Island Health Center Week” Kickoff and Celebration

August 21, Tuesday
Meeting with Senate Policy staff regarding legislation
Governor’s Overdose Task Force Harm Reduction Working Group

August 22, Wednesday
Public Hearing on Board of Medical Licensure and Discipline proposed regulations

August 29, Wednesday
“Rhode Island Cost Trends Project, Steering Committee: Peter Hollmann, MD, President-elect”

President Bradley Collins, MD, discusses the benefits of RIMS membership with incoming WAMS students at their orientation August 6.

Sheldon Whitehouse Fundraiser, August 6: [L–R] Bradley Collins, MD, President; Senator Whitehouse; Peter Karczmar, MD, RIMPAC Treasurer; Thomas Bledsoe, MD, RIMS Councilor at Large.
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401-331-3207
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 Marc Bialek for more information: 401-331-3207 or mbialek@rimed.org

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

RIPCPC is an independent practice association (IPA) of primary care physicians located throughout the state of Rhode Island. The IPA, originally formed in 1994, represent 150 physicians from Family Practice, Internal Medicine and Pediatrics. RIPCPC also has an affiliation with over 200 specialty-care member physicians. Our PCP’s act as primary care providers for over 340,000 patients throughout the state of Rhode Island. The IPA was formed to provide a venue for the smaller independent practices to work together with the ultimate goal of improving quality of care for our patients.
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R.I. Hospital receives $11.8M to establish Center of Biomedical Research Excellence (COBRE) on Opioids and Overdose

Center will be led by principal investigator Josiah Rich, MD, MPH and Traci Green, PhD, MSc

PROVIDENCE – Rhode Island Hospital has received an $11.8 million federal grant to address the nation’s opioid epidemic by establishing the Center of Biomedical Research Excellence (COBRE) on Opioids and Overdose at the hospital. The center, to be funded with a five-year, Phase I grant from the National Institute of General Medical Sciences, will work in partnership with Brown University and Women and Infant’s Hospital to develop and sustain a critical mass of investigators specializing in opioid use disorder. The center will be led by principal investigator JOSIAH RICH, MD, MPH and TRACI GREEN, PhD, MSc, who are both affiliated with Rhode Island Hospital and are recognized as national experts in the epidemiology of opioid and other illicit substances.

“There is a tremendous need for greater scientific understanding of the mechanisms underpinning opioid use disorder and a need for more effective interventions to treat and prevent opioid misuse and overdose,” says Rich, an infectious disease physician with Lifespan and Brown Medicine and the director of the Center for Prisoner Health and Human Rights at Lifespan-affiliated The Miriam Hospital. “This center will bring together experts from institutions across Rhode Island to support excellence in the research needed to combat the opioid epidemic hampering and taking the lives of our friends and neighbors.”

Rich and Green have more than 40 years of experience between them conducting research with people with opioid use disorder. The intent of COBRE grants is to establish leadership and mentorship by experienced researchers, overseeing and supporting the work of three to five junior investigators at once in thematic, multidisciplinary centers, until those researchers establish a body of work to enable them to secure their own independent funding. Over the possible 15-year span of COBRE’s three phases, this builds the institution’s capacity and expertise in a given area.

“Rhode Island continues to be a national leader in innovative approaches to addressing opioid use disorder,” says Green. “The unique political and public health climate that has been cultivated over decades of collaboration among members of this research team, community partners, and key stakeholders makes Rhode Island an ideal location to establish the COBRE on Opioids and Overdose.”

Rhode Island has high stakes in the success of this research. According to the NIH’s National Institute on Drug Abuse, Rhode Island is among the top ten states for rates of opioid-overdose death, with more than double the national rate in 2016. Rhode Island suffered nearly 300 deadly overdoses that year. A host of other public health threats come along with addiction, including neonatal abstinence syndrome, HIV and Hepatitis C.

Both Rich and Green serve as expert advisors to Governor Gina M. Raimondo’s Overdose Prevention and Intervention Task Force. Three research projects by early-career project leaders have been identified to be supported with the inception of the COBRE on Opioids and Overdose. They are:

- “Informed opioid prescribing for acute musculoskeletal pain after motor vehicle collision: A support tool for assessing risks and benefits of analgesic medications before prescribing [STAAMP]”, FRANCESCA BEAUDOIN, MD, MS, Rhode Island Hospital
- “Contingency Management in Combination with MAT for Opioid Use Disorders”, SARA BECKER, PhD, MA, Brown University School of Public Health
- “Neonatal Abstinence Syndrome (NAS): Fetus to First Years”; ADAM CZYNSKI, DO, Women & Infants Hospital

In addition, Rhode Island Hospital will fund 15 junior investigators with a $600,000 pilot program.

The funding for the COBRE had the vital support of Rhode Island’s Congressional delegation.

“This NIH grant will advance research and help Rhode Island accelerate efforts to effectively treat opioid addiction,” U.S. Senator Jack Reed, a senior member of the Appropriations Committee said. “Further, this federal funding will help build a research infrastructure in the state for combatting opioid addiction.”

U.S. Sen. Sheldon Whitehouse, who co-authored the landmark bipartisan Comprehensive Addiction and Recovery Act (CARA), sweeping legislation that guides the federal response to the opioid epidemic, said, “We still have a lot to learn about how to prevent and treat opioid addiction. That’s why medical research is a huge part of the battle against the opioid crisis, and why I’ve been fighting to unlock research funding like this for Rhode Island. This new center will help outstanding researchers at Rhode Island Hospital and other Rhode Island institutions expand work to answer tough questions about opioid addiction. It’s an important victory for those confronting addiction or walking the difficult, noble path of recovery.”

“Effectively combatting the opioid overdose epidemic requires investments in biomedical research to better understand the nature of addiction and develop targeted methods for prevention, treatment and recovery,” said Congressman James Langevin. “Congratulations to the team of researchers at Rhode Island Hospital for securing this federal funding and for your efforts to help bring this devastating public health crisis to an end.”

Congressman David Cicilline said, “This federal funding will support vital research aimed at combatting a serious epidemic facing our state and country. Opioid addiction affects all communities and is devastating so many families. It is a serious public health crisis that requires urgent action. Establishing this COBRE will help us better understand this disease and identify real solutions to address it.”

IN THE NEWS

RIMJ ARCHIVES | SEPTEMBER ISSUE WEBPAGE | RIM
VA Cardiopulmonary Research Center of Excellence $10M grant renewed

PROVIDENCE – The National Institute for General Medical Sciences of the National Institutes of Health awarded the Cardiopulmonary Vascular Biology Center of Biomedical Research Excellence, a renewal grant of $10 million July 20, 2018, through the Ocean State Research Institute, or OSRI.

Known as the CPVB COBRE, the center is located at the Providence VA Medical Center and led by principal investigators, DR. SHARON ROUND and DR. ELIZABETH HARRINGTON, and the program administrator, SUSAN MCNAMARA.

“We look forward to expanding our team of outstanding investigators and the scope of our research in vascular biology,” said Dr. Rounds.

“The CPVB COBRE sparked a remarkable coalescence of cross-disciplinary scholars and researchers in vascular biology,” said DR. JACK ELIAS, dean of Medicine and Biological Sciences at Brown University’s Warren Alpert Medical School. “We look forward to accelerated growth in vascular biology research now that the NIH is funding this important inter-institutional collaboration for another five years.”

The phase II award will fund new and continuing initiatives for five years, and supports mentored investigators DR. ALAN MORRISON at the Providence VAMC; DR. HONGWEI YAO, DR. YANG ZHOU and DR. JESSICA PLEAVICK at Brown University; and DR. SEAN MONAGHAN at Rhode Island Hospital. The grant also supports pilot project research grants in the area of vascular biology in addition to two research cores: 1) Administrative, and 2) Cell Isolation and Organ Function.

“The renewal of the COBRE grant by NIH is acknowledgment of the outstanding cardiac, pulmonary and vascular research being conducted here,” said DR. ROBERT SWIFT, president of OSRI. “We’re very proud of our investigators and research staff based at the Providence VA Medical Center, the Alpert Medical School at Brown University and its affiliated hospitals.”

OSRI is a non-profit corporation affiliated with the Providence VA Medical Center. Its mission is to promote and conduct research and education activities to improve the health and lives of Veterans.

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¹ www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/quitting/index.htm
Advocates distribute fentanyl test strips on Overdose Awareness Day

Public health advocates in Rhode Island, including representatives of Preventing Overdose and Naloxone Intervention (PONI) at The Miriam Hospital, joined forces on August 31, the fourth annual International Overdose Awareness Day, to launch a campaign that will make Rhode Island among the first in the nation to distribute fentanyl test strips.

Advocates from public health, prevention, recovery and the harm reduction community visited sites in Providence and around Rhode Island on Friday to distribute the test strips. They also distributed doses of naloxone, a medication effective at reversing an opioid overdose.

“The opioid epidemic continues to transform, challenging us to employ creative and dynamic solutions to combat this crisis. Helping Rhode Islanders detect fentanyl in the drug supply, prior to use, will save lives,” said Josiah Rich, MD, co-founder of PONI, an overdose prevention and intervention training program at The Miriam Hospital.

Rich, an infectious disease physician at The Miriam, is a national expert on the opioid epidemic and an advisor to the Governor’s Opioid Prevention and Intervention Task Force. He is also the director of The Miriam’s Center for Prisoner Health and Human Rights and a professor of medicine and epidemiology at The Warren Alpert Medical School of Brown University. He co-founded PONI with Michelle McKenzie, who, as the director of the program, collaborated with 40 community organizations to distribute more than 5,000 naloxone kits in 2017.

An amendment to Rhode Island’s Good Samaritan Overdose Prevention law, which was passed this year, firmly makes the distribution and use of fentanyl test strips legal.

Women & Infants introduces new technology to guide breast surgeries

Women & Infants Hospital is introducing a new way for physicians to mark and find breast lesions. LOCalizer™ is an FDA-cleared system that uses the latest technology to bring more precision for providers and less stress for patients.

Women & Infants is the first in the region to adapt this new technology.

“The fact that we are able to detect breast lumps earlier is fantastic, but it has definitely made the removal of these significantly smaller masses more challenging,” said David Edmonson, MD, breast surgeon with the Breast Health Center at Women & Infants Hospital.

The LOCalizer tag can be placed in the breast up to 30 days before surgery – this takes place under local anesthesia (the area is numbed) and the tag is inserted with a needle under ultrasound or x-ray guidance. Each tag has a unique identification number to clearly mark the lesion.

On the day of surgery, the surgeon then uses the LOCalizer reader to confirm the position and identification of the tag, allowing him to better plan the surgical path and remove the lesion.

Women & Infants introduced LOCalizer earlier this year and has done more than 100 procedures using this technology.
Brookdale Overview

Independent Living  *An ideal retirement living experience*
- Spacious apartments with minimal maintenance
- Restaurant-style dining
- Plenty of planned activities every day

Assisted Living  *The right choice for people who need extra help with daily activities*
- Qualified staff assists with taking medication, dressing, bathing, etc.
- Floor plans, from studio to two-bedroom apartments
- Activities and events for various levels of acuity

Alzheimer’s & Dementia Care  *Person-centered care for people at various stages*
- Programs that leverage the latest dementia care research
- A care philosophy defined by more than the symptoms of Alzheimer’s & dementia
- An experienced staff who help residents thrive

Rehabilitation & Skilled Nursing  *For short-term surgerical recovery or long-term rehabilitation*
- Around-the-clock, licensed nursing care
- Providing clinical resources in a comfortable setting that feels like home
- A mission and focus to helping residents get well and then get home as quickly as possible

Personalized Living  *For people who just need a little help with things*
- One-on-one non-medical services for home care needs
- Additional personal needs for those in assisted living or home such as escorts to doctor appointments and more

Home Health  *For qualified people in need of therapy or rehabilitation — all in the comfort of home*
- Get Medicare-certified assistance from experienced professionals
- Many healthcare services such as wound care and stroke therapy

Therapy  *Specialized programming personalized to encourage recovery*
- An emphasis on education, fitness and rehabilitation that helps seniors retain or enhance their independence
- Most insurances accepted

Hospice  *Promoting comfort by addressing the full range of needs of patients and families*
- Primary focus of quality of life
- Specially trained staff help families and patients cope with overwhelming feelings accompanying end-of-life care

Not all services are available at all communities. Contact community for details

The Rhode Island Network

Brookdale Center of New England
Brookdale Cumberland
Brookdale Smithfield
Brookdale Greenwich Bay
Brookdale Pocasset Bay

Brookdale Sakonnet Bay
Brookdale East Bay
Brookdale West Bay
Brookdale South Bay

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Bringing New Life to Senior Living®
Partners HealthCare, Care New England, Brown negotiate partnership

PROVIDENCE – AUGUST 7, 2018 – Partners HealthCare, Care New England Health System and Brown University have signed a memorandum of understanding [MOU] to formalize a joint commitment to providing the highest quality of patient care, physician training and biomedical innovation to Rhode Island.

The MOU signed by the three organizations follows the announcement in May of a definitive agreement formalizing Partners’ planned acquisition of CNE, and aligns the shared vision of all three organizations to benefit the communities of Rhode Island. It establishes Brown’s Warren Alpert Medical School as the primary academic research and teaching institution of record for Partners-CNE in Rhode Island.

The memorandum details the terms for negotiating a formal agreement in the coming weeks.

“Today’s announcement represents an important step in this collaborative effort between our institutions and our collective commitment to strengthening the health care landscape in Rhode Island and for the advancement of academic training,” said Care New England President and CEO JAMES E. FANALE, MD. “This signifies tremendous opportunity for research, the economy, and most importantly, for those who rely on us for the best possible care.”

Brown has a longtime academic medical affiliation with CNE, which is home to Brown’s programs in obstetrics and gynecology and neonatology (at Women & Infants), in psychiatry (at Butler), and in family medicine (Kent).

Following Partners’ proposed acquisition of CNE, the three partners are committed to deepening their collaboration through a clinical, medical education and biomedical research affiliation.

“This agreement sets us on a clear path for achieving Brown’s goals of a partnership that will enhance the quality of clinical care, generate biomedical research that improves population health and fuel economic development in Rhode Island,” Brown President BETSY NABEL, MD, President of Brigham Health, on behalf of Partners.

Other objectives of the new partnership include maintaining and enhancing the quality of medical education for medical students at existing and future CNE clinical facilities, evaluating ways to strengthen the relationship between CNE physicians and physicians in Brown-affiliated faculty practice groups; exploring the potential for a new medical research institute in Providence and shared governance to support the goals of the partnership.

As part of the MOU, Brown’s president would be added to the CNE Board of Directors, and the dean of the Warren Alpert Medical School would sit on any academic and research subcommittees of that board.

The shared governance would support Partners, CNE and Brown’s shared commitment to helping ensure that high-quality, affordable care remains available through the CNE institutions for the people of Rhode Island.

The goals of the affiliation announced by Partners and CNE in May include building on the existing clinical relationships between the parties; ensuring ongoing clinical research and educational collaboration in support of the parties’ charitable missions; enabling the organizations to more efficiently use their resources; and establishing effective and expanded approaches to population health management.

The agreement followed extensive due diligence, internal reviews and collaborative discussions between the two health care systems. Both organizations are working together to prepare and file all necessary Rhode Island, Massachusetts and federal regulatory filings, and, upon approval, move forward on Partners’ integration of CNE.

With the signing of the definitive agreement, Partners and CNE will continue discussions with Lifespan. Partners and CNE invited Lifespan to the affiliation conversations earlier this year because the parties share a mutual desire to improve access, quality and efficiency of care for all Rhode Islanders. Brown has a longstanding affiliation with Lifespan.

OFFICE SPACE AVAILABLE
RIMS has 442 square feet of newly renovated office space (3 contiguous offices of 200 sf, 121 sf and 121 sf), complete with convenient sheltered parking and the opportunity for tenants to share three well-equipped meeting spaces, break room, office machinery, etc. on the western edge of downtown Providence. Suitable for a small non-profit organization, boutique law firm, CPA firm or other office-based small business.

Inquiries to Newell Warde, nwarde@rimed.org

IN THE NEWS
Care New England releases FY 2018 Q3 results

Obligated Group achieves $4.6 million gain from operations
CNE as a whole recorded positive gain from operations of $.8 million for quarter

Care New England Health System [CNE] announced August 14 that for the FY 2018 third quarter (April 2018–June 2018) its Obligated Group (CNE excluding Memorial Hospital) achieved income from operations of $4.6 million compared to a $6.5 million loss for the same quarter last year. Overall consolidated financial improvement (including Memorial Hospital wind-down) for the third quarter was $7.3 million better than the same quarter last year.

“The financial information reported today continues to show that the focus, strategic planning, and dedication of staff across CNE is making a significant impact,” said JAMES E. FANALE, MD, president and CEO, CNE. “We continue to make important strides in our clinical and academic partnership efforts and look forward to building off this positive momentum as we remain focused on quality, service, and access.”

Specifically, successful implementation of growth initiatives and cost management has been very effective. Action plan tracking, daily productivity monitoring, and revenue cycle improvements are making an impact on performance. More initiatives targeting growth, leakage, access, cost savings, and patient retention are ongoing.

Overall during the first nine months of FY 2018, the Obligated Group has improved gains from operations every quarter as follows: Q1-$8.7 million loss, Q2-$4.4 million gain, and Q3-$4.6 million gain. The financials for the first nine months of FY 2018 for the Obligated Group has improved $46.8 million from the same nine-month period last year.

Of note, Butler, Kent, and Women & Infants hospitals and the VNA of Care New England are all profitable from operations through the third quarter ending June 30, 2018.

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Rhode Island a national leader in immunizations for adolescents

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

The data were gathered through a version of the CDC’s National Immunization Survey that focuses on children from 13 to 17 years old. Surveyors made randomized telephone calls to parents and guardians. The information they provided was confirmed with the child’s vaccination provider. The study revealed that:

- 88.5% of Rhode Island girls and 88.7% of Rhode Island boys received at least one dose of Human papillomavirus (HPV) vaccine, the second-highest rates in the country, and much higher than the national averages for the first dose of HPV vaccine: 68.6% for girls and 62.6% for boys. HPV is a very common virus that can lead to cancer in males and females.
- 94.6% of Rhode Island teens received the combined vaccine called Tdap, which protects against tetanus, diphtheria, and acellular pertussis. This was the fifth-highest rate in the nation.
- 94.1% of Rhode Island teens received at least one dose of Meningococcal Conjugate vaccine, the third-highest rate in the country.

A separate survey by the CDC indicated that Rhode Island had the highest overall flu vaccination rate in the nation during the 2016–2017 flu season.

The most recent National Immunization Survey data were gathered during 2017. A link to the full report is available online.

* Coverage rates produced by the National Immunization Survey are estimates – often referred to as point estimates. Because a random sample of telephone numbers is taken, these rates have an associated statistical margin of error. Due to statistical uncertainty (i.e. sampling error) in the estimates, Rhode Island’s true vaccination rates may be slightly higher or lower.

South County Hospital among 2018–19 Best Hospitals by U.S. News & World Report

South County Hospital has been recognized as a High Performing Hospital in the U.S. News & World Report’s 2018–19 edition of “Best Hospitals”. It was the only hospital in Rhode Island to receive the “High Performing” rating for knee replacement surgery.

Of the approximately 4,500 hospitals evaluated, fewer than 30 percent earned even a single High Performing rating in any category.

To be nationally ranked in a specialty, a hospital must excel in caring for the sickest, most medically complex patients. The ratings in procedures and conditions, by contrast, focus on typical Medicare patients.

Best Hospitals ratings and rankings are based on millions of data points, in-depth analyses, and expertise. By giving consumers the information they need to make appropriate healthcare decisions, Best Hospitals leads to better care for patients and better incentives for hospitals.

Knee Replacement Scorecard

South County Hospital’s score on its knee replacement specialty is based on multiple data categories, including patient survival, readmissions, volume and other data points. Hospitals received one of three ratings – high performing, average or below average.

Hospitals that earned a high performing rating were significantly better than the national average.

Significant high scores were given to South County Hospital for survival, based on U.S. News analysis of Medicare claims; preventing readmissions; preventing prolonged hospitalizations; preventing complications after hip or knee replacement; and the number of patients receiving surgery.

U.S. News & World Report names Southcoast Health among region’s best

NEW BEDFORD – Southcoast Health announced today that it has been named among the best in the region by U.S. News & World Report. The magazine’s annual “Best Hospitals” rankings recognize hospitals in the United States that provide the best overall patient care as well as specialized treatment in areas like surgery and cardiovascular services.

Southcoast Health, which consists of St. Luke’s Hospital in New Bedford, Charlton Memorial Hospital in Fall River and Tobey Hospital in Wareham, was ranked among the best hospitals in Massachusetts (No. 9) and Providence metro area (No. 2).

It also received a High Performing ranking for specialty care in Chronic Obstructive Pulmonary Disease (COPD), Colon Cancer Surgery and Heart Failure.

For the 2018-19 rankings, U.S. News & World Report evaluated data on almost 5,000 medical centers nationwide in 25 specialties, procedures and conditions. In the 16 specialty areas, only 158 hospitals were ranked in at least one specialty. In rankings by state and metro area, the magazine recognized hospitals as high performing across multiple areas of care.

The rankings are available online at https://health.usnews.com/best-hospitals.
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Appointments

Barbara Fletcher, RN, named hospice volunteer coordinator at VNA of CNE

BARBARA FLETCHER, RN, of West Warwick, has recently joined the VNA of Care New England as hospice volunteer coordinator. In this role Fletcher will recruit, onboard, and train hospice volunteers. She will also ensure that both the volunteer and hospice patients are benefiting from the unique and rewarding experience.

As a hospice volunteer coordinator, Fletcher will conduct monthly continuing education trainings to ensure volunteers understand best practices. She will also pair volunteers with patients and follow-up on the patient/volunteer relationship.

“My focus in this role is recruiting and training new volunteers,” said Fletcher. “When presented the opportunity, I was ecstatic to accept. The role allows me to combine my education and training background with my understanding of the complex needs of hospice patients and their caregivers.”

Fletcher began at the VNA of Care New England in January 2018 as a hospice case manager before transitioning to the hospice volunteer coordinator in April. As a hospice case manager she administered treatment to patients within the comfort of their home, developed care plans, and worked with physicians to determine individualized care plans.

Fletcher brings a breadth of experience as a registered nurse to the VNA of Care New England. Her professional experience includes serving as a nursing supervisor with the Rhode Island Blood Center, where she eventually transitioned to quality assurance and education specialist. She also dedicated seven years of her career to Providence College as the assistant director of nurses within their student health center.

Paari Gopalakrishnan, MD, named Chief Medical Officer at Kent

PAARI GOPALAKRISHNAN, MD, MBA, has been named Chief Medical Officer for Kent Hospital and medical director for Integra Community Care Network. He will begin November 26, 2018.

Dr. Gopalakrishnan comes to Kent Hospital after most recently serving as chief, Division of Hospitalist Medicine at Greenville Health System in Greenville, SC. He also served as clinical assistant professor, University of South Carolina School of Medicine – Greenville. There, he championed a rapidly growing division encompassing acute-care hospitalist medicine, post-acute care medicine, section of inpatient psychiatry, and point of care ultrasound. Prior to his time at Greenville Health System, Dr. Gopalakrishnan served as the director of the inpatient medical group (hospitalists) at Kent Hospital from 2009 to 2015.

RAYMOND POWRIE, MD, Kent Hospital interim president said, “On behalf of CNE and Kent Hospital, we are extremely pleased to welcome Dr. Gopalakrishnan back to Rhode Island and Kent Hospital. He has a proven record of accomplishment and clinical success throughout his career to date and will certainly be a tremendous asset to the leadership team as we continue to focus on key initiatives of quality, patient safety, and satisfaction. This is an exciting time for Kent as we not only welcome Dr. Gopalakrishnan later this year, but also new hospital president, Robert Haffey, next month. Re-establishing the foundations of Kent’s leadership has been our priority, and I believe we are now positioning the hospital well for many years to come.”

Said Dr. Gopalakrishnan, “As the new chief medical officer at Kent Hospital, I am looking forward to returning to an institution that has already been an important part of my career in health care. This new opportunity will afford me the chance to further guide Kent as it continues its journey towards excellence, while providing high quality patient care to the community who looks to this hospital for their services.”

While at Greenville Health System, Dr. Gopalakrishnan was responsible for the establishment of new programs and initiatives within the division including the acquisition of new hospitalist programs, the development of an outpatient transition care program, and the expansion of acute care providers into skilled nursing facilities. In addition, he was instrumental in realizing significant improvement in patient satisfaction, quality outcomes, patient flow, physician engagement, and nurse-physician collaboration.

While director of the inpatient medical group [hospitalists] at Kent Hospital, Dr. Gopalakrishnan was responsible for the multi-specialty group encompassing Kent’s Intensive Care Unit, House Officer Physician Assistant Program, and the hospitalist program which serves both Kent and Women & Infants hospitals. Earlier in his career, Dr. Gopalakrishnan also served as associate director, Division of Hospitalist Medicine at The Miriam Hospital in Providence, RI.

Dr. Gopalakrishnan received his medical degree from the University of Texas Health Science Center at San Antonio and completed his internal medicine residency at Brown University. He received his MBA with honors from Bryant University.
Appointments

Lisa Rameaka, MD, appointed VP of medical affairs, CMO at South County

South County Health’s chief of ob/gyn, LISA RAMEAKA, MD, has been appointed vice president of medical affairs and chief medical officer of that healthcare system.

Dr. Rameaka began practicing medicine at South County Health in 2002, specializing in ob/gyn. During that time she has demonstrated her commitment to performance improvement, problem solving operational issues, and open communication with providers and staff. She has partnered effectively with the leadership and surgical services staff to accommodate the growing demand for surgical time.

As VP of medical affairs and CMO, Dr. Rameaka will be responsible for working with the medical staff on quality, recruitment, system improvement and growth. As a senior leader, Dr. Rameaka will work with the executive team and the board of trustees to formulate the short and long-term directions for the system.

Her appointment was decided jointly by the board of trustees’ executive committee and Lou Giancola.

Erika Werner, MD, named Director of Division of Maternal-Fetal Medicine

ERIKA F. WERNER, MS, MD, has been named director of the Division of Maternal-Fetal Medicine in the Department of Obstetrics and Gynecology at Women & Infants Hospital. Dr. Werner joined the division in 2013 and has been serving as interim director since March 2018.

“This appointment follows a national search, during which Dr. Werner’s prominence and expertise in the field of maternal-fetal medicine shone. Her vision for the division will focus the entire team on excellence in clinical care, research, and education,” said MAUREEN G. PHIPPS MD, MPH, chair, and chief of obstetrics and gynecology at Women & Infants Hospital and Care New England Health System.

A member of Care New England Medical Group, Dr. Werner is also an associate professor of obstetrics and gynecology and associate professor of epidemiology, Research Scholar Track, at The Warren Alpert Medical School of Brown University.

Dr. Werner is board certified in obstetrics and gynecology and in maternal-fetal medicine. Her research and clinical interests include obstetrical complications of obesity, gestational diabetes, operative deliveries, and preterm birth. She has also published extensively on cost-effective medical practices.

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People/Places
Obituaries

YALAKKI GOWDA, MD, 83, of Central Falls, passed peacefully Aug. 11, 2018, at Roger Williams Medical Center surrounded by family.

Dr. Gowda migrated from India in 1963 after graduating from the Mysore Medical College. He specialized in cardiology and internal medicine and began his career as an intern in Chicago, Ill. He later served as a resident and fellow in several New York City hospitals, as well as The Miriam Hospital before becoming a medical staff member at Memorial Hospital in Pawtucket.

In 1971, Dr. Gowda opened his practice in Central Falls. He chose to be where he was needed most and never refused any patient, regardless of their circumstances. He was the first cardiologist to have a practice in Central Falls. Dr. Gowda was known to make house calls at 2 a.m.

In full suit and tie in times when house calls were no longer common practice. He continued practicing well into his 70s and, at 83, still worked part-time as a staff member of Open MRI of New England.

When his daughter recently asked what he would do if he wasn’t a doctor, he responded: “Nothing. This is all I ever wanted to do, and I’m doing it.”

His legacy lives on through his children: Keerthy, Pushpa and Anand Gowda. He was proud of his children, especially their driven nature and accomplishments around the country. He is also survived by Yashoda Gowda, his former wife of 21 years, as well as extended family in India.

The Gowda family would like to thank the staff of Roger Williams Medical Center for their dedication and superb medical care during Dr. Gowda’s final days.

ADIB M. MECHREFE, MD, 76, of Lincoln passed away July 30, 2018 at Miriam Hospital, Providence surrounded by his loving family. He was the beloved husband of Mary (Freij) Mechrefe. Born in Damascus, Syria, he had lived in Lincoln for the past 42 years.

Dr. Mechrefe devoted his life to taking care of others. He was a general surgeon and emergency medicine specialist who owned the Garden City Treatment Center in Cranston.

Besides his wife, he is survived by his children: Anthony Mechrefe and his wife Etienne, Tanya Gaudioso and her husband Jonathan and Tara Cavanagh and her husband Robert; his nine grandchildren, and sisters and brother.

Donations in his memory may be made to the American Heart Association or St. Jude Children’s Research Hospital.