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Neonate with Seizures After Consuming Star Anise Tea

JULIA DONNER, MD; STEPHANIE RUEST, MD, MPH, FAAP

ABSTRACT
Chinese Star Anise (Illicium verum) is a common spice used in many cultures as an herbal treatment for infant colic.1,2 Often, it has been found to be contaminated with Japanese Star Anise (Illicium anisatum) or is used in high doses resulting in neurotoxicity and gastrointestinal disturbances.1,4 Here we present a case of a previously healthy 2-week-old male who was evaluated in the emergency department for abnormal movements, irritability, and emesis after ingestion of star anise tea for the treatment of colic.

KEYWORDS: neonatal seizure, star anise, neurotoxicity

BACKGROUND
Abnormal movements and seizures in infants may be caused by a variety of pathologies, such as infection, trauma, metabolic derangements, stroke, inborn errors of metabolism, primary neurologic conditions such as brain malformations and epilepsy syndromes, and toxic ingestions or exposures, among others. Specifically, toxic ingestions are a less common but potentially fatal cause. As infants with abnormal movements and/or seizures often present to the emergency department (ED) for initial evaluation, it is paramount that ED clinicians consider the broad differential diagnosis and complete a careful history and exam, making note to assess for any possible toxic ingestions or exposures.

Chinese star anise (Illicium verum) is a well-known spice and is used around the globe as an herbal remedy for infant colic1 (Figure 1). While Chinese star anise has a reputation for being safe and benign at low doses, its relative, the Japanese Star Anise (Illicium anisatum), has been shown to cause neurologic and gastrointestinal toxicity.1,5 The toxin in this species, anisatin, acts as a non-competitive GABA-antagonist which can lead to hyperactivity of the nervous system, causing seizures.6,7 This hyperactivity, without inhibitory mechanism of the GABA receptor, causes excess neuronal firing in the form of seizures and may be lethal.2 In some cases, ingestion of star anise tea with resultant toxicities has been traced back to contamination of the Chinese species with the Japanese species.6,8 However, it should be noted that Chinese star anise also contains toxic compounds (veranisatins) that can be neurotoxic and lethal high doses.9 Chinese star anise also contains high content of anethole and estragole, essential oils which are neurotoxic and can cause irritability, nystagmus, and lethargy.2

Star anise intoxication has been documented in isolated cases around the globe but is not well documented in children. Previously published case reports, describe the toxidrome characterized by both neurologic and gastrointestinal toxicities.4 Neurologic toxicity has been characterized as an acute onset of jitteriness, hyperexcitability, nystagmus, myoclonic movements, and seizures.1 Gastrointestinal toxicity usually involves emesis, as well as diarrhea and abdominal distension.2 The onset of symptoms typically occurs between 30 minutes and 4 hours following ingestion.8

CASE PRESENTATION
A two-week-old, full-term male born by spontaneous vaginal delivery (SVD) to a 17-year-old G1P1 with an unremarkable prenatal, delivery, and immediate postnatal course, presented to the ED with concern for abnormal movements, irritability, and vomiting. The described movements included vertical eye deviation, jitteriness, and holding arms outstretched with rhythmic shaking. These episodes were brief, self-resolved, and occurring every 5–10 minutes.

This patient was described to be a fussy baby since birth by his mother and another caregiving family member present at the bedside. He reportedly had small volume, non-bloody, non-bilious emesis with each feed. He had no documented or tactile fevers. Given his fussiness, the family raised concerns for colic. Multiple dietary changes...
had been made without consultation with their primary care provider, including switching to a soy-based formula and adding Pedialyte. Over the course of the two days leading up to presentation he developed large volume emesis after every feed, poor urine output, and watery bowel movements. Additionally, he developed the abnormal movements described above, prompting the visit to the ED.

Vital signs upon arrival to the ED revealed a pulse of 126 bpm, SpO2 of 100% on room air, temperature of 98 °F (36.7 °C), and a respiratory rate of 34. The patient's weight was 4.35 kg. An initial blood pressure was not documented. The infant was observed to have more than 5 episodes of abnormal movements with tonic outstretched arms, intermittent episodes of nystagmus, tongue thrusting, and eye deviation accompanied by tachycardia lasting 5–10 seconds before self-resolving. He was noted to be fussy when not being held but was consolable. His exam otherwise revealed an open and flat anterior fontanelle, clear lungs without increased work of breathing, a normal cardiac examination without murmur and 2+ radial pulses, a normal penis and testes, well perfused extremities, and no outward signs of injury.

Concern for seizure was raised based on the clinical presentation. Given the broad differential of irritability, vomiting, and seizures in a neonate, a workup including CBC, BMP, blood culture, urinalysis, and urine culture was initiated. Laboratory findings were unremarkable. Additionally, per institutional imaging practice guidelines, a non-contrast CT of the brain was obtained to assess for any evidence of intracranial pathology such as hemorrhage, skull fracture, and/or hydrocephalus; this was also normal. (Table 1.)

On further questioning during the course of evaluation, the patient’s grandmother added that she had been feeding the baby star anise tea for colic. She disclosed that she had fed him 4 ounces of this tea at four different time periods over the course of the days prior to presentation. Poison control was contacted who noted that the patient’s presentation was very consistent with star anise toxicity, a rare toxidrome. Per their recommendation, the patient was given one dose of lorazepam which resolved the abnormal movements. The infant remained hemodynamically stable throughout the ED course without desaturations or apnea.

The patient was admitted to the pediatric intensive care unit for further monitoring. Based on the clinical presentation and rarity of star anise toxicity, a lumbar puncture was obtained to assess for any evidence of intracranial pathology such as hemorrhage, skull fracture, and/or hydrocephalus; this was also normal. (Table 1.)

On further questioning during the course of evaluation, the patient’s grandmother added that she had been feeding the baby star anise tea for colic. She disclosed that she had fed him 4 ounces of this tea at four different time periods over the course of the days prior to presentation. Poison control was contacted who noted that the patient’s presentation was very consistent with star anise toxicity, a rare toxidrome. Per their recommendation, the patient was given one dose of lorazepam which resolved the abnormal movements. The infant remained hemodynamically stable throughout the ED course without desaturations or apnea.

The patient was admitted to the pediatric intensive care unit for further monitoring. Based on the clinical presentation and rarity of star anise toxicity, a lumbar puncture was performed to complete a full septic workup, with resultant normal cell counts, glucose, protein, and negative gram stain and culture. All cultures remained negative at 48 hours. An abdominal ultrasound was performed to evaluate for pyloric stenosis given the frequent large volume emesis and was found to be normal. The patient was subsequently discharged home, tolerating feeds and without any recurrence of seizures.

| Table 1. Laboratory and Radiologic Diagnostic Results |
|---------------------------------|-----------------|-----------------|
| **Diagnostic test** | **Result** | **Normal Range for age** |
| CBC | WBC 9.1 | 4.4–16.0 x10^9 /L |
| | RBC 5.15 | 3.90–6.10 x 10^12 /L |
| | Hemoglobin 15.7 | 14.0–20.0 G/DL |
| | Hematocrit 47.2% | 42–67% |
| | MCV 91.8 | 88.0–122.0 fl |
| | MCHC 33.2 | 28–37 g/dL |
| | RDW 15.5% | 11.5–14.5% |
| | Platelets 335 | 150–400 x10^9 /L |
| | MPV 10.0 | 7.4–10.4 fl |
| | Normal differential |
| BMP | Glucose 82 | 50–80 mg/dL |
| | BUN 12 | 5–27 mg/dL |
| | Creatinine 0.26 | 0.30–1.00 mg/dL |
| | Na + 131 | 131–142 meq/L |
| | K+ 5.3 | 3.7–5.9 Meq/L |
| | Chloride 98 | 99–116 meq/L |
| | CO2 16 | 22–32 meq/L |
| | Anion Gap 17 | 3–13 |
| | Calcium 10.3 | 9.0–10.9 mg/dL |
| | Magnesium | 1.9 | 1.3–1.9 meq/L |
| | Phosphorus | 6.0 | 3.4–5.9 mg/dL |
| | Acetaminophen Level | <10 | 11–20 µg/mL |
| | Salicylate Level | <2.5 | 15.0–30.0 mg/dL |
| | Blood culture | No growth after 5 days |
| | CSF Gram Stain and Culture | Gram Stain: No Polys, No squamous epithelial cells, No Organisms Seen |
| | | Culture: no growth at 48 hours |
| Urinalysis | pH 5.0 | 5.0–8.0 |
| | Specific gravity 1.020 | 1.010–1.030 |
| | Bilirubin negative | negative |
| | Blood negative | negative |
| | Glucose negative | negative |
| | Ketones 1+ negative | negative |
| | Leukocyte esterase negative | negative |
| | Nitrite level Negative | negative |
| | Protein 30 | <10 |
| | Urobilinogen negative | negative |
| | WBC none seen | 0–4 per HPF |
| | RBC none seen | 0–3 per HPF |
| | Renal Epithelial cells: few transitional epithelial cells | 0–3/HPF |
| | | present |
| | Calcium Oxalate crystals: present | absent |
| Urine Culture | No growth after 5 days |
| Non−contrast CT Brain | Impression: Normal Non−contrast CT of the brain |
| Abdominal Ultrasound | Negative for pyloric stenosis |
CASE REPORT

DISCUSSION

This case illustrates the risk of star anise tea consumption in infants due to the significant degree of potential toxicity. While serum and urine confirmatory testing were not completed, the neurologic and gastrointestinal effects demonstrated by this patient, along with the resolution of seizures, and return to baseline with withdrawal of star anise, was highly suggestive of a toxidrome due to star anise consumption. In the 18 months following the patient’s initial presentation, there were no return visits for any neurologic or gastrointestinal complaints.

There is no current antidote for star anise intoxication or specified treatment guidelines. The active agent anisatin is a neurotoxin with GABA antagonist activity, and so benzodiazepines are recommended as a first-line treatment for abortive therapy for seizures. Supportive treatment with fluid replacement for emesis as well as withdrawal of the offending agent are also paramount. After one dose of lorazepam and discontinuation of star anise tea, the described patient recovered without need for further treatment.

Although Chinese Star Anise (I. verum) has been considered safer due to its lower veranisatin content, it is prudent to avoid use in infants and children due to the risk of neurotoxicity or overdose in high concentrations, potential for contamination with Japanese star anise (I. anisatum), and the challenge of differentiating between the two species. Of note, due to reported cases of star anise toxicity, the FDA issued an advisory statement on the risks from all remedies that contain the name star anise. Point-of-care education in the primary and acute care setting is important for families to inform them of the potential adverse effects of this home remedy.

Toxic ingestion, including ingestion of star anise tea, should always be included in the differential for infants presenting with abnormal movements and/or seizure. Taking a thorough history including herbal/traditional treatments and home remedies is key to creating a thorough differential diagnosis and deciphering a probable toxic agent causing abnormal movements in an infant.

References


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Disclosures

The authors have no financial disclosures.

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CASE REPORT

Clinical summary
A 35-year-old male with a past medical history significant for uncontrolled insulin dependent diabetes mellitus was transferred to our hospital with progressive dyspnea and hypoxia. Ten days before admission to our hospital the patient was admitted to an outside institution because of fever, chills, cough and dyspnea for one week. The initial chest X-ray showed diffuse infiltrate and SARS-CoV-2 polymerase chain reaction (PCR) was positive. Prothrombin time was normal, but D-dimer was elevated (978 ng/mL). His outside hospital course was remarkable for progressive hypoxic failure. He was treated with BiPAP, systemic steroids, convalescent plasma, Remdesivir, empiric antibiotics and anticoagulants (enoxaparin 40 mg, 2 times daily, started at admission) for deep venous thrombosis prophylaxis. On day 5 of the outside hospitalization the patient developed a hypoxic respiratory arrest with desaturation to 20s, transient bradycardia and hypotension. Return of spontaneous circulation was achieved after endotracheal intubation and one cycle of cardiopulmonary resuscitation. The patient required blood pressure support with pressors but his respiratory status continued to deteriorate despite paralysis, prone positioning and maximal ventilation settings. Therefore, the patient was transferred to our hospital for extracorporeal membrane oxygenation (ECMO). Laboratory values were significant for an increase in D-dimer (2907 ng/mL) and a decrease of platelet levels from 106 to 77 x 10^9/L. Troponin was 2.653 ng/ml, lactate dehydrogenase was 1066 IU/L, and creatinine was 1.92 mg/dL. He was diagnosed with non-ST elevation myocardial infarction. The patient was cannulated and started on ECMO two days after admission to our hospital. CT imaging of the brain demonstrated signs of diffuse anoxic brain injury with left intraventricular hemorrhage causing left-to-right midline shift. The patient was transitioned to comfort measures only, and he expired on the 7th day of hospitalization in our hospital.

Pathological findings
An autopsy was performed 24 hours after his death. External examination was unremarkable except medical instrumentation. The postmortem microscopic and gross examinations demonstrated multiple organ infarctions and thrombi involving bilateral lungs, heart, bilateral kidneys and spleen.
Lungs were heavy, congested and diffusely firm. Multiple hemorrhagic wedge-shaped solid areas and pleural fibrous exudate were noted [Figures 1A, 1B]. There were bilateral sanguineous pleural effusions (right 500 ml and left 400 ml). Thrombus was grossly identifiable in a vessel in the hilar area of the right upper lobe. Microscopic findings in the lungs revealed thrombosis in all lobes of both lungs, infarctions in the right upper and lower lobes and in the left lung [Figure 1C], diffuse alveolar damage (acute respiratory distress syndrome) with pneumocyte hyperplasia, interstitial fibrosis and focal hyaline membrane formation. Organizing thrombus was seen in a medium-sized artery of the right upper lobe [Figure 1D]. There were no emboli in the large pulmonary arteries.

The infarction of the heart was located on the left ventricular posterior wall [Figure 2A]. Microscopy demonstrated coagulative necrosis, loss of myocyte nuclei, hemorrhage, and prominent neutrophilic infiltration [estimated infarction age 1–3 days, Figure 2B]. No thrombosis was identified in the coronary arteries grossly and there was no evidence of coronary atherosclerosis.

Both kidneys had multiple grossly identifiable wedge-shaped infarcts [Figures 3A, 3B]. Microscopy showed coagulation necrosis with a thrombus in a small artery adjacent to the infarcted area [Figure 3C]. Infarctions in both kidneys were associated with thrombosis. The spleen showed a wedge-shaped infarct, which was confirmed microscopically [Figures 4A, 4B].

Neuropathologic examination was significant for hypoxic-ischemic/anoxic brain injury on both gross and microscopic examination. Brain herniation with pontine Duret hemorrhages was noted.
DISCUSSION

Our patient died from COVID-19 complicated by multiple organ infarctions, diffuse alveolar damage and brain herniation. The patient’s D-dimer level was significantly elevated, suggesting that the coagulation system was activated due to the presence of thrombosis. In fact, thrombosis was found in the arteries in both lungs and kidneys. We did not detect thrombosis in the arteries of the heart or spleen, which may be related to insufficient sampling.

Hypercoagulable and prothrombogenic state is a known complication of COVID-19. Small to large arterial/venous thromboses are reported. Pulmonary emboli and lung infarcts are the most common sites. Clinical and radiological findings or autopsy studies have demonstrated that the following organs may be infarcted: heart, brain, spinal cord, kidney, spleen, intestine, gallbladder, extremities and placenta. Macroscopic multiorgan infarctions are rarely reported. Liu Y et al reported an elderly patient with ischemic necrosis of the right lower extremity and acute myocardial infarction. To our knowledge, this is the first reported case of multiple organ infarctions in a young patient.

Thrombosis may occur despite prophylactic anticoagulation therapy and continue after respiratory symptoms resolve for unknown duration. The exact mechanisms of hypercoagulation in COVID-19 are unclear. Possible mechanisms for hypercoagulable state are cytokine storm or complement-related endothelial and microvascular damage. COVID-19 patients with severe hypoxia may receive extracorporeal membrane oxygenation (ECMO). One study showed that clotting of the ECMO circuit occurred in 16% of ICU COVID-19 patients and another study showed that ECMO caused brain infarction in 15% patients. Therefore, the use of ECMO might also have contributed to the multi-organ infarctions seen in this case.

In conclusion, multiple organ infarctions may occur in young patients with COVID-19 despite the use of prophylactic anticoagulation therapy.

References

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New-onset Adrenal Insufficiency Presenting with Adrenal Shock in a Pediatric Patient

SCOTT DESSERT, RN, NRP; AVANI GANTA, MD; LISA SWARTZ TOPOR, MD, MMSc; RANNA A. ROZENFELD, MD

ABSTRACT
This case report describes new-onset adrenal insufficiency and adrenal shock in an 11-year-old male complaining of two weeks of malaise and weight loss. He was lethargic and pale in appearance. Work-up revealed hypoglycemia and hyponatremia without evidence for an infectious process. He was transported via a pediatric critical care transport team to a regional pediatric intensive care unit (PICU). He required intravenous fluids and vasopressors prior to arrival in the PICU. He had generalized weakness, and hyperpigmentation of his face and extremities. Adrenal insufficiency was suspected, and glucocorticoid administration led to improvement. Cortisol level was undetectable. At time of discharge, he was prescribed daily glucocorticoid and mineralocorticoid replacement, along with a stress dose glucocorticoid plan.

KEYWORDS: adrenal insufficiency, pediatrics, shock

ABBREVIATIONS: Adrenoleukodystrophy (ALD), autoimmune polyendocrinopathy candidiasis ectodermal dystrophy (APECED), type 1 autoimmune polyendocrine syndrome (APS1), Blood Pressure (BP), Heart Rate (HR), Intravenous (IV), Mean Arterial Pressure (MAP), Normal saline (NS), parathyroid hormone (PTH), Pediatric Intensive Care Unit (PICU), very long-chain fatty acids (VLCFA), adrenocorticotropic hormone (ACTH), beats per minute (BPM).

HISTORY OF PRESENTATION
The patient is an 11-year-old previously healthy and active male, who presented with 2 weeks of fatigue and intermittent vomiting. Eleven days prior to admission, he was seen by his primary care physician for headache and decreased appetite. He had weight loss of 8.6 kg over the past 5 months. He denied fevers, nausea, abdominal pain, and urinary symptoms. Baseline labs were obtained (Table 1). Complete metabolic panel was remarkable for hyponatremia (128 MEQ/L), hypochloremia (96 MEQ/L), elevated aspartate transaminase (63 IU/L) and elevated alanine transaminase (44 IU/L). Serum glucose and calcium levels were normal. Five days prior to admission, the patient’s father spoke with the primary care office regarding ongoing weight loss and denied any vomiting or new symptoms. The patient was scheduled for a recheck of his weight and repeat laboratory tests on the day of admission but had increasing somnolence, vomiting, and myalgias. Given his ill appearance, the patient was brought directly to a local hospital.

EMERGENCY DEPARTMENT COURSE AND CRITICAL CARE TRANSPORT
He appeared pale and weak during triage with blood pressure (BP) 78/56 mmHg, heart rate (HR) 88 beats per minute (BPM), respiratory rate 16 per minute, and oxygen saturation 98% on room air. Oral temperature would not register. Finger stick glucose was 33 mg/dl, and repeat measurement was 45 mg/dl. Peripheral intravenous (IV) access was difficult to obtain, so he was given orange juice, which he vomited. Laboratory studies (Table 1) revealed hyponatremia (118 MEQ/L), hypochloremia (79 MEQ/L), elevated anion gap (24), elevated BUN (29 mg/dl), and elevated AST (74 IU/L). He was administered a bolus of 5% dextrose with 0.45% normal saline (NS), and then started on maintenance fluids of 5% dextrose with 0.9%NS. Critical care transport was arranged.

Upon the transport team arrival, the patient was found to be lethargic but following commands. His pulse was 110 BPM, and BP was 101/53 mmHg. His oral mucosa was moist. Respiration were shallow but unlabored. His abdomen was soft. His extremities were cool with diminished radial pulses. Repeat BP after transitioning him to the transport monitor was 82/55 mmHg with pulse of 113 BPM. Per transport team protocols and after consulting with the receiving attending, the patient was started on 20 ml/kg lactated ringer bolus to be administered over one hour. During transport, the patient developed hypotension (BP 52/28 mmHg) and a norepinephrine infusion was initiated per transport team shock protocol via peripheral IV at 0.5 mcg/kg/min with improvement in his blood pressure and heart rate. While in the ambulance, the patient complained of dyspnea, but was never hypoxic. Repeat laboratories were deferred until arrival to the Pediatric Intensive Care Unit (PICU). Upon arrival in the PICU, his BP was 92/59 mmHg with a mean arterial pressure (MAP) of 70 mmHg and pulse 82 BPM.
CASE REPORT

**Table 1.**

<table>
<thead>
<tr>
<th>Test</th>
<th>Normal range/Units</th>
<th>11 days prior to ED presentation</th>
<th>ED presentation</th>
<th>Admission to the PICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>133–143 MEQ/L</td>
<td>128</td>
<td>118</td>
<td>113</td>
</tr>
<tr>
<td>Potassium</td>
<td>3.4–4.7 MEQ/L</td>
<td>4.8</td>
<td>5.2</td>
<td>4.7</td>
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<td>Chloride</td>
<td>98–115 MEQ/L</td>
<td>96</td>
<td>79</td>
<td>84</td>
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<td>CO2</td>
<td>22–32 MEQ/L</td>
<td>24</td>
<td>15</td>
<td>15</td>
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<tr>
<td>Anion Gap</td>
<td>3–13</td>
<td>24</td>
<td>24</td>
<td>14</td>
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<td>BUN</td>
<td>7–22 MG/DL</td>
<td>20</td>
<td>29</td>
<td>24</td>
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<tr>
<td>Creatinine, Ser</td>
<td>0.30–0.70 MG/DL</td>
<td>0.42</td>
<td>0.5</td>
<td>0.44</td>
</tr>
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<td>Glucose</td>
<td>60–100 MG/DL</td>
<td>85</td>
<td>33, 45</td>
<td>54</td>
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<tr>
<td>Calcium</td>
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<td>9.6</td>
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**PICU COURSE**

In the PICU, the patient was oriented but confused, with mild tachycardia (HR 106 BPM) and hypotension (BP 85/45 mmHg). Despite the lack of recent sun exposure, his complexion was bronze, and he had areas of hyperpigmentation on the neck [Figure 1] and back [Figure 2] with hyperpigmentation of old scars. Laboratory evaluation done at the time of admission [Table 1] showed hypoglycemia (54 mg/dl) and hyponatremia (113 MEQ/L). Given his physical exam findings, abnormal electrolytes and hypotension requiring vasoactive agents, the suspicion of adrenal insufficiency was high. After obtaining serum for measurement of cortisol and adrenocorticotropic hormone (ACTH), the patient was empirically administered hydrocortisone 100 mg IV and was continued on hydrocortisone 25mg IV every 6 hours (73.5 mg/m²/day). The norepinephrine infusion was replaced with epinephrine at a dose to maintain MAP > 60 mmHg.

Laboratory studies showed an undetectable random cortisol (<0.5 UG/DL) and an elevated ACTH level (1420 pg/ml) during initial presentation [Table 1]. Laboratory studies were performed to evaluate for autoimmune conditions.
included adrenal antibodies, parathyroid antibody, diabetes autoimmune panel, thyroid antibodies and a celiac panel. All were normal except for adrenal antibodies (Table 1). Long chain fatty acids were normal, ruling out X-linked adrenoleukodystrophy.

The patient was diagnosed with primary adrenal insufficiency. He had positive anti-adrenal antibodies. It was unlikely to be infectious because the patient was afebrile and had a normal work-up (normal CBC, negative urinalysis and respiratory pathogen panel).

The epinephrine was able to be weaned and was discontinued over the first 24 hours of hospitalization. Intravenous fluids with sodium and dextrose were continued with close monitoring and improvement in electrolytes. The patient transiently developed hypocalcemia with an inappropriately low parathyroid hormone [PTH] level (Table 1) and was treated with calcitriol and calcium carbonate. The stress dose glucocorticoids were slowly tapered, and the patient was transitioned to maintenance dose of hydrocortisone (9 mg/m²/day) and fludrocortisone by discharge. The patient and his family were taught about stress dose glucocorticoids for emergency use. Follow-up studies showed normalization of calcium and parathyroid hormone after calcitriol and calcium were discontinued.

**DISCUSSION**

New-onset adrenal insufficiency is uncommon in pediatrics, but the diagnosis must be considered with a constellation of findings that are often indolent. Signs and symptoms of primary adrenal insufficiency can include fatigue, weight loss and decreased appetite, hyperpigmentation, hypotension, salt craving, nausea, vomiting, diarrhea, abdominal pain, and behavioral symptoms. Acute adrenal failure and adrenal shock can present with severe weakness, confusion, back or leg pain, severe abdominal pain, vomiting and diarrhea leading to dehydration, reduced consciousness and delirium. Classic electrolyte derangements of primary adrenal insufficiency include hypernatremia, hypekalemia, and hypoglycemia.

Our patient initially presented to the pediatrician with indolent symptoms. Work-up with initial laboratories was appropriate. It is unclear why, after abnormal labs were noted, there was no timely follow-up. At the time of presentation to the ED, as well as during transport to the tertiary care facility, the patient was in shock due to primary adrenal insufficiency. It is important for both Emergency Medicine physicians, as well as transport team personnel, to recognize these symptoms and consider the possibility of adrenal insufficiency, even in the pediatric population, and to administer hydrocortisone for refractory shock.

Primary adrenal insufficiency can be due to autoimmune adrenalitis (Addison’s disease), congenital adrenal hyperplasia, or acute adrenal destruction such as occurs with adrenal hemorrhage, infections (tuberculosis, histoplasmosis, coccidiomycosis, HIV, cytomegalovirus), metastases, amyloidosis and sarcoidosis. In males, X-linked adrenoleukodystrophy (ALD) can present with adrenal insufficiency as the first symptom. Other symptoms can include myelopathy and cerebral involvement. This mutation causes high levels of very long-chain fatty acids (VLCFA) in the plasma that accumulate in the white matter of the brain, spinal cord, and adrenal cortex. Newborn screening tests have been routinely checking for congenital adrenal hyperplasia for over 20 years, and in 2018 X-linked adrenoleukodystrophy was added to the Rhode Island Newborn Screen.

Autoimmune polyglandular syndromes can also present with primary adrenal insufficiency. We screened our patient for other autoimmune conditions, including type 1 diabetes mellitus, autoimmune thyroiditis, and celiac disease, and all screening tests were negative. Interestingly, our patient developed hypocalcemia and hypoparathyroidism, and the combination of these, adrenal insufficiency and hypoparathyroidism are seen in type 1 autoimmune polyendocrine syndrome (APS1) or autoimmune polyendocrinopathy candidiasis ectodermal dystrophy (APECED). Other symptoms of APECED are chronic mucocutaneous candidiasis and ectodermal dysplasia. APECED is caused by mutations in the gene AIRE (autoimmune regulator) which is expressed by the thymus and can be associated with other autoimmune conditions. Our patient did not have any history of candida infections nor any ectodermal dysplasia. His parathyroid antibodies were also negative, and the hypoparathyroidism resolved over a month with calcium supplements.

There have been a few other case reports of pediatric patients presenting in shock and found to have acute adrenal insufficiency. All of the reports described that the patients presented with hyperpigmentation. They also all had a poor response to vasopressors and did not improve until stress dose steroids were administered. One study of adults with adrenal crisis showed that some patients presented with low cardiac index and increased systemic vascular resistance, while others presented with high cardiac output and low systemic vascular resistance, as is seen in septic shock. Patients with adrenal shock often have a poor response to vasopressors, similar to patients with critical illness-related corticosteroid insufficiency. These patients often remain in shock despite fluid resuscitation and high dose vasoactive agents, but do respond to hydrocortisone therapy, as occurred in our patient. At initial presentation, it is not possible to differentiate patients with septic shock from those with adrenal crisis, and further laboratory evaluation is necessary to make the diagnoses. History and physical exam can provide indications of primary adrenal insufficiency, such as longstanding vague abdominal complaints, salt craving, and hyperpigmentation, though not all individuals will have classic symptoms.

Patients with known adrenal insufficiency require a plan...
by their providers for stress dosing of glucocorticoid to replicate the cortisol stress response. Stress glucocorticoids are administered in the setting of physiologic stress such as fever, fractured bone, vomiting or dehydration, and prior to induction of anesthesia. If patients are unable to tolerate oral glucocorticoids, hydrocortisone can be administered intramuscularly. Treatment of adrenal crisis includes administration of hydrocortisone, 50–100 mg/m² bolus, IV or intramuscularly, followed by a maintenance dose of 50–100 mg/m²/day either as a continuous infusion or as boluses given every 6 hours. Oral hydrocortisone can be used if patients are able to tolerate, followed by a taper based upon symptoms. Hydrocortisone is utilized rather than dexamethasone or methylprednisolone, because it provides potent glucocorticoid, and, at high doses, mineralocorticoid effect. Hydrocortisone is also preferred over methylprednisolone due to pharmacokinetics of faster absorption and shorter half-life. Dexamethasone only provides glucocorticoid effect, so it is not ideal for stress dosing. It is also difficult to titrate and its use often leads to overtreatment, so it is not typically used as a maintenance medication in the pediatric population. Both prednisolone and dexamethasone also can cause adverse metabolic changes such as hyperlipidemia, diabetes mellitus and weight gain when used chronically. In addition to hydrocortisone, IV fluids with dextrose and normal saline should be administered as per standard resuscitation guidelines during an adrenal crisis.

CONCLUSION

Acute adrenal insufficiency presenting in shock is rare in pediatrics, but must be considered in the differential diagnosis. Signs and symptoms suggestive of adrenal insufficiency include an indolent course of symptoms including abdominal pain and vomiting, salt-craving, and hyperpigmentation. Resuscitation and initiation of IV fluids along with an inotrope if needed would be first line, but if the patient is not responding to these, it is important to consider glucocorticoids for treatment of adrenal insufficiency. EMS and transport team protocols should include consideration of IV hydrocortisone for patients in refractory shock.

References

Disclaimer
The views expressed here are those of the authors and do not necessarily reflect those of Hasbro Children’s Hospital.

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ABSTRACT
Rhino-orbital Cerebral Mucormycosis (ROCM), a rare invasive fungal infection, affects diabetic and immunocompromised individuals. Recent reports have raised the alarm for invasive ROCM associated with SARS-CoV-2 infection. SARS-CoV-2 infection causes immune cell dysregulation, cytokine dysregulation, and is associated with invasive fungal infections. Immunosuppressive treatment of COVID-19 with corticosteroids increases the risk of opportunistic infection. We present a series of 3 cases of invasive ROCM with different outcomes in immunocompetent nondiabetic patients who all received corticosteroids at doses higher than those recommended by the World Health Organization, and who received oxygen during their SARS-CoV-2 treatment course. Immune dysregulatory effects of COVID-19 and high-dose corticosteroids may both have caused predisposition to ROCM in these cases. Additionally, health system stress caused by responding to COVID-19 surges may have predisposed patients to exposure to mucormycosis-causing fungi through use of non-sterilized water for oxygen humidification. In light of these cases, we encourage guideline-based corticosteroid dosing in the management of COVID-19 as well as vigilance for invasive mucormycosis and prompt treatment in corticosteroid-treated patients.

KEYWORDS: ROCM, mucormycosis, COVID-19, SARS-CoV-2

BACKGROUND
Rhino-orbital Cerebral Mucormycosis is a rare form of invasive fungal sinusitis which typically occurs in patients with diabetes and in immunocompromised patients. Fungi of the order Mucorales, most commonly of the genera Rhizopus and Mucor, cause mucormycosis. These fungi and their spores are commonly found in human environments. ROCM associated with COVID-19 was first reported in September 2020. Since then, there have been several reports of invasive mucormycosis associated with COVID-19. Pasero et al reported a case of pulmonary mucormycosis from Italy, and Garg et al reported another case of pulmonary mucormycosis in a diabetic patient who received steroids for 14 days. Khatri et al reported a case of mucormycosis after COVID-19 infection in a heart transplant patient.

We present three cases of invasive mucormycosis in non-diabetic patients who developed the disease in association with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection and treatment of the Coronavirus disease (COVID-19) with corticosteroids. We then discuss current recommendations for treatment of ROCM in the context of severe COVID-19.

CASE PRESENTATIONS
Case 1
A 67-year-old nondiabetic man from India with a history of chronic kidney disease was admitted to the hospital for severe SARS-CoV-2 infection and treated with dexamethasone 6 mg twice a day for 10 days. He developed invasive ROCM on day 11 after initial diagnosis, presenting with nasal stuffiness, left facial pain, left side ptosis, periorbital edema, and vision loss. Magnetic resonance imaging (MRI) showed disease extending into the orbital apex. The diagnosis was confirmed by KOH mount of a nasal swab. He received intravenous liposomal amphotericin B (3g total), followed by Posaconazole. The patient underwent endoscopic surgical debridement by modified Denker’s approach with clearance of disease from the nasal cavity, sinuses, pterygoid fossa, and inferior orbital fissure. He was disease free at 4 months follow-up, but vision loss persisted.

Case 2
A 71-year-old non-diabetic man from India with a history of asthma was admitted to the hospital for severe COVID-19 and was treated with dexamethasone 6 mg twice per day for 10 days. He developed invasive ROCM on day 11 after initial diagnosis, presenting with nasal stuffiness, left facial pain, left side ptosis, periorbital edema, and vision loss. The diagnosis was confirmed by KOH mount of a nasal swab. He received intravenous liposomal amphotericin B (3g total), followed by Posaconazole. The patient underwent endoscopic surgical debridement by modified Denker’s approach with clearance of disease from the nasal cavity, sinuses, pterygoid fossa, and inferior orbital fissure. He was disease free at 4 months follow-up, but vision loss persisted.

Case 3
A 65-year-old nondiabetic man from Egypt with a history of asthma without use of inhaled steroids, chronic kidney disease and hypertension, presented to the hospital with fever and dyspnea and was admitted for acute hypoxemic
respiratory failure. He was diagnosed with severe COVID-19 requiring ICU admission, and treated with remdesivir, tocilizumab and dexamethasone 8 mg twice daily for 10 days. After initial improvement, he developed facial pain and headache. Non-contrast computed tomography of the nasal sinuses showed evidence of maxillary sinusitis. On day 11 after his diagnosis, the patient developed worsening facial pain, headache, and a change in mental state. KOH 10% mount of a nasal swab was obtained for microscopic examination and revealed broad non-septate filamentous fungal hyphae suggestive of mucormycosis. The diagnosis of ROCM was confirmed by Sabourin’s Agar culture showing cottony growth with black spores, He was treated with intravenous liposomal Amphotericin B but did not undergo surgical debridement. The patient developed orbital compartment syndrome and expired 16 days after his initial diagnosis with COVID-19. (See Figures 1,2,3.)

**Figure 1.** Hospital day 11: Patient develops sinus pain and headache.

**Figure 2.** Hospital day 13: Patient develops ptosis, vision loss and change in mental status.

**Figure 3.** Hospital day 16: Patient develops orbital compartment syndrome and expires.

**DISCUSSION**

We present three cases of invasive ROCM in immunocompetent nondiabetic patients with SARS-CoV-2 infections. The incidence of ROCM with SARS-CoV-2 infection remains unknown, with published data limited to case reports and small series. In these and other series with mucormycosis, diabetes and other immunocompromised diagnoses prevail. All of our cases, like those previously reported, received high daily doses of dexamethasone.11 Our series demonstrates the risk of ROCM in individuals without diabetes who are treated for COVID-19 with high doses of dexamethasone.

The World Health Organization (WHO) recommends dexamethasone 6 mg daily for 7–10 days for management of severe and critical COVID-19.12 The patients reported here received corticosteroids at doses higher than those recommended by the WHO in environments where hospitals were severely constrained in resources. Corticosteroids have been recommended in the treatment of severe and critical cases of COVID-19 by the WHO after the publication of data from the Oxford RECOVERY trial demonstrated mortality benefit.13

Glucocorticoids inhibit host immunity through multiple effects, most notably by causing a variety of functional abnormalities in T lymphocytes, polymorphonuclear cells, monocytes, and macrophages. Glucocorticoids at high doses have been associated with mucormycosis, especially in patients treated for cancer and those with solid organ transplants.14 High-dose glucocorticoids have been primarily associated with pulmonary mucormycosis, with ROCM appearing infrequently in these patients.15 It is possible that high dose immunosuppressive therapy is necessary but not sufficient to cause mucormycosis in immunocompetent older adults.

Several studies have shown that individuals with severe COVID-19 develop lymphopenia, T cell dysregulation, and other immune and cytokine dysregulation.16 Because Mucorales specific T cells CD4+ and CD8+ are active against mucorales by producing cytokines that could directly damage hyphae, SARS-CoV-2 immune dysregulation could contribute to the risk of development of ROCM.

Other risks for ROCM include the strain on health care systems from the sudden surge of SARS-CoV-2 cases. There are numerous reports of rationing medical supplies, and the need for improvised supplies in some cases.17 Hospitals where care demand has exceeded capacity have reported insufficient resources to provide the care of critically ill patients, such as sterile water for the humidification of oxygen. Because non-sterilized water may become colonized with fungus18 when used for delivery of humidified oxygen, it could add to risk of the development of ROCM. We were only able to confirm that humidified oxygen was used in one of our individual patients.

The possibility of ROCM in cases of COVID-19 treated with dexamethasone warrants heightened consideration among clinicians. The initial test in the diagnosis of invasive ROCM is a non-contrast CT scan of the paranasal sinuses. MRI with contrast can be obtained if intraorbital
or intracranial spread is suspected. Imaging findings of focal bony erosions or spread out of the paranasal sinuses suggest the diagnosis. Intravenous Liposomal Amphotericin B is the antifungal of choice. Prognosis of invasive ROCM is poor with reported mortality from intracerebral and intraorbital complications exceeding 50%.19

ROCM is a rare infection that can occur in the setting of uncontrolled diabetes, malignancy and in immunocompromised patients, and may occur as a complication of COVID-19 treated with high-dose dexamethasone. Plausible mechanisms of ROCM pathogenesis in the setting of COVID-19 include immunosuppression caused by dexamethasone, immune dysregulation caused by COVID-19, and effects of health system disruption, with the possibility that oxygen humidification with non-sterilized water could play a role. We recommend that providers use guideline-based doses of corticosteroids in the treatment of severe SARS-CoV-2 absent any clear indication for higher doses. For providers treating SARS-CoV-2 we recommend vigilance for signs and symptoms of invasive mucormycosis, even in immunocompetent patients without diabetes. More research and international collaboration are needed to understand possible mechanisms.

References

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The ‘Eyes’ Have It: Mantle Cell Lymphoma

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ABSTRACT
Lymphomas presenting as a conjunctival mass/es is a rare occurrence. The symptoms can be vague including eye itchiness and dryness. Biopsy and comparative pathological review with a prior lymph node biopsy (if a prior diagnosis exists) is key to the diagnosis. Failure of prompt recognition and referral to biopsy may lead to under-diagnosis and unnecessary delays in management.

CASE PRESENTATION
A 71-year-old asymptomatic male was diagnosed with a low-grade mantle cell lymphoma (MCL) stage IIIAS, LDH normal. Serial PETs over 9 months remained stable. He then noted bilateral eye irritation, with OD/OS superior/inferior bulbar subconjunctival bullous pink masses confirmed on exam. Biopsy confirmed MCL, Ki-67 ~15%. He completed focal radiation and had a complete sustained response (CR). See Figure 1, images D, E, F show corresponding post-treatment [local radiation] images with resolution.

DISCUSSION
Lymphomas constitute ~7% of conjunctival tumors, 1 98% are B cell, and ~90% of these are low grade.2 The incidence of conjunctival lymphoma is 2–4/1,000,000.3 Symptoms include irritation, ptosis, and erythema; physical exam shows salmon-colored masses or patches. Therapy may include surgery, cryotherapy, radiation, systemic chemotherapy, or anti-B cell therapy; radiation is the usual initial treatment for the indolent lymphomas.4 The CR rate with local radiation is >90% for isolated conjunctival lymphoma.2

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The Wandering IVC Filter
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INTRODUCTION
Inferior Vena Cava (IVC) filter placement is considered when there is an absolute contraindication to anticoagulation, complication associated with anticoagulation, or if there is failure of anticoagulation. There are both retrievable and non-retrievable IVC filters and both are associated with similar risks, including: IVC thrombosis, perforation with possible visceral or aortic injury filter migration, filter penetration and fracture with embolization of filter struts as seen in our case.

CASE PRESENTATION
The patient is an 81-year-old male who presented with 3 days of worsening transient chest pain with radiation into the right jaw, bilateral shoulders, and back. The patient was hemodynamically stable, with normal blood work including two serial troponins. An EKG showed RBBB with ST segment elevations in leads aVL, and V3-V6 indicative of a lateral STEMI, without troponin elevation.

Past medical and surgical history included GERD, Nissen fundoplication, Type 2 diabetes, coronary artery disease (status post LAD and RCA stenting in 2019), and atrial fibrillation, as well as deep vein thrombosis and pulmonary embolism. He previously underwent Cook Celect IVC filter placement in 2011 after suffering a severe upper gastrointestinal bleed from anticoagulation trial from previous venous thromboembolism.

The patient underwent urgent cardiac catheterization which showed patent prior stenting of the LAD and 30% occlusion of the proximal RCA with a patent stent in place and a small wire that appeared similar to a vessel prior to injection of dye (Figure A). Under fluoroscopy the patient was noted to have a small wire noted in the right ventricle, not seen on prior cardiac catheterization performed in 2019 (Figure B, C). Interventional radiology reviewed all current and prior imaging and the wire was thought to be an embolized IVC filter strut that was now endothelialized and missing from its original position (Figure D). The patient remained asymptomatic and was discharged.

At cardiology and vascular interventional radiology follow-up he remained asymptomatic and his prior chest pain was thought to be secondary to GERD. The patient underwent CT chest and abdomen for further monitoring of the IVC filter and embolized strut. The embolized RV strut was unable to be visualized due to poor image quality but the IVC filter was noted to have a fractured strut compared to prior imaging. The patient underwent elective IVC filter
removal and a missing strut was confirmed on the removed IVC filter. At this time the patient will continue with medical management of his chronic medical conditions and will undergo annual cardiac CT scans to monitor the embolized IVC filter strut.

**CONCLUSION**

There are studies investigating the complications associated with IVC filters but, very few account for cases of IVC filter fracture and embolization. Other sites of embolization include the heart, aorta, liver, renal vein, and lungs. The incidence of migration ranges from 3%-12% and with migration to the heart from 0.1% to 0.2%. While some patients remain asymptomatic, the most common complications include venous thromboembolism. Cardiac tamponade is a rare event. Similar to this case, management is through a conservative approach with close observation and serial imaging for asymptomatic patients, and wire retrieval if complications occur. This case demonstrates that IVC filters may result in unanticipated complications and should be employed only in the event of an absolute contraindication to anticoagulation. Patients should also be aware of IVC filter complications as well the need for close post placement follow-up.

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Changes in Sick Visits at an Academic Pediatric Primary Care Practice due to the COVID-19 Pandemic

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ABSTRACT

BACKGROUND/OBJECTIVE: The COVID-19 pandemic decreased pediatric patient volumes; however, details regarding patterns of use within primary care sick visits are not well understood.

METHODS: We performed a retrospective chart review of sick visits in an academic primary care clinic from March-August 2019 and 2020 and recorded demographics and visit diagnoses. Descriptive statistics, Chi-square, and Fisher's exact tests were used to compare the two time periods.

RESULTS: Patient age, gender, and insurance type were similar across years. In 2020, there were 1,868 sick visits (247 telehealth, 4%–36% of monthly visits) compared to 4,007 (0 telehealth) in 2019. The proportion of infectious diagnoses decreased (35% vs 48%); non-infectious diagnoses increased, including dermatological (25% vs 19%) and genitourinary/reproductive (9% vs. 6%) diagnoses.

CONCLUSION: Similar to pediatric emergency departments, we found decreased primary care sick visits. Telehealth increased in 2020 and varied with COVID-19 community prevalence. Visits for contagious illnesses decreased in 2020, likely related to mitigation measures.

KEYWORDS: COVID-19, pediatric, outpatient, sick visits, primary care

INTRODUCTION

The COVID-19 pandemic decreased pediatric patient volumes for both sick and well children. Studies have shown 10% of pediatric practices were closed, with 19% of practices not offering routine immunizations. In addition to well visits, pediatric sick visit volumes were significantly affected by the pandemic. In the first months of the pandemic, pediatric emergency room visits decreased by 68% and hospitalizations decreased by 45%. Other studies have shown this trend to continue through August 2020, with emergency room visit volumes decreased by 46% compared to the year prior.

Stay-at-home orders and social distancing played a major role in these declines by way of reducing illness exposure, with some studies finding a reduction of over 60% in contagious illnesses such as bronchiolitis and gastroenteritis. At the same time, the incidence of urinary tract infections, a non-communicable disease, has been shown to remain relatively stable. The pandemic also resulted in other changes in patterns of illness in pediatrics, including delays in care, increases in physical child abuse, and decreases in daycare, school, and organized sports–related injuries as well as trauma operations.

Little is known about how the pandemic has impacted sick visits in pediatric primary care offices. This setting differs from emergency settings in access to resources such as personal protective equipment and space limitations, particularly when trying to continue to provide preventive well care for healthy children. In addition, outpatient pediatric practices have less familiarity with infection control practices, which are standard in emergency rooms and hospitals, requiring many offices to make adaptations in their standard operating procedures to continue to care for children amidst a pandemic. Practices have made adjustments not required of emergency rooms such as scaling back visits, expanding telemedicine, cohorting sick and well patients by time and space, and separating staff into sick and well teams.

To address some of the challenges of in-person visits during a pandemic, some pediatric offices expanded the use of telemedicine. In 2019, only 8% of Americans had used telemedicine. By March 2020, amidst stay-at-home orders, the United States issued waivers for telemedicine regulations, and insurance providers expanded their coverage to include telemedicine visits. Many practices rapidly integrated telemedicine, with one study finding 44% of Medicare primary care visits were provided through telemedicine compared with less than one percent before the pandemic.

We examined in-person and telemedicine sick visits over a six-month period early in the pandemic in a pediatric primary care office to investigate changes in sick visit patterns compared to the year prior.

METHODS

We conducted a retrospective chart review of all sick visits within a large urban academic pediatric primary care clinic at Hasbro Children’s Hospital in Rhode Island between March–August 2019 (before the COVID-19 pandemic) and March–August 2020 (early in the COVID-19 pandemic). The
CONTRIBUTION

A clinic serves children from multi-ethnic backgrounds and families with low income and offers same-day sick visits. Pediatric faculty and residents staff the clinic. The hospital Institutional Review Board approved this study.

We included in-person and telemedicine sick visits for patients up to age 18. We excluded well child and follow-up visits. Charts were reviewed for patient demographics (age, gender, chart-documented race and ethnicity, and preferred language), method-of-visit delivery (in-person or telemedicine), and visit diagnoses. Encounter date was used to generate tallies of total sick visits each day for both time periods.

We reviewed International Classification of Diseases – 10 billing diagnosis codes to determine visit diagnoses. We further categorized diagnoses into one of 16 categories: acute otitis media (AOM), allergy, asthma, cardiology, non-infectious gastroenterology, genitourinary (GU)/reproductive, infectious, injury, musculoskeletal, neurological, newborn concerns, non-infectious head/ear/eye/nose/throat (HEENT), psychological/behavior, dermatologic, surgical, and “other” if diagnosis did not fall into one of the previous groups. Any question that came up regarding the categorization of a diagnosis was marked and categorized by group consensus. If a visit had two separate diagnoses (for example, acute otitis media and urinary tract infection), we included both diagnoses categories in our analysis.

Statistical Analysis

We performed descriptive analysis and compared patient demographics and sick visits by month between 2019 and 2020 using Chi-square tests. We superimposed key pandemic milestones onto a histogram of visits over time for 2020. We ranked diagnosis categories in 2019 by highest incidence and compared this to the overall incidence of each diagnosis in 2020, using Chi-square and Fisher’s exact tests to compare the proportion of diagnoses in 2019 to 2020. We also reported six selected diagnosis categories (AOM, asthma, infectious, GU/reproductive, psychological, and dermatologic) and show monthly visit data for these categories in 2019 and 2020 in histogram format. The diagnosis categories were chosen to represent those with some seasonal variation and some non-seasonal diagnoses and align with related literature.2,10,11

We also reported diagnosis categories for telemedicine visits in 2020.

RESULTS

From March 1st to August 31st, 2019, there were 4,007 sick visits, with zero telemedicine visits. In the same time period in 2020, there were fewer visits, with 1,868 sick visits. Median patient age, gender, and percentage of patients with Medicaid were similar between 2019 and 2020. There was significant variation in distribution of monthly sick visits in 2019 compared to 2020 (p<0.001, see Table 1). Figure 1 shows visits over time in the study period.

Table 1. Patient demographics and monthly sick visits from March through August 2019 and 2020

<table>
<thead>
<tr>
<th></th>
<th>2019 N=4007</th>
<th>2020 N=1868</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years, median (IQR)</td>
<td>5 (1-11)</td>
<td>6 (2-11)</td>
<td>0.080</td>
</tr>
<tr>
<td>Female gender, n(%)</td>
<td>2003 (50)</td>
<td>966 (52)</td>
<td>0.229</td>
</tr>
<tr>
<td>Medicaid, n(%)</td>
<td>3513 (88)</td>
<td>1654 (89)</td>
<td>0.054</td>
</tr>
<tr>
<td>Monthly sick visits, n(%)</td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>March</td>
<td>748 (19)</td>
<td>456 (24)</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>842 (21)</td>
<td>206 (11)</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>806 (20)</td>
<td>234 (13)</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>515 (13)</td>
<td>286 (15)</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>554 (14)</td>
<td>363 (19)</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>542 (14)</td>
<td>323 (17)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Overall incidence of diagnosis categories from March to August in 2019 and 2020

<table>
<thead>
<tr>
<th>Rank</th>
<th>Diagnosis</th>
<th>Number of visits (%)</th>
<th>Rank</th>
<th>Diagnosis</th>
<th>Number of visits (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Infectious</td>
<td>1912 (48)</td>
<td>1</td>
<td>Infectious</td>
<td>645 (35)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2</td>
<td>Dermatologic</td>
<td>777 (19)</td>
<td>2</td>
<td>Dermatologic</td>
<td>468 (25)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>3</td>
<td>Allergic</td>
<td>297 (7)</td>
<td>8</td>
<td>Allergic</td>
<td>110 (6)</td>
<td>0.037</td>
</tr>
<tr>
<td>4</td>
<td>Non-infectious HEENT</td>
<td>299 (7)</td>
<td>4</td>
<td>Non-infectious HEENT</td>
<td>166 (9)</td>
<td>0.067</td>
</tr>
<tr>
<td>5</td>
<td>Gastroenterology</td>
<td>273 (7)</td>
<td>5</td>
<td>Gastroenterology</td>
<td>144 (8)</td>
<td>0.234</td>
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<tr>
<td>6</td>
<td>GU/reproductive</td>
<td>250 (6)</td>
<td>3</td>
<td>GU/reproductive</td>
<td>176 (9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>7</td>
<td>Other</td>
<td>248 (6)</td>
<td>7</td>
<td>Other</td>
<td>128 (7)</td>
<td>0.363</td>
</tr>
<tr>
<td>8</td>
<td>Asthma</td>
<td>235 (6)</td>
<td>11</td>
<td>Asthma</td>
<td>64 (3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>9</td>
<td>Injury</td>
<td>233 (6)</td>
<td>6</td>
<td>Injury</td>
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<td>0.138</td>
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<tr>
<td>10</td>
<td>Acute Otitis Media</td>
<td>218 (5)</td>
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<td>Acute Otitis Media</td>
<td>45 (2)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>11</td>
<td>Musculoskeletal</td>
<td>162 (4)</td>
<td>10</td>
<td>Musculoskeletal</td>
<td>78 (4)</td>
<td>0.86</td>
</tr>
<tr>
<td>12</td>
<td>Newborn Concerns</td>
<td>136 (3)</td>
<td>9</td>
<td>Newborn Concerns</td>
<td>100 (5)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>13</td>
<td>Neurological</td>
<td>125 (3)</td>
<td>13</td>
<td>Neurological</td>
<td>51 (3)</td>
<td>0.464</td>
</tr>
<tr>
<td>14</td>
<td>Psychological</td>
<td>105 (3)</td>
<td>12</td>
<td>Psychological</td>
<td>61 (3)</td>
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<tr>
<td>15</td>
<td>Cardiology</td>
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<td>15</td>
<td>Cardiology</td>
<td>37 (2)</td>
<td>0.102</td>
</tr>
<tr>
<td>16</td>
<td>Surgical</td>
<td>5 (0)</td>
<td>16</td>
<td>Surgical</td>
<td>6 (0)</td>
<td>0.115c</td>
</tr>
</tbody>
</table>

Table 2. Overall incidence of diagnosis categories from March to August in 2019 and 2020

a Encounters may have had multiple diagnoses, thus percentages add up to >100%

b Chi-square test unless otherwise indicated. Bolded values indicate p<0.05

c Fisher’s exact test
Telemedicine Visits
Telemedicine visits started in March 2020, immediately after Rhode Island law expanded access to telemedicine. Telemedicine visits continued through the 2020 study period with a total of 247 visits over six months (13% of all sick visits). April and May had the highest number of telemedicine sick visits with 71 and 63 visits respectively (35% and 27% of monthly visits). March had the lowest number of telemedicine visits with 18 visits (4% of visits).

Diagnosis Frequency
There were fewer visits for every diagnosis category in 2020 compared to 2019 [see Table 2]. The proportion of visits in the general infectious diseases category and AOM category were significantly decreased in 2020 compared to 2019 (35% vs. 48% and 2% vs. 5%, respectively, p<0.001 for both). Newborn concerns also decreased in 2020 compared to 2019 (p<0.001, 5% vs 9%). In contrast, the proportion of visits for the majority of non-infectious diagnosis categories were increased in 2020 compared to 2019, such as dermatological disorders [p<0.001, 25% vs. 19%], GU/reproductive [p<0.001, 9% vs. 6%], and allergic [p = 0.037, 7% vs. 6%]. Of the 247 telemedicine visits in 2020, the most common diagnoses were dermatological disorders [n=90, 36%], general infectious diseases [n= 79, 32%], and allergic conditions [n=30, 12%].

Monthly Changes in Select Diagnosis Over Time
Contagious illnesses, including AOM and viral illnesses, were seen more at the beginning of the pandemic and decreased throughout. Genitourinary, dermatologic, and psychiatric chief complaints were relatively stable throughout the pandemic (Figure 2).

DISCUSSION
Changes in sick visit volume and type were seen during the COVID-19 pandemic. Not surprisingly, there were fewer in-person sick visits in the early part of the pandemic, similar to data found in both pediatric and adult emergency medicine studies. Every diagnosis category in 2020 had fewer visits than 2019. While we expected a decrease in visits for contagious chief complaints, the reduction in visits for several non-infectious categories raises the question of missed diagnoses or delays in care. For example, there were about one-third fewer visits for newborn concerns, which is surprising as the birth rate remained relatively stable. Parents of newborns...
were likely weighing the risk of exposure to COVID-19 with the significance of their newborn concerns and opted to stay home. While this may have resulted in fewer visits for the “worried well” and more prudent care utilization, it may have also resulted in increased stress for parents and increased the risk of newborn complications such as dehydration, hyperbilirubinemia, and need for exchange transfusions. With fewer newborn visits, there were also fewer opportunities for breastfeeding support, close monitoring of weight gain, and screening for post-partum depression. Not surprisingly, Edinburg Postnatal Depression Scales were found to be higher during the pandemic, indicating an increased urgency for pediatric providers to screen for maternal depression despite decreased newborn volume. Other studies have also shown an increase in complications outside of the newborn period due to delays in care in the setting of the pandemic, such as an increase in rates of complicated appendicitis.

The top sick visit diagnostic categories in our study were infectious and dermatologic in 2019 and 2020. Other literature has found respiratory infections, pharyngitis, and fever to be the top diagnoses in 2019. Our 2020 data appears to be similar to top diagnosis codes found in the literature, with other studies also finding fever and rash to be most common reasons for sick visits. Some categories of diagnoses varied through the 2020 pandemic, while others remained stable. For example, the number of visits for AOM and contagious illnesses was highest at the start of the pandemic before the implementation of social distancing measures. However, other diagnosis categories, such as GU complaints, remained stable across the months, likely because they were not affected by social distancing measures.

Interestingly, our study saw a decrease in psychiatric visits in the early part of the 2020 pandemic, appearing to mirror the seasonal trend seen in the same months in 2019. At baseline, the patients in our clinic, which serves predominately families with low income, experience many behavioral and psychological needs. Other studies have found significantly increased volumes in children presenting to pediatric emergency departments with mental-health related diagnoses. It is possible that we saw a lower volume of psychiatric visits because our study was early in the pandemic. It is also possible that this represents a difference in trends in primary care versus emergency visits. Further research is needed to evaluate psychiatric and behavioral visit trends specifically in pediatric primary care throughout the pandemic.

Telemedicine was utilized starting in March 2020, with some months having more than one-third of visits as telemedicine visits. The percentage of telemedicine visits varied by month, but this data shows how a pediatric practice, familiar with telephone triage but not telemedicine, quickly adapted to implementing telemedicine almost immediately after an executive order expanding access to telemedicine was issued. This data is similar to other reports in the literature which show a steep drop-off of pediatric in-person visits in March 2020 with a rapid increase in telemedicine visits at the start of the pandemic. Our telemedicine volumes were highest in April and May of 2020 which reflects the months when the highest numbers of positive COVID-19 tests were reported in Rhode Island. Telemedicine volumes decreased from June to August while in-person visits increased compared to the first three months of the pandemic. Perhaps as numbers in the community decreased, families felt more comfortable bringing children into the office, and telemedicine visits decreased. The top three diagnosis categories for telemedicine visits were dermatologic, infectious, and allergic respectively. Other studies have found similar results, with high percentages of visits for dermatologic and respiratory system diagnoses, which is notable, as these concerns often necessitate a physical exam.

Our study has several limitations. This study was a retrospective chart review of billing diagnosis codes only, thus we are limited by the information that providers documented in the medical record. Our infectious category was broad and included visit types such as fever and pharyngitis whereas other literature has separated these out in distinct categories, making direct comparisons between studies difficult. In addition, this study was performed at a large, urban academic medical center which serves predominately families with low income and may not be generalizable to other clinical settings such as private practices or more rural areas. Lastly, our study was conducted in a state which imposed restrictions early in the pandemic, and thus it may not be generalizable to other settings or regions.

Further research is needed to better understand how these changes may have affected patient care as well as help determine best practices in managing patient flow during different phases of a pandemic while still maintaining access to quality care in a medical home.

CONCLUSION
This study analyzes how pediatric, outpatient acute care was affected by the COVID-19 pandemic. There were decreased sick visits in all diagnosis categories in 2020 compared to 2019. Our findings suggest that pediatricians should continue to encourage families to seek timely and appropriate care for illnesses. In addition, our study highlights the evolving role of telemedicine in pediatric urgent care.

References


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Conflict of Interest Disclosures
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Characterizing Post-treatment Lyme Disease Syndrome: A Mixed Methods Study of Patients at a Lyme Disease Clinic in Rhode Island

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ABSTRACT

BACKGROUND: Mixed quantitative and qualitative research methods may be useful for characterizing the experiences of patients with post-treatment Lyme disease syndrome.

METHODS: 15 participants completed demographic and screening questions, surveys assessing quality of life, fatigue, pain, cognitive functioning, and other patient-reported outcomes, a semi-structured in-depth interview, and consented to a Lyme-related medical chart review.

RESULTS: Participants reported mild to moderate symptoms and functional impairments on patient-reported outcome surveys and in-depth interviews. Participants reported on a number of management strategies that they found more or less effective in managing their symptoms. Participants endorsed the need for better clinical assessment of symptom patterns over time, greater Lyme-related education for providers, more holistic approaches to diagnosis and care, and the desire to participate in Lyme-focused support groups.

CONCLUSIONS: Overall, participants desired a more holistic approach to diagnosis, symptom assessment, and symptom management. Recommendations for future research and clinical considerations are discussed.

KEYWORDS: post-treatment Lyme disease, mixed methods, patient-reported outcomes, quality of life

INTRODUCTION

The Centers for Disease Control and Prevention (CDC) estimate that approximately 476,000 people are diagnosed with Lyme disease in the United States (US) each year,1 and Rhode Island is considered a high incidence state.2 While most acute cases of Lyme disease resolve after 2–4 weeks of antibiotic treatment, an estimated 10-20% of those who undergo treatment experience persistent, debilitating symptoms including fatigue, pain, and impaired cognitive functioning at least 6 months post-treatment – a condition known as post-treatment Lyme disease syndrome, or PTLDS.3-6 Recent estimates indicate that 2020 prevalence for PTLDS may be in the range of 1.6 to 2.3 million cases in the US.7

Our previous work has investigated clinical care at the Lifespan Lyme Disease Center in Providence, RI, using chart review and brief symptom surveys.8,9 The current study employed mixed (i.e., quantitative and qualitative) methods to conduct an in-depth evaluation of 1) PTLDS symptom severity and symptom patterns, 2) which symptom assessment surveys, or survey items, are most relevant for PTLDS patients, and 3) patient recommendations for clinical care of PTLDS. This study aims to advance the science by using participatory methods to engage patients in improving assessment and care of PTLDS.

METHODS

Setting and Sample
Adult patients at the Lifespan Lyme Disease Center with a history of post-treatment symptoms (e.g., pain, fatigue, cognitive disruption) for greater than 6 months after at least 14 days of antibiotic treatment for diagnosed Lyme infection by either erythema migrans rash, Bell’s palsy, or positive Lyme serology as based on the inclusion criteria proposed by the Infectious Diseases Society of America.10

Study Procedures
Interested individuals were screened by phone and eligible patients were scheduled for the one-time, in-person study visit inclusive of written informed consent and medical record release. Participants then completed paper symptom surveys and a semi-structured in-depth interview. Study visits, including the in-depth interview, were conducted by either the principal investigator or project director, both of whom have years of training and experience with mixed methods data collection, and neither of whom are involved in clinical care at the Center. Participants received $60 compensation for study activities completed during the approximately 2-hour, in-person study visit. All procedures were approved by the Miriam Hospital Institutional Review Board 205918 45 CFR 46.110(7).

Measures
Data collection included demographic (e.g., age and gender) and screening questions, symptom surveys, semi-structured interview questions, and Lyme-related medical history obtained from the patient’s medical record.

Short Form (SF)-36
The SF-36 includes eight subscales which assesses various
general aspects of quality of life: physical functioning, bodily pain, role limitations due to physical health problems, role limitations due to personal or emotional problems, emotional well-being, social functioning, energy/fatigue, and general health perceptions. Higher scores represent higher quality of life in the specific domain. The SF-36 has been used in prior studies of PTLDS, and the Cronbach’s alphas varied from .718 to .962 in the current sample.

Fatigue Severity Scale (FSS)
The FSS nine-item scale assesses the effects of fatigue on daily functioning as secondary to other medical conditions. The Cronbach’s alpha in the current sample was .952.

Patient-Reported Outcomes Measurement Information System (PROMIS®)
The following PROMIS scales were administrated to each participant: PROMIS-29 Profile v2.1, Neuro-QOL Item Bank v2.0 – Cognitive Function – Short Form, PROMIS Item Bank v1.0 – Fatigue – Short Form 7a, PROMIS Item Bank v1.0 – Pain Intensity – Scale, PROMIS Item Bank v1.0 – Pain Interference – Short Form 6a, and PROMIS Item Bank v1.0 – Sleep-Related Impairment – Short Form 8a.

Medical Record
Lyme-related information was extracted from each participant’s medical record including 1) earliest positive Lyme serology date, 2) criteria upon which the Lyme diagnosis was made [e.g., erythema migrans rash, Bell’s palsy, positive Lyme serology], 3) documented Lyme-related symptoms, 4) number and length of antibiotic cycles, and 5) whether there was a documented or suspected diagnosis of PTLDS.

In-Depth Interview
Each interview was guided by a semi-structured agenda focused on addressing the aims of the study and allowing flexibility to follow-up on participant responses and explore emergent themes. Participants were asked to describe symptoms and elaborate on the effects of PTLDS on well-being and psychosocial functioning. Participants were asked to provide feedback on the symptom surveys and whether they adequately and comprehensively capture their PTLDS experiences. Participants were also asked to share effective and ineffective symptom management strategies.

Data Analysis
Raw data was entered in IBM SPSS Statistics 20 and scale scores were calculated per established scoring instructions. Cronbach’s alpha (α) was calculated to measure internal consistency for each scale within the current sample. Frequencies and percentages were calculated for demographic and medical variables and means and standard deviations were calculated for all (sub)scale scores. PROMIS raw scale scores were converted to T-scores using the PROMIS T-score conversion tables to allow for comparison between our sample and the calibration sample on which the scores were normalized.

RESULTS
Quantitative Findings
Average participant age was 60.87 years, and the majority of participants were white women (See Table 1). Participants reported mild to moderate symptoms and functional impairments on all study measures (See Appendix A).

Table 1. Demographic and medical variables (N=15)

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>60.87</td>
<td>12.88</td>
</tr>
<tr>
<td>Gender</td>
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<tr>
<td>Female</td>
<td>10</td>
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</tr>
<tr>
<td>Male</td>
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</tr>
<tr>
<td>Race/Ethnicity</td>
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<tr>
<td>White</td>
<td>14</td>
<td>93%</td>
</tr>
<tr>
<td>Black</td>
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</tr>
<tr>
<td>Asian</td>
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</tr>
<tr>
<td>Latinx</td>
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<tr>
<td>Criteria for Lyme Diagnosis</td>
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<tr>
<td>Known Tick Exposure</td>
<td>5</td>
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</tr>
<tr>
<td>Erythema Migrans Rash</td>
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</tr>
<tr>
<td>Facial Palsy</td>
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<tr>
<td>Joint Swelling</td>
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<td>Enzyme Immunoassay (EIA)</td>
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</tr>
<tr>
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<tr>
<td>3 cycles</td>
<td>4</td>
<td>27%</td>
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<tr>
<td>4 cycles</td>
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<tr>
<td>Longest Documented Antibiotic Cycle</td>
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<tr>
<td>&lt; 21 days</td>
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<td>7%</td>
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<tr>
<td>21 days</td>
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<td>13%</td>
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<tr>
<td>28 days</td>
<td>9</td>
<td>60%</td>
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<tr>
<td>&gt;28 days</td>
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<td>13%</td>
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<tr>
<td>Documented Symptoms</td>
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<td>Headache</td>
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<td>Fatigue</td>
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<td>Lyme Carditis</td>
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<tr>
<td>Muscle Aches</td>
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<tr>
<td>Joint Pain</td>
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<td>Dizziness</td>
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<td>Depression and/or Anxiety</td>
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<tr>
<td>Post-Treatment Lyme Disease</td>
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<td>Diagnosed</td>
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<td>80%</td>
</tr>
<tr>
<td>Suspected</td>
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<tr>
<td>Antibiotic-Refractory Lyme Arthritis</td>
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Qualitative Findings

Lyme Diagnosis

While two participants described satisfaction with their initial Lyme diagnosis because their provider was quick to recognize that their symptoms and request Lyme serology tests, most noted that their diagnosis of acute Lyme infection was delayed. Providers diagnosed or suspected a variety of non-Lyme-related medical conditions including fibromyalgia, contact dermatitis, anemia, unbloomed shingles, stroke, and depression before the patient arrived at a Lyme diagnosis. Three participants said their symptoms were believed to be due to aging, though participants doubted that their sudden onset of symptoms could be explained by a process like aging, which they believed would feel more gradual in nature. Five participants reported that they had to advocate for Lyme testing with resistant providers and/or for a sufficient (i.e., 21 day) course of antibiotics. Participants reported being referred to multiple specialists for specific symptoms including rheumatologists, neurologists, otolaryngologists, ophthalmologists, and chiropractors.

Symptoms and Functional Impairments

Fatigue and joint and other musculoskeletal [e.g., neck, back, leg] pain were frequently cited as the most severe and disruptive symptoms. Difficulty concentrating and “brain fog” were reported by many participants. Other symptoms reported by fewer participants included dizziness and vertigo, heart palpitations, temperature sensitivity, night sweats, and numbness in hands. Three participants reported difficulty sleeping due to pain and three others reported non-restorative sleep.

Participants reported a wide variety of functional impairments since their Lyme diagnosis. Five participants were no longer able to work or volunteer even though they would like to, and one had reduced their work hours, due to their symptoms. Most had reduced their social commitments, spending less time with friends, going out less with their spouse, and finding it difficult to commit to social activities. All participants reported that they had reduced or stopped engaging in at least some physically demanding activities because of pain or fatigue brought on by physical activity. Some participants differentiated between things that they had stopped doing [e.g., traveling, vigorous exercise, hiking] and things they still did but struggled through [e.g., driving, house and yard work, caring for grandchildren]. Two participants stated that they actively avoid areas where they previously frequented [i.e., the woods, their yard] because they are concerned about exposure to Lyme.

Multiple symptom time courses were described. First, most participants noted how active and healthy they were prior to their Lyme infection, and how difficult it was to now struggle with completing the work, chores, and outdoor activities that they previously enjoyed. Second, participants noted fluctuations in their symptoms from day to day [i.e., good days and bad days] and over the course of weeks and months since their Lyme infection. Finally, participants reported consistent diurnal patterns such that they are most energetic and least fatigued upon waking in the morning, tire quickly through the day, and are “exhausted” by late afternoon or evening, with four participants frequently taking daytime naps to recover from exhaustion.

Symptom Management

Participants listed a variety of medical, alternative, and lifestyle approaches to managing their symptoms. Many took over the counter or prescription analgesics to manage pain and arthritis including ibuprofen, acetaminophen, hydrocodone-acetaminophen, steroid injections, trolamine salicylate cream, diclofenac, methotrexate, CBD oil, and medical marijuana. These medications offered some relief, with some participants noting that they “take the edge off” the pain or discomfort, and many participants reported continuous daily use of aspirin, ibuprofen, and pain-relieving creams. Three participants reported taking melatonin or a prescription medication to improve sleep. Most participants reported mixed efficacy of continued antibiotic treatment for PTLDS, with at least three participants clearly outlining how symptoms improve temporarily then resurface following each antibiotic cycle. One participant specifically identified antibiotics as a symptom management strategy, while at least one other participant noted that prolonged and repeated use of antibiotics is not recommended by the CDC and another suggested more information is needed on how antibiotics affect the gut.

Of the four people who had tried physical therapy, all four stated that it did not help, with one stating that it made their pain and symptoms worse. Participant’s evaluation of exercise for symptom management was mixed. On the one hand, physical activity can cause participants to become extremely fatigued and weak, and thus all participants were less active than they were prior to their Lyme infection. On the other hand, some reported that getting exercise helped them feel better mentally, with one participant noting that at least after a walk, they had a reason to be exhausted. Ongoing exercise typically consisted of walking, or activities like meditation or yoga. One participant recommended a fitness tracking watch for external motivation to move more. With a few exceptions, sleep was generally restorative, with most participants having more energy and less fatigue upon waking in the morning or after a daytime nap. Participants described modifying their schedules to take advantage of the time earlier in the day when they have more energy. Two participants recommend heating pads for pain.

Most participants mentioned a dietary intervention, including keto, Mediterranean, and specific foods – like cinnamon or turmeric – meant to reduce inflammation. Of those who mentioned dieting as a potential symptom management strategy, most were either considering a dietary
change or making small changes, while two were skeptical and unlikely to adopt major diet changes. Most of the participants mentioned taking some type of supplement including magnesium, ginseng, and health shakes, which were regarded as moderately effective in improving symptoms like joint pain and concentration.

Other approaches included attending a detox spa, reiki massage, and a shaman healer. The spa and healer were perceived as moderately effective in improving symptoms, while the participant who mentioned reiki did not find it helpful. One participant was interested in possibly exploring the use of a rife machine. Another participant stated that she had no interest in interventions that did not have scientific evidence of effectiveness.

**Symptom Assessment**

Generally, participants felt that the survey items were relevant to their experiences with PTLDS, especially the fatigue scales. In fact, several participants reflected on a feeling of validation that came from seeing the types of symptoms that researchers were measuring in patients with PTLDS. Participants recommended site-focused, rather than general, pain questions (e.g., joint pain, neck pain). In terms of functional items, one participant preferred the term “interfered” to “limited” since they continued to engage in the activities even when they were difficult or uncomfortable. Others suggested additions included items assessing dizziness, temperature sensitivity (e.g., hot head, hot feet), night sweats, nightmares, visual impairments, and perceived level of support from healthcare providers.

Participants noted that fluctuations in symptoms over-time and throughout the day made it difficult to answer some questions, with one participant noting that it was unclear if we wanted responses based on a “good” or “bad” day so they averaged it. One participant noted that they would like more opportunity to express how their fatigue and pain changes over the course of a single day. Three participants suggested questions related to pre-Lyme functioning, including an assessment of activities that the patient is no longer doing, but would like to be doing.

Most participants said they would be happy to complete questionnaires regularly (e.g., at each clinic appointment, either at the clinic or prior to the appointment), and that they would be interested in seeing their scores compared to others with PTLDS, as well as changes to their symptom ratings over time as they utilize different symptom management strategies. One participant noted that we should keep the surveys brief and focused, given the concentration issues among patients with PTLDS, and that the providers can use the surveys as a starting point for a one-on-one conversation in the clinic room.

**Clinical Care Recommendations**

Participants wanted more education: for providers, for patients, and for the general public. For providers, participants focused on educating providers on how to recognize the constellation of Lyme symptoms and be more willing to test for Lyme early, before referring patients to a variety of specialists or assuming the symptoms are a result of aging. Some participants argued that if providers were to assess their pre-Lyme functioning and lifestyle, they would understand the sudden onset of symptoms that the patients do not believe to be related to the process of aging. One participant recommended a decision checklist for providers to identify when it was appropriate to order Lyme serology. Another participant warned against relying exclusively on the blood test (when they can be equivocal or inconclusive) and paying attention to the symptoms. One participant wanted providers to know about PTLDS specifically, so they would not be under the impression that every patient makes a full, sustained recovery after antibiotic treatment for the acute Lyme infection. One participant referred to PTLDS as a “lonely disease,” and was among several others who wanted more peer interaction in the form of support groups or meditation classes.

**DISCUSSION**

The symptom cluster of fatigue, pain, and disruptions in cognitive function (namely, difficulty concentrating and “brain fog”) continues to be well-documented in the PTLDS literature, as does perceived delays in Lyme-related diagnosis and feeling dismissed or misunderstood by medical providers. In this sample, participants reported few sleep-related problems. While some participants took melatonin or other sleep aids, and some noted that pain would sometimes interfere with their sleep, most reported that sleep was relatively restorative and few endorsed high levels of sleep disturbance on the PROMIS scales. Real-time assessment of sleep and symptoms, such as actigraphy and ecological momentary assessment, may help to clarify if and how sleep is related to fatigue and pain, and whether sleep-focused interventions may be beneficial despite sleep disturbances not necessarily presenting as a primary complaint.

Observationally, many participants arrived at the study visit with an accounting of the course of Lyme disease and other co-morbid conditions in the form of electronic or paper notes or logs. Many patients tracked doctor’s appointments, testing, antibiotic treatment, and symptom management attempts and outcomes. In their narratives and their actions, participants were eager for information. Some felt validated by the questions in the symptom surveys, and some wanted to fill out the surveys more regularly. The effect of symptom tracking on symptom management and Lyme-related health outcomes is a phenomenon worth further study.

The critical nature of assessing pre-morbid functioning and opportunities for exposure were other major themes to emerge from this data. Participants were clear that the precipitous symptom increases and declines in functioning were too drastic to be related to aging or any other more gradual process. Overall, prior to Lyme, these participants...
were active people who enjoyed being outdoors, thus, providing many opportunities for Lyme exposure.

LIMITATIONS
Our sample size of 15, while sufficient for qualitative saturation in this sample, is too small to power any meaningful statistical comparisons between the samples. While psychologically sound instruments were selected, scale findings are intended to be interpreted along with the qualitative data to generate hypotheses for future PTLDS symptom assessment and management in research and clinical settings. Additionally, given the homogeneity of participants in this sample, future work must strive to incorporate feedback from Hispanic/Latinx and non-White participants including employing inclusive recruitment and retention strategies as appropriate.

CONCLUSION
This in-depth exploration of the experiences of PTLDS patients at an outpatient Lyme clinic confirmed previous findings, while adding novel and critical details about how best to assess and clinically manage symptoms. Future research and clinical practice can incorporate the input and suggestions from patients with the ultimate goal of improving patient satisfaction, reducing symptoms, and improving health and well-being.

References

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Disclaimer
The views expressed herein are those of the authors and do not necessarily reflect the views of Lifespan or Brown University.

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Disclosures
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NPO at Midnight: Reassessing Unnecessary Pre-Endoscopy Fasting
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ABSTRACT

INTRODUCTION: Endoscopy with sedation is a common inpatient procedure. “NPO after midnight” remains the prevailing fasting practice despite ASA guidelines indicating specific fasting times. This quality improvement project aims to assess patient discomfort with the “NPO after midnight” order versus implementation of specific NPO times.

METHODS: Patients in the inpatient wards scheduled for endoscopy after 1 pm the following day were recruited. The gastroenterology services designated specific NPO times per ASA guidelines for the post-intervention group. Each participant completed a survey qualifying hunger, thirst, and discomfort levels. Pearson’s chi-squared analysis was performed.

RESULTS: NPO duration was reduced in the post-intervention group with significant improvement in thirst, hunger, and discomfort levels. A shortened preoperative fasting period did not lead to increase in procedural complications.

CONCLUSION: Despite ASA guidelines, the practice of keeping patients NPO after midnight remains pervasive, resulting in unnecessarily prolonged fasting and patient discomfort. Implementing specific diet recommendations reduces duration of NPO and improves patient comfort and overall satisfaction.

KEYWORDS: endoscopy, quality improvement, NPO, procedure

INTRODUCTION

Background
Endoscopy is a frequently performed procedure in the inpatient setting in the United States. Data from the National Hospital Discharge Survey revealed that endoscopy accounted for 1.5 million (or 27%) of the 5.4 million operations on the digestive system performed inpatient nationwide in 2007. Since endoscopy is inherently an invasive and unpleasant procedure, most endoscopic procedures in the United States are performed with sedation to relieve patient anxiety and discomfort, and to improve quality of examination. Multiple studies have confirmed that both moderate sedation and deep sedation during endoscopy is safe. A recent retrospective study of over 73,000 cases showed a combined incidence of all adverse events, including both life-threatening and non-life-threatening events, to be less than 0.23%. Only one instance of aspiration pneumonia was reported in one study. Although there are no official guidelines in the gastroenterology literature regarding the optimal duration of preoperative fasting to reduce the risk of aspiration, the American Society for Gastrointestinal Endoscopy (ASGE) guidelines on Sedation and Anesthesia in GI Endoscopy made references to the American Society of Anesthesiologists (ASA) guidelines. The ASA recommends a minimum fasting period of 2 hours for clear liquids and 6 hours for light meals prior to induction of sedation.

Problem Description
Although the current ASA guidelines regarding preoperative fasting have been adopted since 1999, the established dogma of nil per os (NPO) after midnight remains pervasive among physicians in our institution, as epitomized by the presence of “NPO after midnight” as a default option in our electronic medical record (EMR) system. Some hospitalists may err towards keeping patients NPO for extended periods to minimize the risk of a delayed discharge caused by procedure cancellation. Since most non-urgent endoscopic procedures performed by the inpatient gastroenterology consult service do not start until 1 pm, most patients are kept under an NPO order for 13 to 19 hours on average. This ultimately results in unnecessary prolonged preoperative fasting and increased patient discomfort.

Prolonged preoperative fasting time is also a global challenge. A nursing-initiated retrospective study conducted in 2002 on patients undergoing elective surgery revealed an average fasting time for solids and liquids of 14 and 12 hours, respectively. Some patients in this study were fasting up to 37 hours from solids and 20 hours from liquids. Slightly improved results were obtained in a British study conducted in 2011 which revealed that patients undergoing elective procedures have a median fasting time of 10 hours for solids and 6.25 hours for clear liquids; but these results were still significantly longer than the current ASA recommendations.
It has been shown that prolonged preoperative fasting is associated with a wide range of adverse effects including patient discomfort, dehydration, and hypoglycemia. A cross-sectional study conducted by nurses in 2011 in Turkey on patients undergoing laparoscopic cholecystectomy revealed that patients fasting for more than 12 hours preoperatively reported significantly higher hunger, thirst, nausea, and pain scores. In fact, a randomized controlled study conducted in 2013 in India showed that preoperative consumption of a carbohydrate-rich drink reduced postoperative nausea, vomiting, and pain in patients undergoing elective cholecystectomy. In the field of gastroenterology, an investigator-blinded randomized controlled study conducted in 2011 in Brazil on patients undergoing elective upper endoscopy showed that patients assigned to a shorter 2-hour fasting period experienced less anxiety, general discomfort, hunger, and weakness compared to those assigned to the conventional fasting period of 8 hours or more. More importantly, there were no differences in the safety parameters between the groups, including regurgitation after endoscopic intubation, food stasis in the stomach, or risk of aspiration. In addition, there were no differences in the length of procedures or the visibility of gastric mucosa as reported by the endoscopists.

**Specific Aims**

Based on previous studies and the ASA guidelines, a fasting period of 2 hours for clear liquids and 6 hours for light meals is sufficient to reduce the risk of aspiration in patients undergoing elective procedures requiring sedation. Thus, our primary goal is to reinforce compliance to ASA guidelines regarding preoperative fasting among ordering providers in Rhode Island Hospital. Our secondary goal is to assess the association between prolonged preoperative fasting and patient discomfort among those undergoing non-urgent inpatient endoscopic procedures.

The first specific aim of the current study is to evaluate if proactive education and written instructions by the endoscopists can lead to a change in behaviors among the ordering providers, and ultimately result in a reduction in preoperative fasting time among patients undergoing non-urgent inpatient endoscopic procedures. The second specific aim of the current study is to evaluate if a reduction in preoperative fasting time is associated with an improvement in a patient’s preoperative experience, as measured by thirst, hunger, and overall discomfort. The third specific aim of the current study is to assess the quality and safety parameters of the endoscopic procedures performed. We anticipate that proactive education and written instructions by the endoscopists will lead to behavioral changes among the primary team providers, shortening fasting periods and thereby reducing overall patient discomfort.

**METHODS**

This study follows the conventional Plan-Do-Study-Act (PDSA) design and was approved by the Institutional Review Board (IRB) at the institution. Patients undergoing inpatient endoscopy at Rhode Island Hospital were recruited from 10/2018 to 12/2018 for the pre-intervention group. The inclusion criteria were patients ages 18 and older who were admitted to the inpatient service of Rhode Island Hospital, able to read and understand English and/or Spanish and scheduled for an inpatient upper endoscopy and/or colonoscopy with a procedure start time after 1 pm. Table 1 lists the specific inclusion and exclusion criteria for participant recruitment. A total of 57 participants were identified (See Supplement, Figure 1a) and completed an IRB-approved consent form. The average age of the pre-intervention participants was 67 years, with 37 males and 20 females. 25 participants were scheduled to undergo colonoscopy, 30 were scheduled for upper endoscopy, and 2 were scheduled for both. A survey was given to the patients to be completed prior to their scheduled endoscopy time assessing subjective measures of hunger, thirst, and discomfort on a 10-point Likert scale (See Supplement, Figure 2). Participants were also asked to note the last time they had any liquid or solid food. The survey was provided in both English and Spanish, depending upon participants’ proficiency with each language.

For the post-intervention group, the same guidelines were utilized to recruit participants between 3/2019 and 6/2019. A total of 26 participants were identified (See Supplement, Figure 1b). A SmartPhrase on the hospital EMR (Epic) was included to increase the likelihood of the EMR prompting providers to read and complete the survey.

### Inclusion and Exclusion Criteria for Recruiting Participants

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<tr>
<td>Adult patients aged ≥ 18 years of age at the time of presentation</td>
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<tr>
<td>Admitted to the Rhode Island Hospital inpatient wards</td>
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<tr>
<td>Able to read and understand English and/or Spanish</td>
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<tr>
<td>Scheduled for an upper endoscopy and/or colonoscopy by the gastroenterology consult service</td>
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<tr>
<td>Procedure is scheduled to start after 13:00 the following day</td>
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<th>Exclusion Criteria</th>
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<tr>
<td>Procedures requiring monitored anesthesia care</td>
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<td>Procedures performed outside of the main endoscopy suite</td>
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<tr>
<td>Upper endoscopy for any of the following indications: hemorrhage control, banding of varices, foreign body removal, percutaneous gastrostomy tube placement, esophageal balloon dilation, pyloric dilation, guidewire dilation, stent insertion, stent fixation, post-bariatric leak repair, Roux-en-Y revision</td>
</tr>
<tr>
<td>Colonoscopy for any of the following indications: hemorrhage control, banding, foreign body removal, balloon dilation, decompression</td>
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<td>Pregnancy</td>
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**Figure 1a**

Participants were also asked to note the last time they had any liquid or solid food. The survey was provided in both English and Spanish, depending upon participants’ proficiency with each language.

**Figure 1b**

A SmartPhrase on the hospital EMR (Epic) was included to increase the likelihood of the EMR prompting providers to read and complete the survey.
created giving specific instructions to allow light meals before 6 am the day of the procedure and to allow clear liquids before 10 am the day of the procedure. The SmartPhrase “NPOCOLON” was used for patients undergoing colonoscopy and “NPOEDG” for patients undergoing upper endoscopy. The respective SmartPhrase was included in the consultation notes for 13 participants in the post-intervention group along with verbal communication; the other 13 participants received only verbal communication between the consulting team and the ordering provider. The average age of the participants in both subgroups was 64 years. The group that received only verbal communication consisted of 8 men and 5 women, with 3 undergoing colonoscopy, 7 undergoing upper endoscopy, and 3 undergoing both procedures. The group that received both verbal and SmartPhrase communication consisted of 5 men and 6 women, with 6 undergoing colonoscopy, 5 undergoing upper endoscopy, and 2 undergoing both. Verbal communication was informal without a specific script but was expected to include the same information as the SmartPhrase. Nursing staff was also made aware of these recommendations in both post-intervention subgroups. Figure 3 [See Supplement], shows the specific instructions included in the SmartPhrase for upper endoscopy and colonoscopy. The same survey was distributed to this set of participants prior to their scheduled endoscopy.

Data Analysis
Based on the assumption that most patients are kept “NPO after midnight” before the start of the current study, and that most endoscopic procedures performed by the gastroenterology consult service occur between 1 pm and 7 pm, the mean preoperative fasting time is estimated to be around 16 ± 3 hours. To detect a 25% reduction in preoperative fasting time with an alpha of 5% and a power of 80%, an estimated 18 participants were needed for the entire study. Since the current study is implemented as a quality improvement project instead of a randomized sham-controlled clinical trial, data collected during the pre-intervention period was considered the control group while data collected during the post-intervention period was considered the intervention group.

Comparisons between the pre-intervention and post-intervention parameters were performed with the Pearson’s chi-squared test for categorical variables, 1-way analysis of variance, or 2-sample t tests with unequal variance for continuous variables. A p-value < 0.05 was considered statistically significant.

Outcome Measurement
The primary outcome was the duration of preoperative fasting for liquids and solids as reported by the patients. The intended NPO start time was reflected in the primary team’s progress notes. The actual NPO order start times as entered in the EMR system were monitored as secondary outcomes. The primary measured outcome was patient subjective experience quantified using three 10-point Likert scales for hunger, thirst, and overall discomfort. The composite score is considered the primary outcome while the individual component score is considered the secondary outcome.

RESULTS
Prior to the interventions, patients admitted to Rhode Island Hospital were kept NPO for longer periods of time than recommended by the ASA guidelines in anticipation of the procedure. As a result, the patients reported a high degree of hunger (6.8), thirst (7.1), and discomfort (5.8). Following implementation of specific diet recommendations by consultants, there was a significant decline in preoperative fasting durations, the duration of NPO order placed by physicians dropped from 19 hours to 6 hours. The duration of self-reported solid NPO decreased from 42 hours to 16 hours, and the duration of self-reported liquid NPO reduced from 18 hours to 4 hours. Compared to the pre-intervention group, patients in the post-intervention group also reported decreased sensations of hunger (2.8), thirst (1.4), and discomfort (1.6). The differences between the pre-intervention and post-intervention group were statistically significant (p<0.05). Utilization of the SmartPhrase further reduced NPO duration, leading to a statistically significant decrease in patient’s perceived hunger, thirst, and overall discomfort as compared to post-intervention participants who only received verbal communication regarding specific NPO times. No “NPO at midnight” orders were placed for the group who had both verbal communication and the respective SmartPhrase included in the consultation note. Endoscopists reported good visibility for all participants in the post-intervention group. Figures 4a, b [See Supplement] summarize these results.

DISCUSSION
Endoscopy is a frequently performed procedure in the inpatient setting, both urgently for acute hemorrhage or food impaction as well as non-urgently as an elective procedure. Given the inherent invasiveness and unpleasant nature of the procedure, it is often performed with sedation. To minimize the risk of aspiration associated with sedation, preoperative fasting is generally recommended. The current ASA guidelines recommend a fasting period of 2 hours for clear liquids and 6 hours for light meals, but the established dogma of “NPO after midnight” remains a common practice, particularly in the inpatient setting. Several studies have documented that prolonged preoperative fasting is associated with increased patient discomfort manifesting as thirst, hunger, irritability.

The implementation of specific diet recommendations
by gastroenterology consultants reduced unnecessary preoperative fasting, resulting in significant improvement in patient comfort. Communicating the exact timing for NPO orders to both the primary team physicians and the nursing staff responsible for patient care is vital to the application of this practice. Including a SmartPhrase in consultation notes along with verbal communication between the provider teams can effectively facilitate this process and close any gaps in communication between the consulting and ordering providers. Through this study we aim to promote and reinforce the latest ASA guidelines among physicians responsible for placing NPO orders prior to upper endoscopy and/or colonoscopy. It is anticipated that this study would result in a significant reduction in prolonged preoperative fasting among patients undergoing non-urgent inpatient endoscopic procedures and, most importantly, an improvement in patient comfort. Improvement in patient comfort as related to hunger, thirst, and discomfort can translate to a better hospitalization experience and promote healing.

The main strength of this study is that it was conducted at a large, academic medical center with a diverse patient population; thus, the results are more likely to be representative of the general patient population. A weakness of this study is that it assumes the “NPO at midnight” is the mainstay practice at other hospitals. Additionally, the study utilizes SmartPhrase, a function specific to the Epic EMR; the application of this study will have to be adapted to other EMRs at other institutions.

Evidence for shortened preoperative fasting has emerged over the last century. Clinical practice, however, is slow to follow, resulting in excessive fasting time. Implementing a hospital-wide preoperative fasting policy that adheres to ASA guidelines, along with provider education, may allow for faster and sustained improvement on this front. Further studies will need to evaluate the safety and quality parameters associated with the shortened preoperative fasting time. Results from this study may help convince the ordering providers to liberalize preoperative fasting for other inpatient procedures in the future.

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Consent was obtained from each participant in the study.

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Facilitation of Coordinated Medical Care for Women in Residential Treatment for Substance Use Disorder

BELINDA ZHOU, BA, MD-ScM’22; HALEY BLISS, BS, MD-ScM’22; TAMi JAr VIS, LCDP; MEgHAN GEArY, MD

ABSTRACT
Residential treatment for substance use disorder (SUD) is a structured model of care centered on individual and group therapy, peer support, and psychiatric services. However, there is rarely a standardized system for integration of primary care. Consistent access to primary care is important for women with SUD given the myriad healthcare needs of this population, including chronic disease, substance-related infections, sexual and reproductive health, preventive care, and psychiatric conditions. Access to primary care can minimize the morbidity associated with substance-use related medical complications, provide longitudinal support for recovery, and reduce emergency department visits and hospitalizations.

This paper explores a program of coordinated medical care at a residential treatment facility for women with histories of SUD located in Pawtucket, RI. We conclude that residential treatment is an ideal time to forge a connection to primary care services to address the multiple medical and psychiatric comorbidities that exist among patients with SUD.

KEYWORDS: primary care access, substance use disorder, women’s health, residential treatment

INTRODUCTION
Residential treatment for substance use disorder (SUD) is a 24-hour, structured model of care staffed by addiction treatment and mental health professionals. Residential treatment often centers on recovery models that include individual and group therapy, peer support, and psychiatric services. However, there is often no standardized system for integration of primary healthcare for patients during residential treatment. Consistent access to primary care is important for women with SUD given the myriad healthcare needs of this population, including chronic diseases, substance-related complications and infections, sexual and reproductive health, preventive care, and psychiatric conditions.

Access to primary care can minimize the morbidity associated with substance-use related medical complications, provide longitudinal support for recovery, and reduce emergency department visits and hospitalizations.

We contend that not only do patients with substance use disorder suffer from multiple medical and psychiatric comorbidities which necessitate effective primary care services and care coordination, but also that residential treatment is an ideal time to forge that connection to care in order to improve health outcomes in the long term.

BACKGROUND
Substance use disorder is a crisis in Rhode Island and nationwide, and patients with the most severe SUD are often estranged from the healthcare services necessary to address both their substance use and their multiple underlying physical and mental health conditions. During 2017–2019, yearly prevalence of SUD in RI was 3.1% or approximately 29,000 people. Additionally, the number of deaths due to accidental drug overdose in RI increased in 2020 to 384 after a gradual decrease during the previous four years, from 336 to 308.

The COVID-19 pandemic may have exacerbated existing factors contributing to overdose deaths, including increased financial and emotional stress leading to higher rates of relapse, and social distancing contributing to higher likelihood of an isolated overdose. Furthermore, with emergency departments focused on fighting the pandemic, and many outpatient appointments transferred to telemedicine, which can be especially challenging for those who do not have consistent cell phone service, patients have faced increased barriers to access of both medical care and wraparound services such as social work or case management.

However, despite the increased challenges due to the COVID-19 pandemic, residential treatment has remained open to help individuals struggling with addiction receive treatment and develop recovery skills. The residential level of care benefits individuals with concurrent mental health conditions and homelessness, as the stability and structure allows for focus on recovery.

Due to lack of standardization in models of residential treatment and research on these facilities, there is mixed evidence on whether residential treatment is superior to outpatient treatment of SUD. However, some research suggests that residential treatment leads to equal or improved outcomes for substance use, employment, social support, and psychiatric symptoms compared to outpatient treatment. Data from the Substance Abuse and Mental Health Services Administration (SAMHSA) also
suggest that completion rates for residential treatment are higher than for outpatient treatment, estimated to be 65% and 52% respectively.10

This paper describes a residential treatment facility for women, many of whom are low income and face housing instability, and efforts to engage them in medical care while in treatment to address health needs beyond SUD.

PROGRAM OVERVIEW

Eastman House is a residential treatment facility located in Pawtucket, RI, with capacity for 16 women who have been diagnosed with SUD. They typically stay 45 days if they are referred from a medically supervised facility or a community-based agency. In other cases, women who are released from incarceration may be ordered by the judicial system to receive 30 to 90 days of treatment. Patients are able to access services if they are homeless and uninsured through a state-sponsored grant.

At the facility patients engage in a variety of evidence-based therapeutic modalities, including individual and group therapy, cognitive behavioral therapy and dialectical behavior therapy, a form of cognitive behavioral therapy focused on managing relationships with others and tolerating distress. A variety of complementary treatments are also offered, including art and music therapy, yoga classes, and 12-step programs such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA). Eastman House also facilitates medication treatment for SUD. Patients who have psychiatric comorbidities are referred to a psychiatrist for medication management, more recently, the facility has employed an in-house psychiatric nurse practitioner. Patients who require a higher level of psychiatric care are referred to community mental health centers, where they can receive therapy, psychiatric support, and case management through their stay at Eastman House and beyond.

Senior author on this paper, MG, a primary care doctor at the Center for Primary Care (CPC) in Providence, provides a consistent linkage to primary care for women at Eastman House. She has enlisted the assistance of third-year medical students in the Primary Care-Population Medicine Program at the Alpert Medical School of Brown University.

PROGRAM MODEL

In this program model, all women who arrive at Eastman House who lack a regular source of primary care are referred to MG. Many have had negative interactions with the healthcare system related to their addiction and are wary of medical facilities, therefore forming a relationship with a primary care doctor experienced with working with patients with SUD and with specific interest in serving this population can be beneficial. Many patients at the facility have gone several years without regular access to healthcare, and issues that have been ignored or gone undiagnosed can now be addressed. Patients are provided treatment for sexually transmitted infections, hepatitis C, and chronic diseases such as COPD and diabetes, as well as access to reproductive and preventive care, such as mammograms, Pap smears, and vaccines. Women with specialized gynecological needs are referred to an OB/GYN with particular interest in working with patients with SUD.

Case managers provide transportation for appointments, pick up prescriptions for patients, and ensure medication adherence. Medical students also provide care coordination for patients with complex medical needs by accompanying patients to medical appointments, communicating with specialists, and coordinating transportation needs for out-of-state care. Finally, monthly care coordination meetings are conducted between residential treatment facility staff and the primary care team. Medical students also developed a cohesive intake form at the CPC for Eastman House patients and created an order set for common over-the-counter medications, which must be prescribed to patients before they can be accessed. This partnership links women to primary and specialty care at a time in their lives when they have the stability to tackle complicated health issues, while opening the door for continuity of care after they move on from Eastman House.

CASE NARRATIVE

Ms. L is a 50-year-old experiencing homelessness with a history of COPD, polysubstance use, intimate partner violence, and PTSD. Before coming to residential treatment, she had no regular source of medical care apart from the emergency department. After arriving, she was scheduled for a primary care appointment; a Pap smear revealed high-grade cervical dysplasia, necessitating a colposcopy.

However, she left Eastman House prior to completing residential treatment and gynecological follow-up against the advice of staff. Multiple attempts were made to contact her, which were unsuccessful. Four months later she returned to residential treatment and had a follow-up primary care appointment. At this visit, she complained of lower extremity nerve pain and was diagnosed with syphilis, which was treated.

She was also set up with an appointment for a colposcopy. Given severe anxiety with pelvic exams due to her significant trauma history, she was accompanied by a medical student patient navigator during the procedure. She was able to attend the procedure because of transportation, care coordination, and emotional support from the residential treatment team and the primary care partnership. Despite leaving residential treatment early during her previous stay, once she returned, Ms. L was provided with resources that facilitated re-engagement in care for both addiction and other medical needs.
DISCUSSION

Residential treatment is an approach through which patients are provided additional support and structure that can help facilitate recovery from addiction and improvement in overall health. Adults with SUD are more likely to be uninsured, low-income, and face housing instability. Homelessness has also been associated with higher rates of substance use and rates of relapse. For Ms. L, residing at Eastman House provided an opportunity to address both SUD and other healthcare needs. Unfortunately, residential treatment is not always accessible to those who may benefit from it. Although Eastman House is a program that accepts public insurance and receives a grant to cover uninsured patients, residential treatment facilities are excluded from Medicaid coverage in several states. Despite increases in rates of insurance among those with SUD, there has not been an increase in access to SUD treatment, including hospital care, residential treatment, and outpatient treatment. Addressing this on a national level would involve a movement towards increased funding and policy changes that target expanding affordable access to residential treatment for the uninsured and publicly insured.

In addition to issues of access, due to the relapsing and remitting nature of addiction, residential treatment facilities have to contend with attrition. Data suggest that completion of residential treatment is higher than outpatient treatment, but there is limited research at this time on the factors that facilitate completion. Although completion of residential treatment is associated with higher rates of abstinence and fewer relapses, it is not the only measure of recovery. Connecting patients with primary care services upon arrival to Eastman House or any residential facility is a method of linking patients to an additional resource for addiction treatment, both to support their recovery while in residential treatment and after they leave. Forging a relationship with a primary care provider may facilitate a continued engagement or return to addiction treatment outside of the physical and temporal bounds of residential treatment.

Adults with SUD are more likely to access specialty services to receive care for SUD, but as a result are not necessarily connected to services for their other healthcare needs. Access to primary care can minimize the morbidity associated with substance-use related medical complications, provide longitudinal support for recovery, and reduce emergency department visits and hospitalizations. Models for integration of primary care into residential treatment include “distributive models,” in which patients are referred to external primary care services, and “integrative models,” in which primary care services are on-site. There is data that indicates that intentional referral of patients to primary care services during residential recovery increases the likelihood that these patients actually make contact with primary care services, thereby securing a link to healthcare services that persists after discharge from residential care. There are also a growing number of primary care clinics that are incorporating treatment of SUD into their practice, which encourages both sustained engagement in recovery and general medical care. A study of federally qualified health centers [FQHCs] that integrated buprenorphine treatment into their clinics showed that maintaining patients with SUD on buprenorphine for at least 3 months was associated with a higher likelihood that these patients would undergo screening for chronic illnesses, such as hypertension, hyperlipidemia, HIV, and Hepatitis C. Finding ways to improve access to these screening measures is particularly important for women with SUD, who have higher rates of cervical dysplasia, STIs, and Hepatitis C infection. These issues have been successfully addressed through primary care appointments for several patients during their stay at Eastman House.

In order to provide patient-centered care for those with SUD, residential treatment facilities could benefit by building sustainable partnerships with community providers to address health needs that go beyond SUD treatment. While Eastman House has community partners, they could be strengthened if they were more formally linked. Currently, access to primary care and OB/GYN services has relied on the availability of individual providers who practice separately from the residential treatment center. Medical student involvement is also on an annual rotational basis at this moment in time, rather than a consistent, longer-term commitment. Furthermore, while the interventions described have allowed for strides in providing preventive care and management of chronic illnesses, there are still a number of social factors, such as access to housing, food, and a stable income, that modulate the extent to which Eastman House patients are able to maintain their recovery efforts and overall health after being discharged from residential treatment. Setting patients up with outpatient care is a step towards providing continuity of care after their time in residential treatment ends. However, in addition to advocating for government action, building community partnerships with social services organizations could further benefit the recovery and health outcomes of these patients by providing additional resources.

CONCLUSION

Having primary care services connected to residential addiction treatment, either by direct referral or on-site treatment, allows clinicians the potential to capture a high-risk population while they have their basic needs met including housing, food, and transportation, and are able to devote time and energy to their physical and mental health. Connecting patients with primary care while they are in residential treatment not only allows them an entry point to addressing a broad array of medical conditions, but also to connect to a provider that can support recovery efforts once they leave.
the residential setting. Moving forward, we believe it should become a standard for primary medical services to be easily accessible to patients at residential treatment centers. We also advocate for increased coordination of care and communication between residential treatment staff, primary care, and behavioral health providers using a patient-centered approach. Encouraging direct connections between primary care clinics and residential treatment centers will facilitate patients’ access to medical care while they are in residential treatment, as well as establish relationships that will promote patient well-being in the long term.

References

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Refugee Resettlement: Case Studies of Two Syrian Women in Rhode Island

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ABSTRACT

BACKGROUND: Key elements of social integration of refugees overlap with the social determinants of health. Limited research exists about Syrian refugees’ resettlement in Rhode Island (RI).

METHODS: Case study life history method: Two Syrian women in RI were interviewed and observed longitudinally. Content analysis cycles led to emerging topics. Key informant interviews informed the question guide.

RESULTS: Several themes emerged: (1) Interpreters, community health workers (CHWs), and patient navigators help access healthcare; (2) Education about healthcare maintenance is important; (3) Anti-refugee bias has compromised safety and psychosocial wellness; (4) Although hard work is prioritized, high hopes for education and employment conflict with reality; and (5) Syrian women have unique experiences during resettlement.

CONCLUSIONS: RI leaders can address resettlement challenges through investment in CHW programs, peer-led health initiatives, English language education, interpreter services, psychosocial support, migrant rights education, social opportunities, and job training and matching.

KEYWORDS: refugee, Syrian, resettlement, social integration

INTRODUCTION

The pathway to Syrian refugee resettlement in the United States (US) is circuitous. After fleeing from their home countries, refugees live in camps or temporary housing in neighboring countries for months to years while awaiting resettlement. During this time, poor living conditions, limited healthcare, and violence compound previous medical and psychosocial trauma.

During the Obama administration, the US resettled over 18,000 refugees from Syria. Between 2016 and 2017, 168 Syrian refugees arrived in Rhode Island (RI), most settling in Providence. Many refugees arrived in RI requiring medical and psychological attention, as resettlement prioritizes the medically ill and survivors of violence. Post-resettlement culture shock, language issues, and anti-Muslim sentiment also contributed to their health status.

Markers of social integration of migrants overlap with social determinants of health, including safety, education, housing, employment, and social connections. This study aimed to:

1. Use a social determinants of health framework to characterize how two Syrian women and their families experienced resettlement in RI.
2. Learn how medical, governmental, and social service leaders can create and/or improve existing services to best support the health and well-being of Syrian refugees in RI.

METHODS

This case study used the life history qualitative interview technique and a social determinants of health framework to characterize how two Syrian refugee women and their families experienced resettlement in Providence, RI. The two primary participants were interviewed once or twice monthly at their homes during the study period of January 1, 2018 to December 31, 2019. In total, approximately 50 hours were spent formally interviewing each participant. Observations of participants and their families, and interviews with key informants, contributed to in-depth qualitative data collection. The study was reviewed by the Brown University Institutional Review Board and deemed not to require regulatory oversight.

Participant Recruitment

Purposive sampling was used to select two Syrian women (pseudonyms Amira and Bana) resettled in RI and who were willing to discuss their families’ experiences. Key informants included leaders of local resettlement agencies and voluntary organizations, healthcare workers, medical-legal advocates, journalists, and other stakeholders.

Prior to this investigation, the first author [PP] had served as a patient navigator for Amira’s daughter. Hence, this article presents more data from Amira’s family than from Bana’s family. Bana was selected from several Syrian women contacted by a primary care physician [ET] running a refugee health clinic. The informed consent document was explained verbally to each participant with the use of an interpreter, and written informed consent was obtained.
Data Collection
Key informants were interviewed individually and semi-structurally with similar open-ended questions to gain a broad understanding of Syrian refugee resettlement in RI and inform development of the interview guide. The interview guide addressed multiple domains including education, housing, employment, healthcare access, and social connections. The content and experiences from each interview were used to generate discussion points for subsequent interviews. A member of the local Syrian refugee community [LA] served as an Arabic language interpreter, cultural advisor, and ultimately, as a co-author.

Participant observation occurred throughout the study period at the participants’ homes and social gatherings. Data were collected by audio recording and note taking. Observation notes were written soon after each encounter.

Qualitative Data Analysis
Following each data collection session, the primary interviewer [PP] and interpreter [LA] shared preliminary thoughts about emerging content analysis. The primary interviewer analyzed interview and observational data using the immersion-crystallization method.7 This involved transcription of audio recordings, cycles of transcript review, note taking, and reflection. This process was repeated for each transcript and set of participant observation notes. Finally, the primary interviewer re-immersed in the data to identify within-case and cross-case patterns.

RESULTS
Amira’s and Bana’s families arrived in RI in 2016, leaving behind friends and family in Syria and surrounding countries. Amira fled Syria with her husband, elderly parents, and three young children. They sought refuge in Egypt for three years before migrating to RI. Bana traveled with her husband and three children from Syria to Turkey, where they lived for three years before settling as refugees in RI.

During the time of Amira’s and Bana’s stay in Egypt and Turkey, respectively, the majority of Syrian refugees lived in cramped apartments in urban areas rather than refugee camps. Amira’s younger children attended school in Egypt and her husband worked at a bakery. Bana’s older daughters worked in a factory with their father.

Community health workers, patient navigators, and interpreters help access the healthcare system
Healthcare was among the first American systems encountered by the women’s families. Both Amira’s and Bana’s children, who spoke some English, often bore the responsibility for scheduling appointments and reserving interpreters, especially at subspecialty clinics. In-person interpreters must be scheduled 24 hours in advance and were often unavailable for emergency care or if the clinic was running late. Most clinics and hospitals have phone interpreters to help mitigate this issue, but Bana described the miscommunication that sometimes occurred. “I want to talk to the physician in my own words. Once the interpreter said my throat was hurting, when I actually had chest pain. Luckily my friend corrected the interpreter.”

Community health workers and patient navigators shouldered additional challenges. Amira’s daughter’s patient navigator accompanied her to initial medical appointments and followed up with home visits to continue the conversations regarding pediatric health maintenance initiated in the doctor’s office. Amira’s mother, who was struggling with diabetes, had a separate patient navigator who spoke Arabic and listened to her challenges with nutrition and stress management. Amira’s technologically savvy young children used Google translate to interpret health documents. Community volunteers helped both families complete applications for governmental benefits.

Changes in nutrition and physical activity highlight the importance of health literacy
Amira’s and Bana’s families continued to eat traditional Syrian meals post-resettlement. Amira enjoyed cooking lentil soup, rice and beans, hummus, and salad, curated from ingredients accessible at a local South Asian market. Amira’s husband described the busy lifestyle their family adopted in the US, juggling several jobs while raising children, and the convenience of pre-packaged food and drink. “The kids snack on chips and soda while we’re cooking after a long day at work. But then, they eat less Syrian food for dinner.”

At health maintenance exams, Amira’s children were encouraged to eat traditional Syrian food and the adults were advised to reduce the quantity of sugar in tea and to limit simple carbohydrates like white rice and sweets like baklava to avoid becoming overweight. Amira’s family was able to access and afford traditional Syrian foods and took pride in their ability to have multiple plates of food and invite friends for dinner. Amira’s husband reflected, “I gained so much weight after coming to America... We had never eaten like this before.”

Amira was well aware of the relationship between exercise and health and stated her family has always been active. “The kids used to play soccer on a team in Egypt, and my husband coached soccer for orphans, and they were one of the best teams... I was good at sports too! I played volleyball and basketball when I was younger.”

In Providence, this family had access to a gym and their children partook in a refugee soccer academy.

Amira’s brother had been a medical student in Egypt and helped their mother monitor her blood sugar levels and supported her through several hospitalizations for diabetes-related complications. At the local Refugee Dream Center in Providence, people have access to peer-led health education programs that are culturally sensitive and linguistically
appropriate. Amira’s brother described the need for more education specific to diabetes self-management. “My mother needs to be more proactive about her health: checking her sugars daily and learning healthy diet and exercise habits.”

**Safety and psychosocial wellness have been compromised in the setting of anti-refugee bias**

Bana emphasized that due to anti-refugee bias, she felt heightened anxiety while walking in their neighborhood, and concern for her children as they took public transportation to school. Bana’s daughter reflected on the unwelcoming neighborhood where they initially lived. “Our neighbors pushed my brother, spit on him, and snapped my father’s broom in half.”

Bana was satisfied with their new location. “My husband’s friend helped find our new house. Our landlord and neighbors are very nice. Many of them are immigrants!”

When Amira’s family first arrived, her husband fretted about his timid children’s relations with American peers. “They teased my boys at school and soccer camp. I’m afraid my boys won’t grow up well. I want them to stand up for themselves.”

He also lamented on being unable to visit his sick father in Syria before his passing due to the travel restriction to Muslim-majority countries.8

**Although hard work is prioritized, high hopes for education and employment opportunities often conflict with reality**

Amira and Bana revealed high hopes and dreams for their children’s education and future lives which oftentimes conflicted with reality. Amira expressed, “I want my children to live successful lives: to learn English and to get a good job.”

Amira emphasized deficiencies in the English-as-second language courses at her children’s school, and Bana’s younger daughter lamented the lack of individualized attention from her teachers. This contrasted with Amira’s and Bana’s memories from Syria and Egypt. “In Syria they make sure you are learning, they reflected.”

When Amira’s navigator helped Amira’s son enroll in an early college entry technology high school, he exclaimed: “At my new school there is a big gym, and they give us college classes. I’m excited to take Algebra 1!”

Transportation was also a barrier to school attendance and the children’s social well-being. Amira lamented, “[The Head Start preschool program] didn’t have transportation, so we had to walk a mile to school and back. So, we stopped going.”

The next school year, Amira’s navigator helped apply for a preschool within walking distance. Amira noted that her daughter’s attendance improved thereafter, as did her English and peer interaction.

Both women’s children were connected with the Brown Refugee Youth Tutoring and Empowerment (BRYTE) program that highlighted the importance of peer support, exposure to English, and social activities with both refugee tutees and undergraduate volunteers.

Amira and Bana also had high hopes and dreams for themselves and their respective husbands. Resettlement agencies helped Amira’s husband find work in a bakery, Bana’s husband start as a mechanic, and connected Amira with a culinary position at Beautiful Day Granola. However, Amira and her husband felt the work was of lower status than their careers in Syria.

Amira emphasized English was a gateway to jobs in America. She and her husband take evening English classes at the Refugee Dream Center (RDC) in Providence, RI, within walking distance from their home. “I want to learn English, finish my education, and start a restaurant with my husband. Now, he also works for a ride share company. We just don’t have the money to start a business.”

**Syrian women have unique experiences during resettlement**

Resettlement is especially difficult for women due to loss of the traditional social milieu, lack of occupational experience, and vulnerability to physical interpersonal and sexual violence.9 During the summer, Amira described the challenge of caring for the children and making time for her own self-care. “When my children go back to school, I’ll have more time to go to the YMCA. For now, I’m focusing on my diet.”

Bana shared that her daughters adhered to traditional expectations and plan to marry soon after finishing grade school. She also understood that younger children and teenage girls developed interest in higher education and work after coming to the US, but she was unsure if this led to generational conflict within other families. “In Syria it’s a shame on women if they work. But in America the attitude is different.”

Bana’s older daughter, who is in her 20s, spoke of her fiancé who lives in Germany, and the long wait she is enduring to get married and move there. She also reflected on her reasons to forgo work for family. “I want to stay home and take care of my kids. If I work, then the kids will think the babysitter is their mother!”

**DISCUSSION**

This study explored experiences of Syrian families resettled in RI to identify services available to support refugee health. Amira’s and Bana’s experiences illustrate how successful resettlement necessitates collaboration between interpreters, CHWs, navigators and volunteers. It is beneficial to train healthcare staff in culturally sensitive support for Syrian refugees and increase hiring capacity for refugees who share linguistic and cultural familiarity.10 Investment in CHWs can also make health visits more productive and
reduce health disparities related to communication, challenges accessing governmental benefits, and navigating the medical system.15

The post-migration dietary patterns of Amira’s and Bana’s families may be attributed to their busier lifestyle and children’s preferences.12 The prevalence of overweight and obesity for refugee children settling in Providence increased from 17.3% at initial medical visit to 35.4% at three years post-resettlement.13 In healthcare settings, Syrian refugees can benefit from a dietary intake and evaluation and nutrition education incorporating both Syrian and Western diets, and connection to programs subsidizing nutritious foods. It is also important to expand peer-led health programs and ongoing discussions about chronic disease prevention and management.

Government policies such as the “Muslim Ban” and anti-refugee bias in the US undoubtedly created challenges in forging social networks and exacerbated post-resettlement trauma for both women’s families.3 It is beneficial to provide psychosocial support for post-migration experiences and inform Syrian refugees of their rights in the US. Support for community organizations such as Brown Refugee Youth Tutoring and Enrichment (BRYTE) is also imperative to help Syrian children excel in school and integrate into the RI community. Employment for Syrian adults can be improved by mapping this population’s skills and matching them with labor market needs, including recognition of foreign credentials, and expanding job training. Child-care services can alleviate Syrian women’s traditional responsibilities.15

CONCLUSIONS
This research has both strengths and limitations. The structure and style of interviews allowed the interviewer to develop long-term, trusting relationships with both families, which facilitated data collection. Nevertheless, findings are limited to the experiences of two Syrian refugees and their families over 1–2 years in RI. To mitigate bias as much as possible, the interviewer and interpreter attempted to maintain a reflexive stance throughout the study period by continually discussing their respective potential biases.16

The participants raised multiple issues that affected their adaptation to life in RI, some of which are specific to their own personal situations and some that may shed light on the needs of other refugees. Larger studies including men, women, and children in all life cycle stages over time are needed to further investigate Syrian refugee resettlement in Rhode Island and elsewhere in the US and identify best practices for promoting successful integration of Syrian and other refugee families into their new local communities.

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Disclaimer
The views expressed herein are those of the authors and do not necessarily reflect the views of the Warren Alpert Medical School of Brown University.

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INTRODUCTION
After gradually increasing from 2000 to 2019, in 2020 accidental drug overdose deaths increased by over 30% in the United States, with over 93,000 predicted deaths. While accidental drug overdose deaths have declined from 2016 to 2019 in Rhode Island, in 2020 Rhode Island mirrored national trends and the number of accidental drug overdose deaths increased by 25%, from 308 in 2019 to 384 in 2020.3

Nationwide, provisional demographics data shows that drug overdose deaths in 2020 increased across all age and race/ethnicity groups when compared to 2019. The largest percent increases, however, were seen among the younger population, American Indian or Alaska Native, Asian, Black, and Hispanic/Latino communities.5 To help guide prevention efforts and address the increase in fatal drug overdoses in Rhode Island, we examined accidental drug overdose deaths in Rhode Island from 2016 to 2020 to identify if racial and ethnic disparities were present, and if they contributed to the rapid increase in fatal overdoses observed in 2020. We also studied how the rate of accidental drug overdose deaths varied by substances contributing to the cause of death for different race and ethnicity groups.

METHODS
We obtained data on all accidental drug overdose deaths from January 1, 2016 to December 31, 2020 from the Rhode Island Office of the State Medical Examiners (OSME). The OSME determine cause and manner of death based on autopsy results, toxicology testing, scene investigation, and medical history. Accidental drug overdose deaths were identified by selecting deaths where the manner of death is “Accident” and manner type is “Drug Medication”.4

Substances contributing to the cause of death were extracted from the cause of death fields and results were presented overall and for the most common reported substances. Race and ethnicity fields were combined to create mutually exclusive groups. Individuals with Hispanic ethnicity were categorized as Hispanic or Latino for all races and individuals with non-Hispanic or unknown ethnicity information were categorized according to their races. To allow for rate calculations, only accidental drug overdose deaths among Rhode Island residents were included in the analysis. Additionally, all decedents among Asian or unknown race and ethnicity were excluded from analysis due to small numbers.

Single-race population estimates, 2010-2020, for Rhode Island from CDC Wide-ranging Online Data for Epidemiologic Research (CDC WONDER) were used to calculate rate of accidental drug overdose deaths per 100,000 Rhode Island residents.5 In line with Rhode Island Department of Health’s [RIDOH] Small Numbers Reporting Policy, unstable rates were suppressed.6 All data analyses were performed in SAS Version 9.4.

FINDINGS
From January 1, 2016 to December 31, 2020, 1,666 accidental drug overdose deaths occurred in Rhode Island, of which 171 occurred among non-residents and 15 occurred among Asian or unknown race and ethnicity, leaving 1,480 decedents for the analysis. Of these deaths, 118 (8.0%) were among non-Hispanic blacks, 163 (11.0%) were among Hispanic or Latinos, and 1,199 (81.0%) were among non-Hispanic whites [Table 1]. The three most common substances contributing to the cause of fatal overdoses included opioids [inclusive of fentanyl], fentanyl, and cocaine, involved in 1,269, 991, and 665 deaths, respectively. When comparing the rate of accidental drug overdose deaths per 100,000 Rhode Island residents, the rates increased from 2018–2020 for Hispanic or Latino and for the non-Hispanic black populations. Among the non-Hispanic white population, the fatal overdose rate decreased from 2016–2019 and increased from 2019–2020. Comparing rates from 2018–2020, the largest increase in the rate of accidental fatal drug overdoses (80%) was observed among the non-Hispanic black population from 29.9 per 100,000 [95% CI, 16.5–43.4] in 2018 to 53.9 per 100,000 [95% CI, 36.1–71.8] in 2020 [Figure 1]. Additionally, the rate of accidental drug overdose deaths in 2020 was highest among non-Hispanic blacks (53.9; 95% CI, 36.1–71.8).

In 2020, the rate of opioid-involved, fentanyl-involved, and cocaine-involved fatal overdoses per 100,000 Rhode Island residents was highest among non-Hispanic blacks [opioid: 49.3; fentanyl: 47.8; cocaine: 40.1] when compared to Hispanic or Latinos [21.0; fentanyl: 20.4; cocaine: 12.5] and non-Hispanic whites [29.9; fentanyl: 24.8; cocaine: 17.2] [Table 1]. The rate of opioid-involved fatal overdoses increased for all three race and ethnicity groups from 2019 to 2020, with the largest increase observed among non-Hispanic blacks (2019: 26.4; 2020: 49.3).

While 78% of accidental opioid involved deaths involved fentanyl overall, this varied by race and ethnicity from 87% among non-Hispanic blacks and 86% among Hispanic or Latinos to 76% among non-Hispanic whites.
Table 1. Number and Rate of Accidental Drug Overdose Deaths per 100,000 Rhode Island Residents by Race and Ethnicity and Select Substances Contributing to the Cause of Death, 2016–2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall</th>
<th>Opioids</th>
<th>Fentanyl</th>
<th>Cocaine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Rate (95% CI)</td>
<td>N</td>
<td>Rate (95% CI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(95% CI)</td>
<td></td>
<td>(95% CI)</td>
</tr>
<tr>
<td>Black, non–Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>11</td>
<td>*</td>
<td>5</td>
<td>*</td>
</tr>
<tr>
<td>2017</td>
<td>24</td>
<td>38.6 (23.2–54.1)</td>
<td>22</td>
<td>35.4 (20.6–50.2)</td>
</tr>
<tr>
<td>2018</td>
<td>19</td>
<td>29.9 (16.5–43.4)</td>
<td>17</td>
<td>26.8 (14.1–39.5)</td>
</tr>
<tr>
<td>2019</td>
<td>29</td>
<td>45.1 (28.7–61.5)</td>
<td>17</td>
<td>26.4 (13.9–39.0)</td>
</tr>
<tr>
<td>2020</td>
<td>35</td>
<td>53.9 (36.1–71.8)</td>
<td>32</td>
<td>49.3 (32.2–66.4)</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>22</td>
<td>13.9 (8.1–19.6)</td>
<td>19</td>
<td>12.0 (6.6–17.3)</td>
</tr>
<tr>
<td>2017</td>
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<td>22.1 (14.9–29.3)</td>
<td>31</td>
<td>19.0 (12.3–25.7)</td>
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<td>18.4 (11.9–24.8)</td>
<td>26</td>
<td>15.4 (9.5–21.3)</td>
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<td>272</td>
<td>36.3 (32.0–40.6)</td>
<td>224</td>
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Source: Office of the State Medical Examiners. In line with RIDOH’s Small Numbers Reporting Policy, counts with fewer than 5 individuals (<5) and rates with relative standard errors greater than 30% (*) have been suppressed.

DISCUSSION

Beginning in December of 2019, Rhode Island saw a dramatic increase in the number of accidental drug overdose deaths, and in 2020 had the highest number of accidental drug overdoses deaths ever recorded. While the overall number of accidental drug overdose deaths in Rhode Island has been declining from 2016–2019, these gains were predominately experienced by the non-Hispanic white population, with stable or increasing rates observed among the Hispanic or Latino and non-Hispanic black population. While we have established that the increase in 2020 was not due to changes in EMS utilization or increased fatalities among individuals formerly in recovery, there are still many factors that could have contributed to the increase observed nationally and in Rhode Island in 2020. These factors include an increase in polysubstance use, expanding presence of fentanyl in the drug supply, or circumstances worsened by the COVID-19 pandemic such as: increased...
isolation, changes in employment status, the drug supply, or housing status, and disrupted access to treatment and recovery services.

While the rate of fatal overdoses increased for all three race and ethnicity groups from 2018 to 2020, we observe a disproportionate increase in the rate of fatal overdoses among the non-Hispanic black population (80% increase) when compared to Hispanic or Latinos (22% increase) or non-Hispanic whites (20% increase). Additionally, this disproportionate increase among non-Hispanic blacks was sustained when stratified by opioid-involved, fentanyl-involved, and cocaine-involved fatal overdoses. Previous work by the Rhode Island Department of Health found that only 16% of non-Hispanic black individuals who died of an opioid-related overdose had received prior buprenorphine or methadone treatment, in contrast to 21.8% among Hispanic or Latino individuals and 44.9% among individuals who were non-Hispanic and white.7 Together, these findings highlight the need to better screen/identify non-Hispanic black and Hispanic/Latino individuals with opioid use disorder and connect them to care.

In addition to activities the health department is doing to combat the increase in 2020,8 to specifically address this health disparity, the Rhode Island Department of Health has expanded upon existing activities to better target non-Hispanic black and Hispanic populations. These included: 1) increasing funding to harm reduction organizations to expand their reach to previously undeserved communities, 2) increasing funding to the high-burden communities involved in our Community Overdose Engagement Project (which have a large portion of non-Hispanic black and Hispanic or Latino residents), 3) hosting an Overdose Fatality Review team meeting in May of 2021 focused on non-Hispanic black and Hispanic or Latino decedents to identify additional ways the state could intervene and prevent these fatalities, and 4) conducting focus groups with non-Hispanic black and Hispanic population stakeholders to develop and implement effective communications campaigns and engagement efforts targeting these populations.

This study has several limitations. First, while our data can show substances that contributed to the cause of death, we are not able to draw conclusions on the intentionality of drug use. In 2020, 91% of cocaine-involved deaths among Hispanic or Latino individuals also involved fentanyl compared to 88% and 66% among non-Hispanic blacks and non-Hispanic whites, respectively [data not shown]. However, we are not able to determine if a fatal overdose resulted from intentional polysubstance use or drug contamination [e.g., fentanyl-laced cocaine]. Second, since we limited our study to Rhode Island residents only, decedents who have no fixed addresses due to unstable housing or homelessness may have been excluded from the analysis (54/171 excluded deaths had missing residency information). Finally, due to approximately 7% of deaths missing ethnicity information, Hispanic/Latino deaths are undercounted. Further studies are planned that utilize data from the State Unintentional Drug Overdose Reporting System (SUDORS) to better understand factors contributing to the disproportionate increase in rate of accidental drug overdose deaths among the non-Hispanic black and Hispanic or Latino population. Information on circumstances surrounding victims’ deaths such as polysubstance use, bystander presence, naloxone administration, experiencing homelessness will also be analyzed to provide insight on the increase in fatal overdoses in 2020.

References

Acknowledgments
The authors thank the following RIDOH staff: Sarah Biester for her contribution to this report.

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

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

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(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 1,059,361 for 2019 (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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Daniel Nissi, LIA  ▬  508-259-9480  ▬  daniel.nissi@hubinternational.com
The 2020–21 residency application and interview season began in unprecedented times. With the COVID-19 pandemic in full swing, and in the midst of a crucial movement to address systemic racism plaguing our country, applicants and programs were compelled to set aside the abundant stress and trauma of the times and embrace the changed landscape of the application and interview process. The reality of virtual interviewing was upon us.

In the 2020–21 season, 2030 applicants applied for 1460 available positions for residency in Obstetrics & Gynecology (Ob/Gyn).1 At our Ob/Gyn residency here at Brown, we received 866 applications for our 8 available PGY1 positions, a 12% increase from the preceding year. Of those applicants, we interviewed a total of 100 candidates, and were thrilled with a successful match in March of this year. On April 24th, our national organization, the Council on Resident Education in Obstetrics and Gynecology (CREOG), released recommended standards for the 2021–22 match season, including virtual interviews for all applicants. Here we go again!

Time to reflect; Lessons learned

Our education leadership team has spent a great deal of time reflecting on the past season – what worked and what we could improve upon. The COVID-19 pandemic brought a silver lining of a now-household name: Zoom. With the hallmark of the Zoom platform, we were able to expand access for applicants to learn about our program through live events over several months, opportunities that were once primarily limited to a single interview day and dinner. Our program participated in Zoom virtual residency fairs through the Alpert Medical School (AMS), and through the American College of Obstetricians and Gynecologists (ACOG). Members of our department started a virtual Diversity Visiting Scholars elective held exclusively over Zoom. Six talented fourth-year students participated in this two-week course with involvement in a wide range of educational conferences, simulated patient encounters, and social events with faculty, fellows, and residents. In addition, we were able to invite prospective applicants to participate in happy hour events sponsored by the Brown Minority House Staff Association (BMHA) throughout the season, and our second look event through the BMHA for applicants Underrepresented in Medicine (URM) was a success through the virtual platform. Additionally, with time for travel removed from the equation, applicants could accept more interviews across the country, and expand their options for the match. In addition to increased access, applicants in the virtual season benefited from significant cost savings due to lack of travel costs.

Along with these benefits of the virtual interview season came some downsides. The elimination of travel time preferentially benefited top applicants. In an in-person interview year, these applicants would need to choose between programs offering interviews on back-to-back days as time for travel would pose a barrier to participating in both. This phenomenon potentially decreased interview opportunities for middle- and lower-tier applicants. But perhaps the biggest downside of the virtual interview season was a challenge in helping applicants see themselves living in our diverse, thriving city. In our post-match survey this year, the number one reason applicants cited for not ranking our program more highly was location. Certainly, amid the uncertain times that the pandemic posed, it is understandable that applicants may feel more secure at a residency program closer to home. However, when informally surveying current residents in our program, they relay time and time again that the ability to visit Providence and the hospital on interview day and during the BMHA second look is what drew them here. They recount feeling the warmth of our culture and acknowledge first-hand the vibrant and diverse communities that Providence offers. The questions become: how can we better relay these sentiments in the virtual setting, and is the virtual interview season here to stay?

Looking ahead

As we embark upon a second virtual interview season, we have solid groundwork and systems in place. We are scheduled to participate in local and regional virtual residency fairs through AMS and ACOG. We are thrilled that visiting students will have the opportunity to take part in in-person Sub-Internships, and excited to welcome back our Diversity in Medicine Visiting Student Scholars. We are lucky to have phenomenal residents, fellows, and faculty who have contributed abundant video content for applicants to get a feel of who we are, and the extraordinary residency experience we offer. Our interview dates have been selected, and virtual happy hour events will again be scheduled. We are ready! But how can we show potential applicants how amazing it is to live and work in the beautiful Ocean State?

I believe the answer is twofold – there are opportunities to improve our
virtual outreach, and the potential to entertain a hybrid virtual/in-person interview season. In terms of the virtual platform, we plan to use our social media platforms to share personal stories of residents, fellows, and faculty – to relay what brought them to our program and department, and what they love about their environments inside and outside of work. We also plan to incorporate video interviews of graduated residents to share their views and experiences after completing our four-year program. The question then becomes if a hybrid interview season offering some in-person component will become a possibility. This topic was widely debated at our national CREOG retreat in July, with the majority of stakeholders promoting continuation of a completely virtual process, citing bias that the hybrid process may impose. The virtual interview season did provide greater equity in access for applicants to programs across the country, regardless of financial means, and this crucial point will need to be at the forefront of our plans moving forward.

For this year, we plan to stay with the virtual interview season and continue to re-evaluate alongside our colleagues nationally in the years to come.

Is the virtual residency interview season here to stay? It may be. The benefit of cost savings is irrefutable. Additionally, the results from the 2020–21 Match suggest that programs across the country performed similarly to prior years despite the change from in-person to virtual platforms.1 As program leaders, I believe that we should embrace the virtual interview process moving forward, but creatively consider how we can introduce greater exposure to our programs without overburdening applicants with related time commitments and expense or create inequalities of access to programs. We have adapted significantly over the past year and a half, and I am excited to consider the innovative possibilities moving forward. Whether virtual or in-person, we are dedicated to recruiting a diverse group of residents passionate to care for our incredible community, and further our field as educators, researchers, advocates and leaders. Our program, hospital and city provide a unique and unparalleled training experience for our future providers in Ob/Gyn, and I look forward to sharing all we have to offer with applicants in the coming interview season.

Reference

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In recent years, healthcare providers, community activists and politicians have recognized the importance of improving maternal child health and addressing underlying disparities in care worsened by systemic factors, including racism.1,2 The former Surgeon General Dr. Alex Azar’s 2020 call to action to improve maternal health reverberated what many are critically aware of every day: “Optimizing maternal health is...crucial to the well-being of future generations.”3 The state of Rhode Island has made improving maternal child health a priority,4 recognizing that improvement of preconception, pregnancy, postpartum and early childhood health has significant benefits for the future of our state. Family medicine physicians have a unique role in addressing maternal child health disparities because they are trained in primary care, preventive medicine, obstetrics, and pediatrics, and can be the care provider for multiple generations of the same family. It is critical to strengthen and expand the training of family medicine physicians practicing obstetrics and prenatal care, as these physicians are particularly important players in caring for and reducing disparities for underserved populations.

Comprehensive prenatal care
Comprehensive prenatal care is essential to assess for and address unmet medical, housing, food and social needs. Delayed prenatal care is highest among uninsured and publicly insured patients, and overall highest in the urban core of Rhode Island – Providence, Pawtucket, Central Falls and Woonsocket.5 Delayed prenatal care correlates with increased low birth weight infants, preterm delivery and higher infant mortality, which have ongoing effects on child health and development.5 Health problems, learning difficulties and behavioral issues can contribute to already existing disparities in school completion and job availability seen in the core cities and among lower-income families.5 These health and economic disparities disproportionately affect families and communities of color.5 The immediate postpartum period is a critical time for bonding and breastfeeding establishment, and it is also a period of significant health risk for families.6 Events during the peripartum and early childhood periods can correlate with lifelong health, social and economic challenges or successes.

It is important to invest in clinics and providers that work in and for communities most affected by poor maternal child health outcomes, many of which are served by family physicians. Family physicians trained in obstetrics have been shown nationally to have lower rates of primary cesarean sections and higher rates of vaginal births after cesareans than obstetrician colleagues in similar regions, including when caring for high-risk pregnancies.7 Vaginal birth is associated with lower maternal and infant morbidity, shorter recovery, and higher rates of breastfeeding initiation.8,9

Maternal Child Health fellowship program
Rhode Island has a successful history of training full-spectrum family medicine physicians. The Maternal Child Health fellowship, now a nationally recognized program, was started in 1991 by family physicians at Memorial Hospital in Pawtucket.10 Residency faculty collaborated with the Blackstone Valley Community Health Center to launch a program aimed at improving the health of the Pawtucket community through comprehensive prenatal, obstetric and pediatric care. They started a mother-baby service at Memorial to ensure continuity of physician care through both inpatient and outpatient settings. The program reduced the cesarean rate at Memorial by half within a few years and improved the quality of prenatal and pediatric care.11 Integral to the program was the dedicated leadership of family medicine faculty to ensure that fellows had real-time mentorship with experienced preceptors for vaginal and cesarean deliveries. Many fellowship graduates have moved on to provide health care in underserved communities across the country where obstetricians are scarce.11 Nearly all graduates of the fellowship at Memorial served as faculty in family medicine upon graduation, teaching a new generation of doctors the necessary skills to provide full-spectrum family medicine, including obstetrics in underserved communities.11

In 2016, when Memorial closed and the obstetrical training for the family medicine residency moved to Women & Infants Hospital in Providence, the Care New England leadership team decided that the fellowship would not be able to continue at the larger facility, and therefore was moved to Landmark Medical Center, partnering with Thundermist Health Center, in Woonsocket. The new program has a reputation in Rhode Island as a holistic place to birth, employing family physicians, midwives and obstetricians to provide a multidisciplinary model of care, including gentle cesarean sections.12

Family medicine residency obstetrical service
The Brown family medicine residency obstetrical service at Women & Infants Hospital currently provides antenatal, labor, delivery, postpartum and routine newborn care to
patients from family medicine clinics across the state. Most of these clinics are federally qualified health centers, which act as a catchment for underserved families in areas with high socioeconomic disparity. In addition, the service cares for infants experiencing neonatal opioid withdrawal, provides emergency/acute care to patients in triage, collaborates with a variety of specialties including psychiatry for brexanolone infusion treatment for postpartum depression, Maternal Fetal Medicine for the care of medically and surgically complex patients, and the OB medicine team as the in-house code team for Women & Infants Hospital. The residency clinic in Pawtucket provides comprehensive family care for the community and continuity of inpatient and outpatient care. This breadth of practice and partnership are at the core of the specialty of family medicine, which values flexibility, adaptability, and ability.

The second location of the Brown family medicine residency is at Kent Hospital, a community hospital with a Level 1 nursery, located in Warwick. The Family Medicine clinic is at the federally qualified health center Thundermist West Warwick and provides comprehensive prenatal care by family physicians and midwives with supervision by two surgical obstetrics fellowship-trained family medicine physicians. Thundermist manages high-risk pregnancies, including medication-assisted therapy for substance use disorder, and has access to a robust behavioral health department, social services, and on-site non-stress testing and ultrasound. Inpatient care at Kent includes antepartum admissions, labor and delivery, postpartum services, newborn care for infants 35 weeks and older, and intensive level care for medically complex obstetric patients.

Maternal child health equity can be a reality in Rhode Island with collaboration among pediatricians, obstetricians, and family medicine physicians. The strengths of the specialty of family medicine can address complex medical and social issues that affect the entire family unit and improve outcomes in maternal child health. The presence of family physicians across our state in multiple underserved communities brings hope for a bright future for all Rhode Island families.

References

Acknowledgments
The authors acknowledge the limited and gendered nature of the widely used terms “maternal child health” and “mother-baby” and recognize that people of all genders can become parents, have a uterus and/or carry pregnancies.

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Systems-level Improvements at a Student-Run Free Gynecology Clinic

JULIA ROTHSCILD, MD-ScM’22; MATTIE BOEHLER-TATMAN, MD-ScM’22; ALISON RIESE, MD, MPH

INTRODUCTION
Student-run free clinics (SRFCs) function as a unique opportunity to enhance medical education by providing a venue to learn principles of system-based practices outside of traditional medical systems while importantly answering the otherwise unmet needs of countless uninsured patients.1,2 Student volunteers play a lead role in the functioning and staffing of these clinics; however, they typically do not have time to dedicate to volunteering after the pre-clinical years (years 1 and 2). Due to the frequent turnover of volunteers, it can be difficult to establish continuity of care and improve patient outcomes through a quality improvement lens.

However, working to elevate the quality of care delivered to the marginalized communities, historically shut out of more traditional healthcare facilities, is of the utmost importance. Patients do express high levels of satisfaction with the care they receive at SRFCs3 and studies have shown similar or even better provision of preventive services compared to national rates and standards2, including favorable longitudinal patient outcomes, particularly for diabetes and hypertension.4,5

Many SRFCs are developing specialized sub-clinics to deliver specialty care within the same model, such as Clinica Esperanza’s “Women’s Clinic,” which was established in 2015 and provides gynecologic care, including pap smears, breast exams and mammogram referrals, among other services. As the sub-clinic draws from an even more limited group of volunteers and due to its relatively new nature, the system-level functioning of this clinic remains tenuous without clear policies and procedures for care delivery and patient follow-up.

We aim to outline the examination of certain quality measures at Clinica Esperanza’s Women’s Clinic to detail quality-improvement processes that student leaders were able to undertake and the subsequent solutions to create more comprehensive and sustainable gynecologic services within a SRFC to better serve the uninsured population of Rhode Island. We also seek to relay the valuable learning experience that occurs when medical students engage in system-level quality improvement and how the SRFC setting can be an optimal place for this experience.

THE SETTING FOR HANDS-ON QUALITY IMPROVEMENT AT AN SRFC
Two Women’s Clinic’s student leaders (MBT and JR) are enrolled in the Alpert Medical School of Brown University’s Primary Care-Population Medicine dual MD-ScM program, which includes a Population and Clinical Medicine course as part of the third-year curriculum. This graduate-level course involves teaching on population medicine, community engagement, and quality improvement, and incorporates designated time to work on a self-directed community partnership project longitudinally throughout the year. Students were expected to spend at least ten hours a month on their partnerships and were given protected time within their schedules to work on their projects.

By offering students this time and support to focus on community needs and broader system-level processes in healthcare, the Population and Clinical course allowed the student leaders to assess current practices and procedures within the Women’s Clinic that may negatively impact care delivery. A deliberate problem analysis revealed areas of improvement existed within waitlist maintenance, follow-up management, and external referral tracking.

MANAGING THE WOMEN’S CLINIC WAITLIST
Problem
Upon implementation of this project, the waitlist for Women’s Clinic exceeded 100 patients, many of whom had been listed for over one year. Moreover, there was no established protocol for students and clinic staff to identify and address acute concerns or manage new patient referrals in a timely, thoughtful manner. The student leaders carefully reviewed the waitlist and categorized chief complaint (Figure 1) and acuity level (Figure 2) and assessed if individuals still required care.

Solutions
Building off this close examination of waitlist composition, student leaders created a system to appropriately triage waitlist patients. The steps are outlined as follows: the students reviewed the clinic’s EHR to determine the initial stated reason for the referral and then determined whether the patient had already been seen at the clinic or had the problem addressed elsewhere within Clinica Esperanza. If the patient...
had not been seen, the students then referenced the regional hospital’s EHR to determine whether the patient had been seen for the referred problem at another site. Patients whose problems had been addressed elsewhere were then removed from the waitlist. Those who were determined to not have had their problem addressed remained on the waitlist.

To further triage the waitlist, they also developed scheduling protocols based on acuity of active concerns and partnered with Clinica Esperanza’s nursing clinical manager to add general clinic sessions for Pap smears and other routine gynecologic care.

These steps have allowed for nearly a 50% decrease in waitlist volume.

**ESTABLISHING FOLLOW-UP PROTOCOLS**

**Problem**

Previously, there had been no system to track provision of women’s health maintenance visits, including routine cervical cancer screening, nor was there a way for Women’s Clinic to manage follow-up visits for abnormal tests that required close surveillance or colposcopy, in accordance with recent American Society for Colposcopy and Cervical Pathology guidelines.

**Solutions**

Now, a designated clinical volunteer student securely documents all lab work and procedures performed during clinic and monitors outstanding/pending results regularly. With this system, both urgent and routine follow-up requirements are updated in the EHR and organized by date so that patients can be scheduled for upcoming clinics accordingly. This new process ensures that, moving forward, women are scheduled for appropriate HPV and cervical cancer follow-up screenings.

**CREATION OF REFERRAL SYSTEMS**

**Problem**

After further assessment of gaps in care continuity and delivery, the student leaders found that patients were often referred to outside Ob/Gyn specialty clinics without any subsequent follow-up. Many women were referred and never had appointments scheduled. For those who were seen, there was a lack of communication between the two clinics, making it unclear who was responsible for the patients’ care after the reason for initial referral was resolved.

**Solutions**

Student leaders cultivated more cohesive relationships between Women’s Clinic and the surrounding Ob/Gyn specialty clinics. Through this partnership-building, they secured restricted access for the nursing clinical manager to the EHR used by these specialty Ob/Gyn clinics, which allowed for better monitoring of referrals to ensure patients were scheduled for appropriate appointments. With this enhanced bidirectional communication, the student leaders facilitated the incorporation of tracking external subspecialty referrals into the internal monitoring system within the Women’s Clinic EHR.

Moreover, any patient referred to Women’s Clinic with a chief concern that requires outside subspecialty care, such as infertility, is now able to have this external referral streamlined so as to avoid delays in work-up. This process has greatly optimized patient care by ensuring closed-loop communication and expanding access to subspecialty care that is not traditionally provided in the setting of a student-run clinic.

**SUB-SPECIALTY SRFC QUALITY IMPROVEMENT TAKEAWAYS**

By utilizing this recently developed comprehensive and user-friendly system, Women’s Clinic will be better poised to serve the community of Rhode Island. Oftentimes newly established SRFCs focus on start-up funding, initial roll-out protocols, and garnering momentum and support. Our examination of a sub-specialty SRFC in its sixth year of running describes the three key areas requiring attention and improvement. In creating these protocols for waitlist, follow-up, and referral management, now these clearly laid-out procedures can be followed by future student leaders.
to ensure no patient’s care falls through the cracks. Additionally, the clinical practices are in line with subspecialty guidelines and recommendations, which should be the goal for all specialized SRFCs.

Subsequent generations of student leadership will therefore be able to focus on expanding gynecologic services and furthering the mission of the clinic in conjunction with population needs. Each of these discussed changes represent procedural modifications that will have sustained impact. An additional effect of this process is embedding continued examination of patients’ needs on an ongoing basis into the student volunteer roles – thus, quality improvement is now ingrained within the processes of the sub-specialty SRFC.

MEDICAL STUDENT SYSTEM-LEVEL LEARNING TAKEAWAYS

While student involvement in free clinics is often a component of medical education, dedicated time for clinical students to play a key role in examining the structure and processes and innovating care delivery is not always offered or distinctly valued. Involvement of clinical students in SRFC has been shown to be beneficial for preclinical students and patients alike, yet this absence of protected space too often leaves SRFCs turning in circles as students struggle to make effective, lasting change. The Population and Clinical Medicine course offered a unique space for the student leaders of Women’s Clinic to meaningfully engage with quality improvement principles, and in doing so elevate the level of care provided to a predominantly underserved population. It is valuable to offer interested medical students an opportunity to engage in hands-on system level learning, whether through this model of graduate student work or the creation of clinical and preclinical electives. Importantly, the student leaders of SRFCs should have time, training, and support for such work to create systems that allow for more thoughtful and equitable care delivery to marginalized communities. In detailing these efforts, the student leaders hope to aid other SRFCs and sites of medical education in creating more sustainable processes and add to the growing call for greater incorporation of these experiences into medical education.

References


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Conflict of Interest

The authors have no conflicts of interest or financial disclosures relevant to this article to disclose.

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SSRC-Path is a step forward in clarifying discrepancy in pathology reports

ALI AMIN, MD

Modifying phrases are phrases used by pathologists to express diagnostic uncertainty (i.e. Suspicious for, Cannot be excluded, Consistent with, Suggestive of, Favor, Diagnostic of, etc.). These are often used in pathology reports [about 10% of pathology reports in Brown-affiliated hospitals]. Despite the common assumption that every healthcare provider’s interpretation of a pathology report is similar to that of the pathologist who issued the report, a study in the Brown University Affiliated Hospitals revealed a significant discrepancy in comprehension of modifying phrases in pathology reports between pathologists and non-pathology providers and among different groups of non-pathology specialties. For example, we noticed that phrases like Suggestive of, Probably, Favor and Likely are subject to be interpreted as conveying higher than intended certainty by non-pathology providers. This may result in offering definite therapy in cases when significant uncertainty in diagnosis exists. This miscommunication can result in a type of medical error that is avoidable. In our study, we noticed that there is no universal understanding about the existence of miscommunications, their causes, or solutions to clarify them. It is prudent that healthcare providers are more vigilant about modifying phrases in the pathology reports, and when confronting phrases with certainty level <80% (i.e. Compatible with, Typical of, In keeping with, Likely, Favor, Suggestive of, Suspicious for, Probably, Possibly, Reminiscent of, Cannot exclude, Questionable for, Equivocal and Appearance approaching), make an attempt to communicate the situation with the reporting pathologist to come up with a plan to obviate the ambiguity. This approach can be labor intensive.

In the pathology department of Brown University, and as an effort to elaborate on uncertainty in pathology reports, we recently introduced a standard reporting system called Standardized Scheme of Reporting Certainty in Pathology Reports (SSRC-Path). The new scheme is intended to be added to the biopsy reports in situations when there is diagnostic uncertainty. The report will include a SSRC-Path score for the case, a table of modifying phrases with assigned numerical certainty level as well as recommendations for the provider on how to deal with the uncertainty, whether or not a definite treatment should be offered (Table 1). This is a scheme similar to the system used in reporting organic radiology findings (i.e. BI-RADS), and is believed to improve the effective communication of pathological findings and obviate the need for additional communication. It is of note that the list of modifying phrases provided in SSRC-Path is not exclusive. Although we discourage pathologists from using ambiguous modifying phrases, it is advisable that they add other modifying phrases that are popular in their region to the table with proper explanation.

Reference

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Table 1. Recommended Standardized Scheme of Reporting Certainty in Pathology Reports (SSRC-Path).
The table will be provided with any biopsy report containing uncertainty.

<table>
<thead>
<tr>
<th>SSRC-path</th>
<th>Level of certainty (CL)</th>
<th>Modifying phrase</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>100%</td>
<td>None</td>
<td>No uncertainty</td>
</tr>
<tr>
<td>4</td>
<td>99%&lt;CL&gt;80%</td>
<td>Diagnostic of, Consistent with, Characteristic of, Indicative of</td>
<td>High certainty, definite treatment is offered</td>
</tr>
<tr>
<td>3</td>
<td>79%&lt;CL&gt;50%</td>
<td>Compatible with, Typical of, In keeping with</td>
<td>Additional workup recommended before definite treatment</td>
</tr>
<tr>
<td>2</td>
<td>49%&lt;CL&gt;30%</td>
<td>Likely, Favor, Suggestive of and Suspicious for</td>
<td>Additional workup mandatory before definite treatment</td>
</tr>
<tr>
<td>1</td>
<td>CL&lt;29%</td>
<td>Probably, Possibly, Reminiscent of, Appearance approaching, Cannot be excluded, Questionable for and Equivocal</td>
<td>Very low certainty, Additional workup mandatory before definite treatment</td>
</tr>
</tbody>
</table>
Joint statement from FSMB on dissemination of misinformation

The Federation of State Medical Boards (FSMB), which supports its member state medical licensing boards, has recently issued a statement saying that providing misinformation about the COVID-19 vaccine contradicts physicians’ ethical and professional responsibilities, and therefore may subject a physician to disciplinary actions, including suspension or revocation of their medical license. We at the American Board of Family Medicine (ABFM), the American Board of Internal Medicine (ABIM), and the American Board of Pediatrics (ABP) support FSMB’s position. We also want all physicians certified by our boards to know that such unethical or unprofessional conduct may prompt their respective board to take action that could put their certification at risk.

Expertise matters, and board-certified physicians have demonstrated that they have stayed current in their field. Spreading misinformation or falsehoods to the public during a time of a public health emergency goes against everything our boards and our community of board certified physicians stand for. The evidence that we have safe, effective and widely available vaccines against COVID-19 is overwhelming. We are particularly concerned about physicians who use their authority to denigrate vaccination at a time when vaccines continue to demonstrate excellent effectiveness against severe illness, hospitalization and death.

We all look to board-certified physicians to provide outstanding care and guidance; providing misinformation about a lethal disease is unethical, unprofessional and dangerous. In times of medical emergency, the community of expert physicians committed to science and evidence collectively shares a responsibility for giving the public the most accurate and timely health information available, so they can make decisions that work best for themselves and their families.

Warren Newton, MD, MPH
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Working for You: RIMS advocacy activities

September 7, Tuesday
RIMS Physician Health Committee (PHC): Herbert Rakatansky, MD, Chair

September 8, Wednesday
RI Department of Health (RIDOH) Board of Medical Licensure and Discipline
Governor’s Overdose Intervention and Prevention Task Force: Sarah Fessler, MD, RIMS Past President

September 9, Thursday
OHIC Measure Alignment Meeting: Peter Hollmann, MD, Past President
American Medical Association (AMA) Federal Advocacy Update

September 13, Monday
RIMS Board of Directors and Annual meeting, installation of 2021-2022 officers: Catherine A. Cummings, MD, President

September 14, Tuesday
RIDOH Harm Reduction Center Advisory Committee: Elizabeth Samuels, MD, Rahul Vanjani, MD

September 15, Wednesday
RIDOH Primary Care Physicians Advisory Committee (PCPAC): Elizabeth Lange, MD, President
Diabetes Prevention Program (DPP) meeting with RIDOH

September 17, Friday
Care Transformation Committee (CTC-RJ) Clinical Strategy Committee Meeting: Elizabeth Lange, MD, President;
Thomas Bledsoe, MD, President-elect

September 20, Monday
AMA New England Delegation (NED)/Council of New England State Medical Societies: Peter Hollmann, MD, Delegate;
Alyn Adrian, MD, Delegate; Sarah Fessler, MD, Alternate Delegate;
Elizabeth Lange, MD, President
AMA NED Political Candidates Committee (PCC) meeting,
Peter Hollmann, MD, Delegate

September 21, Tuesday
Office of the Health Insurance Commissioner (OHIC) Health Insurance Advisory Council (HIAC): Catherine A. Cummings, MD, Past President
RIDOH Harm Reduction Center Advisory Committee: Elizabeth Samuels, MD; Rahul Vanjani, MD
OHIC Health Insurance Advisory Committee (HIAC): Catherine A. Cummings, MD, Past President

September 22, Wednesday
RIMS CME Webinar: Diagnosis, Treatment, and Management of Alzheimer’s disease and other dementias

September 23, Thursday
Project Weber Renew Pawtucket location ribbon cutting
PhRMA and State Medical Society: 2021/2022 Outlook & Priorities

September 27, Monday
COBRE lecture series: The IMANI Breakthrough Project

September 28, Tuesday
RIMS CME Webinar: Diagnosis, Treatment, and Management of Alzheimer’s disease and other dementias
RIDOH Harm Reduction Center Advisory Committee: Elizabeth Samuels, MD; Rahul Vanjani, MD

September 29, Wednesday
RIMS CME Webinar: Diagnosis, Treatment, and Management of Alzheimer’s disease and other dementias
OHIC Measure Alignment Meeting: Peter Hollmann, MD, Past President

September 30, Thursday
Governor’s Overdose Task Force Racial Equity Work Group
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.
RIMS gratefully acknowledges the practices who participate in our discounted Group Membership Program
Adventures

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4. Australia
5. India
6. China
7. Germany
8. Italy
9. Brazil
10. Netherlands

RAPID CITY, SOUTH DAKOTA

The City of Presidents is a series of life-size bronze statues of United States presidents located on Rapid City street corners. The project began in 2000, and currently consists of 43 statues. On a recent trip, Michael E. Migliori, MD, Ophthalmologist-in-Chief at RI Hospital and The Miriam Hospital, and RIMS Chair of Public Laws, had a little fun sharing the September issue with some of them.

Wherever you may be, or wherever your travels may take you, check the Journal on your mobile device, and send us a photo: mkorr@rimed.org.
RI Olympic swimmer Elizabeth Beisel raising funds for cancer research in memory of her father

BLOCK ISLAND – Olympic swimmer and medalist ELIZABETH BEISSEL is raising funds in memory of her father, Ted Beisel, who was diagnosed with stage 4 pancreatic cancer in December 2020. Ted passed away on July 1, 2021. The news of his diagnosis prompted Elizabeth to take action – the best way she knows how – by swimming.

“I quickly realized what my family was going through was sadly all too common and that the most impactful way I could raise funds for cancer research and clinical trials would be through my swimming platform,” noted Elizabeth. “I’m hoping the funds raised by Block Cancer will help support families who have been affected by this horrible disease and get us one step closer to finding a cure.”

Rob Butcher, CEO of Swim Across America, said Swim Across America is honored to work alongside Elizabeth to raise critical funds to fight cancer through her swim to Block Island.

“So many in the Swim Across America community have come to love Elizabeth because of how generous she is with her time and encouragement,” he said.

She made history on Sept. 25th, when she swam from Point Judith to Block Island, Rhode Island in her BLOCK CANCER SWIM, the first woman to swim the 10.4 mile route successfully.

Butcher was in one of the two boats accompanying Elizabeth on the swim between Pt. Judith and Block Island, along with an EMT, two shark experts, Elizabeth’s coach, and marathon swimmer Elaine Howley, who successfully swam across the English Channel. Elizabeth chose this swim to Block Island as she grew up in Rhode Island and swimming to Block Island was always something she dreamed of doing as a child.

“I have always envisioned my Dad being at Block Island waiting for me to finish with an ear-to-ear grin on his face,” said Elizabeth. “I replay that scene over and over of how as soon as I reached land, I would run into his arms and give him a hug and he would whisper proudly, ‘You did it, Elizabeth.’ Sadly, he’ll never get to see me swim to Block Island and I’ll never get to hug him again, but his fight wasn’t for nothing. I know that my dad’s battle along with the money raised by Block Cancer will save someone’s life one day. He is smiling knowing he gifted someone and their family the most precious gift of all time.”

According to the American Cancer Society, one-in-two men and one-in-three women will be diagnosed with cancer in their lifetime. Beisel said this staggering statistic, coupled with dozens of hours of research, led her to do her part in making a difference. Thus far she has raised more than $135,000 to go toward crucial cancer research.

To support, donate and/or shop custom Block Cancer gear, visit blockcancer.org.

Swim Across America, inc. (SAA) is dedicated to raising money and awareness for cancer research, prevention and treatment through swimming-related events. Founded in 1987, Swim Across America has raised more than $100 million to support cancer research and clinical trials. With the help of hundreds of volunteers nationwide and past and current Olympians, Swim Across America is helping find a cure for cancer through athleticism, community outreach and direct service. To learn more visit swimacrossamerica.org or follow on Facebook, Instagram and Twitter @SAASwim.
Hasbro joins nationwide study on long-term effects of COVID-19 in children

PROVIDENCE – With more than 30 percent of new COVID-19 cases occurring in children, understanding the long-term impact of this illness on their health, development, and well-being is critical. A team of interdisciplinary researchers at Rhode Island’s Hasbro Children’s Hospital, NYU Langone Health, Virginia Commonwealth University, Northeastern University, and the Translational Genomics Research Institute will play an integral role in the recently announced $470 million NIH REsearching COVID to Enhance Recovery (RECOVER) Initiative to study the impact of Long COVID in infants, children, and adolescents – a condition that has potential long-term consequences on children’s ability to learn and play, but is poorly understood.

As part of this nationwide study, DR. SEAN DEONI, an associate professor of diagnostic imaging and pediatrics at the Warren Alpert Medical School of Brown University, is joined by colleagues DR. MORIAH THOMASON, at NYU Langone Health, DR. AMY SALISBURY and DR. PATRICIA KINSER at Virginia Commonwealth University (VCU), DR. LAUREL GABARD-DURNAM at Northeastern University, and DR. MATT HUENTELMAN at Arizona’s Translational Genomics Research Institute (TGen). Together, they will lead the LEGACI study, with specific focus on individuals under age 25.

“While children appear to be resilient against COVID-19, and are much less likely to have severe illness or death, we don’t know how COVID-19 affects their long-term health and development, and it’s something we need to answer quickly,” said Dr. Deoni. Preliminary work from Dr. Thomason’s group at NYU Langone suggests that up to 14 percent of children who had COVID-19 illness continue to suffer from lingering symptoms. Thomason said, “We need to understand what children infected with COVID-19 are experiencing and need to identify factors that predict better or worse outcomes. This will help us to develop better ways to care for and counsel families.” The most common symptoms include pain, headaches, fatigue, “brain fog,” shortness of breath, anxiety, depression, fever, chronic cough, and sleep problems. These symptoms can impact a child’s ability to perform at school or take part in everyday activities and sports.

While COVID-19 has affected almost every family, “We have learned that minority families have been particularly affected,” said Dr. Salisbury of VCU. “Unfortunately, these are also families that have traditionally been excluded from research,” added Dr. Kinser of VCU. To address this, the team will use a series of mobile laboratories, complete with neuroimaging facilities, to bring the research to involved families. “Families want to participate in this research, but they often are unable to take time away from work, school, or other responsibilities to come into a hospital or university research lab,” said Dr. Huentelman, an expert in population genomics who has built a US-wide virtual study cohort using online testing and social media. In addition, “We will build local networks of people affected by long COVID and representatives from advocacy organizations to help build links to affected families and communicues, and to quickly disseminate information back to them,” said Dr. Gabard-Durnam of Northeastern.

Together with the larger RECOVER initiative, the LEGACI study will add to the unique multidisciplinary research community inclusive of diverse research participants that are critical to informing the treatment and prevention of the long-term effects of COVID-19. Specifically, the LEGACI will:

• Enroll patients during the acute as well as post-acute phases of the SARS-CoV-2 infection;
• Use mobile health technologies, such as smartphone apps and wearable devices, which will gather real-world data in real time;
• Characterize the incidence and prevalence of long-term effects from SARS-CoV-2 infection in infants, children, and adolescents, including the range of symptoms, underlying causes, risk factors, and outcomes;
• Address potential strategies for treatment and prevention.

“This is an important opportunity to answer important questions about the impact of COVID-19 infection and Long COVID illness in children, and we will need everyone’s help,” said Dr. Deoni. “Effects of COVID could have lifelong impact, so it is important to understand these effects and identify potential opportunities to minimize them.”

Families with children affected by COVID-19 who are interested in participating can learn more at: www.legacistudy.org.
Brown School of Public Health launches Long Covid initiative

PROVIDENCE – The Brown University School of Public Health is launching a Long Covid initiative.

“The pandemic’s devastating death toll has meant that we have at times been slow to acknowledge the growing number of people living with continued complications from COVID-19,” says ASHISH K. JHA, MD, MPH, Dean of the Brown School of Public Health. “Every third Covid-19 patient still experiences at least one symptom weeks or months after becoming infected. For some people, Long Covid is so disruptive they can no longer work or manage family responsibilities. We urgently need a better understanding of how Long Covid affects people and systems, so our programs and policies can meet this new reality.”

Led by Dean Jha and fellow pandemic expert and Associate Dean for Strategy & Innovation DR. MEGAN RANNEY, the Long Covid initiative will partner with the Warren Alpert Medical School, its affiliated hospitals, and the Rhode Island Department of Health. It expands on a recent initiative by the National Institutes of Health, which focuses on studying the clinical aspects of Long Covid, and acknowledgments such as the Biden administration’s July announcement that people with Long Covid can qualify for disability under federal law.

“I see Long Covid patients frequently in the ER – although they don’t know to call it that. The lasting effects of this disease can be life altering,” says Dr. Ranney. “Long Covid will have a profound impact on our society for years, if not for generations. By investing in closing knowledge gaps, adapting clinical approaches and workplace policies, and improving attention to equity, we can improve our collective ability to more effectively manage the long-term effects of the pandemic.”

Funding for the first year of the Long Covid initiative has been provided by the Hassenfeld Foundation. The Brown School of Public Health is committed to expanding the scope and funding of this important work as part of its larger efforts on pandemic preparedness and responses.

“The pandemic will end, but Long Covid is here to stay,” said co-director ORESTIS PANAGIOTOU, assistant professor of health services, policy and practice. “It is essential we study it, understand who is affected, and what the direct and indirect impacts will be for patients, their families and caregivers, and health systems.”

Men, jobless and people with mental health diagnoses most vulnerable in 2020 overdose spike

PROVIDENCE [BROWN UNIVERSITY] – At the same time as COVID-19 has claimed more than 600,000 lives across the United States, drug overdose deaths across the nation reached unprecedented heights. Rhode Island has been particularly affected: In December 2020, the state had the highest rate in the country of COVID-19 cases and deaths relevant to population; during the first eight months of 2020, the rate of unintentional drug overdose deaths in Rhode Island increased 28% relative to the same period in the prior year.

Researchers at Brown University’s School of Public Health wanted to learn more about the causes and characteristics of these overdose deaths and to identify some of the groups of people who are at heightened risk of overdose during the pandemic,” said ALEXANDRIA MACMADU, a study co-author and Ph.D. candidate in epidemiology at Brown.

“The pandemic’s devastating death toll has meant that we have at times been slow to acknowledge the growing number of people living with continued complications from COVID-19,” says ASHISH K. JHA, MD, MPH, Dean of the Brown School of Public Health. “Every third Covid-19 patient still experiences at least one symptom weeks or months after becoming infected. For some people, Long Covid is so disruptive they can no longer work or manage family responsibilities. We urgently need a better understanding of how Long Covid affects people and systems, so our programs and policies can meet this new reality.”

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Our motivation for this study was to understand more about the causes and characteristics of these overdose deaths and to identify some of the groups of people who are at heightened risk of overdose during the pandemic,” said ALEXANDRIA MACMADU, a study co-author and Ph.D. candidate in epidemiology at Brown.

“We already know that many people were socially and physically isolated during the early months of the pandemic. Our findings show that, as a result of the pandemic, a significant number of people are using drugs alone right now – which means there’s no bystander available to intervene or call 911. This greatly increases overdose risk.”

—Brandon Marshall, PhD

The team analyzed information from four statewide databases linked via the Rhode Island Data Ecosystem. They compared the characteristics of 264 adults in the state who died from an overdose during the first eight months of 2020 to those of 206 adults who died from an overdose during the same period in the year prior, examining variables such as age, gender, race, education, employment, income, and mental health status.
as age, sex, race and ethnicity, as well as the type of drug contributing to death, location of death and socioeconomic factors such as housing insecurity, job loss and wages.

“These linked statewide databases really allowed us to take a deeper dive into this topic,” Macmadu said. “For example, by using data from the state Department of Labor and Training, we were able to correlate overdose deaths and recent job loss; using Medicaid data, we were able to correlate overdose deaths with mental health diagnosis, to the level that we could identify, say, people in their 50s with anxiety as having elevated risk.”

The findings show that overdoses increased significantly among males (who accounted for 72% of deaths in 2019 vs. 77% in 2020), people using synthetic opioids (71% vs. 76%) and occurring in personal residences (45% vs. 53%). People experiencing job loss represented a greater portion of overdose deaths (who accounted for 8% of deaths in 2019 vs. 16% in 2020), and there was an increase in overdoses in subgroups of people with mental health diagnoses.

The researchers hypothesized that men and women would be affected by overdose deaths at the same rates, said BRANDON MARSHALL, Ph.D, study corresponding author and an associate professor of epidemiology at Brown’s School of Public Health.

“To see the significant increase in overdose deaths among men was surprising,” Marshall said. “I don’t think we have a good explanation for that at this time, and it’s something that requires further research.”

The researchers note that differences between overdose deaths in 2020 compared to 2019 correspond to changes that occurred during the pandemic, including increased isolation, an onslaught of mental health stressors, widespread economic insecurity and the lethality of the drug supply. The new findings provide guidance for clinicians, public health officials, scientists, policymakers and others who hope to stem the tide of overdose deaths, the researchers said.

As an example, they cite the finding that a significant number of people were pronounced dead from an overdose in their personal residence.

“We already know that many people were socially and physically isolated during the early months of the pandemic,” Marshall said. “Our findings show that, as a result of the pandemic, a significant number of people are using drugs alone right now – which means there’s no bystander available to intervene or call 911. This greatly increases overdose risk.”

Recommendations
The researchers offer a number of recommendations to address this risk, including the strengthening of Good Samaritan law protections for those who call 911; state establishment of pilot harm reduction centers to provide a safer, supervised environment for drug use; and safely prioritizing in-person recovery services to enhance support for socially isolated individuals at high risk of overdose.

These recommendations for interventions to reduce overdose deaths will still be highly applicable to a post-pandemic world, Macmadu said. In fact, some of the changes that have been made in response to the pandemic, including audio-only telehealth consultations to begin addiction treatment with buprenorphine, will be highly beneficial even when the world opens up and returns to a new normal.

The authors said it’s notable and timely that Rhode Island recently became the first state to authorize overdose prevention sites, or “harm reduction centers” – places where people can safely use drugs under medical supervision, and where trained staff can connect them to evidence-based harm reduction strategies and programs. Creating these sites is a step in the right direction in battling the opioid epidemic, they said.

“Continued expansion of access to evidence-based treatment and harm reduction programs for people who use drugs will be critical in addressing the epidemic of overdose deaths, during a viral pandemic as well as in the future,” Macmadu said.

Contributors to this study included, among others, KIMBERLY PAULL from the Rhode Island Executive Office of Health and Human Services and MAGDALENA CERDÁ, an associate professor and director of the Center for Opioid Epidemiology and Policy at the Department of Population Health at New York University’s Grossman School of Medicine.

This research was supported by the National Institute on Drug Abuse (F31DA052971 and R01DA046620); the Center for Biomedical Research Excellence (COBRE) on Opioids and Overdose, funded by the National Institute of General Medical Sciences (P20GM125507); and an Institutional Development Award from the National Institute of General Medical Sciences of the National Institutes of Health (U54GM115677), which funds Advance Clinical and Translational Research (Advance-CTR).
CDC to invest $2.1B to protect patients and healthcare workers from COVID-19 and future infectious diseases

WASHINGTON, D.C. – The Biden-Harris Administration announced in September a $2.1 billion investment to improve infection prevention and control activities across the U.S. public health and healthcare sectors. The Biden-Harris Administration, working through the Centers for Disease Control and Prevention (CDC), is investing American Rescue Plan funding to strengthen and equip state, local, and territorial public health departments and other partner organizations with the resources needed to better fight infections in U.S. healthcare facilities, including COVID-19 and other known and emerging infectious diseases.

Over the next 3 years, CDC will issue $1.25 billion of the total to 64 state, local, and territorial health departments to support this work. Initial awards totaling $885 million will be made in October 2021 to these jurisdictional health departments. CDC will use the majority of this initial funding in October, $500 million, to support a new force in the fight against COVID-19 to protect our most disproportionately affected population:

- **State-based nursing home and long-term care strike teams.**
  This funding from CDC, in partnership with the Centers for Medicare & Medicaid Services (CMS), will allow state and other jurisdictional health departments to staff, train, and deploy strike teams to assist skilled nursing facilities, nursing homes, and other long-term care facilities with known or suspected COVID-19 outbreaks. The strike teams will allow jurisdictions to provide surge capacity to facilities for clinical services; address staffing shortages at facilities; and strengthen infection prevention and control (IPC) activities to prevent, detect, and contain outbreaks, including support for COVID-19 vaccine boosters.

  The remaining $385 million to be awarded in October 2021 will go to state, local, and territorial health departments to strengthen five critical areas:

  - **Strengthening state capacity to prevent, detect, and contain infectious disease threats across healthcare settings:**
    CDC funding will provide significant infection prevention and control assistance to public health departments to work with healthcare facilities to improve the quality of healthcare; strengthen interventions for the prevention and containment of infectious diseases to minimize the spread of infection in a variety of healthcare settings; identify, address, and monitor healthcare-related disparities and health equity; and increase capacity to investigate outbreaks of healthcare-associated infections.

  - **Laboratory capacity for healthcare:** Funds provided will also increase state and regional laboratory capacity to conduct surveillance for emerging pathogens to better identify patients infected with or carrying infectious disease threats, such as antibiotic-resistant germs like “nightmare bacteria” carbapenem-resistant Enterobacteriales (CRE) and *Candida auris*. Throughout the pandemic, there have been outbreaks of antibiotic-resistant pathogens in COVID-19 units and other healthcare settings.

  - **Project Firstline:** Funds will expand on efforts to design and implement effective infection prevention and control training and education to frontline healthcare staff, leveraging a unique collaborative of healthcare, public health, and academic partners. Project Firstline aims to meet the various education needs of its diverse healthcare workforce; ensure they have the knowledge they need to protect themselves, their coworkers, and their patients; and develop training and education that addresses disparities across U.S. healthcare personnel. In its first year, CDC’s Project Firstline and its partners developed more than 130 educational products and hosted more than 200 educational events on infection prevention and control, engaging approximately 16,300 healthcare workers from professions ranging from environmental services workers, to nurses, to physicians. Its infection prevention and control messages reached millions of individuals through more than 1,700 social media posts shared on CDC and partner channels.

  - **National Healthcare Safety Network (NHSN):** CDC will increase data and monitoring through NHSN to determine where and when infections occur in healthcare settings and target IPC interventions. Funds will support state efforts to improve the NHSN data collection from healthcare facilities. This includes state coordination, expansion in reporting, and providing greater technical assistance to facilities that are reporting healthcare quality and preparedness-related data.

  - **Antibiotic Stewardship:** Funds will support state data analyses of antibiotic use and implement programs to improve antibiotic prescribing across communities, including addressing health disparities related to antibiotic use. Despite being ineffective against COVID-19, antibiotics have been commonly prescribed to patients during the pandemic, increasing the risk of antibiotic resistance.

In addition to amounts provided to state, local and territorial health departments, $880 million will be used over several years to support healthcare partners, academic institutions, and other nonprofit partners to develop new prevention interventions and capacities for infection prevention and control training, data collection, and technical assistance.
Governor, RIDOH announce enforcement strategy for Oct. 1 healthcare worker and healthcare facility COVID-19 vaccination requirements

PROVIDENCE – Gov. DAN MCKEE and the Rhode Island Department of Health (RIDOH) announced an enforcement strategy for Rhode Island’s COVID-19 vaccination requirement for healthcare workers. The enforcement strategy will help safeguard patients, residents, and staff by holding health professionals and facilities accountable to the October 1 vaccination requirement, while also preventing disruptions to care in Rhode Island as healthcare facilities work toward full compliance.

“This enforcement strategy is not intended to be an extension or exemption of the original vaccination requirement,” said Director of Health NICOLE ALEXANDER-SCOTT, MD, MPH. “On October 1, anyone that is non-compliant is subject to enforcement. If there is a risk to quality of care and an unvaccinated worker must continue to work beyond October 1 to mitigate that risk, the employer has 30 days to ensure that role is fulfilled by a fully vaccinated healthcare worker.”

The COVID-19 vaccine is one of many vaccines that healthcare providers are required to receive. Rhode Island regulations require healthcare workers to be vaccinated against COVID-19 by October 1. Similar to other vaccines, healthcare facilities will be asked to report on their COVID-19 vaccination rates for their healthcare workers. Facilities may also be required to develop COVID-19 Vaccination Corrective Action Plans to ensure full compliance if they have not met the provisions of the regulation. These plans will:

- Specify the healthcare facility’s plan to ensure that all remaining healthcare workers will become vaccinated against COVID-19 within 30 days.
- Demonstrate that any unvaccinated staff who are still working after October 1 are doing so to mitigate a risk to quality of patient care.
- Specify the temporary infection prevention measures that the facility will implement for unvaccinated staff who are critically necessary to the facility’s operation.
- Outline the facility’s procedure to ensure that any new hires are vaccinated against COVID-19.

More information about these plans, including information on deadlines for the submission of data and COVID-19 Vaccination Corrective Action Plans, will be shared directly with healthcare leadership across Rhode Island in the coming days. Plans will be due on October 1.

Rhode Island’s healthcare worker vaccination regulations apply to approximately 57,600 workers. Rhode Island currently has an overall healthcare facility vaccination rate of approximately 87%, up 10 percentage points from 77% in early September.

Rhode Island’s healthcare worker vaccination regulations overlap purposefully with organizational and federal vaccination requirements. For example, hospital systems in Rhode Island have required employees to be vaccinated, and President Biden announced last week vaccination requirements for workers at organizations with more than 100 employees, federal workers, and workers at many facilities that receive funding from the Centers for Medicare and Medicaid Services (CMS).

CNE statement on healthcare workforce vaccinations

“Care New England’s healthcare workforce has passed 95% vaccinated. This number continues to climb by the day and the hour. As of the October 1st deadline, Care New England will be 100% compliant with the RI DOH’s vaccine mandate. As healthcare workers, we are committed to providing an environment that is safe and healthy for patients, as well as staff. As of October 1, any Care New England healthcare worker who is not vaccinated will not be allowed to work. Our healthcare system has contingency plans in place should any healthcare worker choose not to work after the deadline.”

— James E. Fanale, MD
President and CEO, Care New England Health System.
Gov. McKee signs legislation to require T-CPR training

PROVIDENCE – Governor DAN MCKEE recently signed a bill that improves over-the-phone CPR instructions.

The legislation [2021-H 5629, 2021-S 0385a] requires all 911 system operators be trained in telecommunicator cardiopulmonary resuscitation (T-CPR) and establishes a call review and quality improvement program for emergency telephone systems.

The legislation was introduced following incidents where bystanders did not receive proper instruction from 911 dispatchers to perform CPR during a medical emergency.

Legislation signed to reclassify certain drug possession charges

PROVIDENCE – Governor DAN MCKEE, joined by Attorney General PETER F. NERONHA, Senate Majority Leader MICHAEL J. MCCAFFREY, Representative SCOTT A. SLATER and community advocates ceremonially signed legislation on Tuesday that amends the Uniform Controlled Substances Act to reclassify simple possession of 10 grams or less of certain controlled substances as a misdemeanor charge, punishable up to two years, rather than a felony.

The ceremonial bill signing ceremony took place at Project Weber/RENEW, a local non-profit that provides recovery support as well as harm reduction and other services to at-risk members of the community.

“Increasingly we understand substance use to be a health condition that requires support, and that criminalizing people for their medical condition is counterproductive,” said ANNAJANE YOLKEN, Director of Programs at Project Weber/RENEW. “This law takes a bold step towards that paradigm shift. By providing people with the opportunity to better access employment, education, and housing, we will better support Rhode Islanders’ recovery and well-being.”

“This legislation is about breaking the cycle and getting help for those suffering from addiction,” said Gov. McKee. “It’s a matter of public health to allow individuals to get treatment, not prison time. We are giving Rhode Islanders the opportunity to lead meaningful lives, and that is something we can all support. I thank Attorney General Neronha and the bill sponsors for bringing this life-changing legislation to the table.”

The legislation (2021-S 0188A, 2021-H 6083A), supported by Attorney General Neronha, changes simple possession of a controlled substance for personal use from a felony to a misdemeanor, allowing individuals suffering from addiction to get treatment rather than end up in prison and continue a cycle of drug use and arrests.

“I believe that possession of small amounts of drugs for personal use is much more of a public health issue than a law enforcement one,” said Attorney General Neronha. “Over-criminalizing such conduct diverted our law enforcement focus away from where it plainly belongs: on the drug traffickers who profit in dealing misery to others and who often engage in the violence that regularly comes with drug dealing. Make no mistake, we are as committed as we have ever been to prosecuting drug dealers as felons – and this new law does nothing to protect them. But those who simply possess drugs – who are addicted and cannot escape the cycle of addiction – faced barriers to employment, housing, and other opportunities to turn their lives around because they had a felony hanging around their neck. To me, that does more harm than good. We’ve already charged the new law in over 80 cases and, over time, we will see a real impact on Rhode Islanders.”

Gov. McKee signs prescription drug affordability bills

PROVIDENCE – Governor DAN MCKEE recently held a ceremonial signing for two pieces of legislation that make prescription drugs more affordable for Rhode Islanders.

The first piece of legislation (2021-S 0170B, 2021-H 5196A) requires insurers to cap the total cost that covered patients’ pay for insulin at $40 for a 30-day supply. Under the legislation, that coverage cannot be subject to any deductible. The law does allow insurers to charge less than the $40 threshold. It takes effect January 1, 2022.

The second bill (2021-S 0497A, 2021-H 6477A) prohibits clauses in pharmacy contracts that prevent pharmacists from offering customers more affordable prescription options. It states that a plan sponsor, health insurance carrier, or pharmacy benefit manager cannot prohibit pharmacists from telling insured customers how much they will pay for a prescription drug. The legislation also prohibits a pharmacy or pharmacist from being penalized for offering a lower-priced drug to customers.
Several health-related bills signed into law

PROVIDENCE – Gov. Dan McKee on Sept. 24th ceremonially signed several health-related bills into law.

2021-S 0016B, 2021-H 5245A: Sponsored by Senator Joshua Miller and Representative John Edwards, this legislation enables the state to explore establishing a pilot program to create harm reduction centers to help prevent drug overdose deaths.


2021-S 0256Aaa, 2021-H 5098A: Sponsored by Senator Joshua Miller and Representative Deborah Fellela, this legislation creates penalties for irresponsible prescription practices to help combat the opioid epidemic.

2021-S 0004Baa, 2021-H 6032Aaa: Sponsored by Senator Joshua Miller and Representative Stephen Casey, this legislation expands telemedicine coverage requirements for insurers and requires that all Rhode Island Medicaid programs cover telemedicine visits.

ACOG leads groundbreaking coalition in Dobbs v. Jackson Women’s Health Organization

WASHINGTON, DC – The American College of Obstetricians and Gynecologists (ACOG), joined by 24 medical organizations, submitted an amicus brief to the United States Supreme Court in the case of Dobbs v. Jackson Women’s Health Organization, a case challenging the Mississippi law imposing a ban on the provision of abortion after 15 weeks of pregnancy for most individuals.

The amicus brief represents an unprecedented level of support from a diverse group of physicians, nurses, and other health care professionals, which demonstrates the concrete medical consensus of opposition to abortion restriction legislation such as the law at the heart of Dobbs v. Jackson.

The brief asks the Court to recognize that Mississippi’s attempt to ban nearly all abortions after 15 weeks of pregnancy is fundamentally at odds with the provision of safe and essential health care, with scientific evidence, and with medical ethics. In part, the brief states, “The Ban dangerously limits the ability of women at or near 15 weeks’ gestation to obtain the health care they need: some will be forced to travel outside the State to obtain an abortion; others will attempt self-induced abortion; and others will be forced to carry their pregnancy to term. Each of these outcomes increases the likelihood of negative consequences to a woman’s physical and psychological health that could be avoided if care were available.”

This ban is not grounded on medical evidence and threatens the health and well-being of pregnant individuals, with a disproportionate impact on people from communities of color, those without ample financial resources, and those in rural areas without close proximity to safe, effective reproductive health care. By preventing clinicians from providing patients with necessary medical care, the ban represents gross interference in the patient-physician relationship and impedes on a clinician’s medical ethics by forcing them to choose between what is right for their patients and adherence to an unscientific, harmful law.

“ACOG has a long history of working within the judiciary system to help protect constitutional rights and the patient-physician relationship. This law is an example of harmful legislative interference into the practice of medicine. The amicus brief represents the strong medical consensus in opposition to this constitutional challenge. ACOG is hopeful the justices of the Supreme Court will value the message in the amicus brief and uphold legal precedent,” said ACOG President J. MARTIN TUCKER, MD, FACOG, speaking on behalf of ACOG.

“Mississippi’s attempt to restrict physicians’ ability to provide safe and effective clinical care in consultation with their patients about their choice of health care options is a direct attack on the patient-physician relationship,” said GERALD E. HARMON, MD, president of the American Medical Association (AMA), which signed the amicus brief. “The AMA will always stand up against unnecessary government intrusion into the medical examination room. Failure to strike down this unconstitutional law will not only severely compromise patient access to safe reproductive care, particularly for our most marginalized patients, but will jeopardize the overall health of the nation.”

RI delegation secures $500,000 to prevent childhood lead exposure

WASHINGTON, DC – U.S. Senators Jack Reed and Sheldon Whitehouse and Congressmen Jim Langevin and David Cicilline this week announced that the Rhode Island Department of Health will be receiving $500,000 from the Centers for Disease Control and Prevention (CDC) to reduce lead exposure in children.

Specifically, the Childhood Lead Poisoning Prevention Program funding will support increased lead testing and reporting among high-risk children, improved data collection and surveillance, tailored and community-based interventions, and enhanced processes for connecting children exposed to lead with the appropriate medical services.
New $19.9M grant will expand hub for translational science, biomedical research in Rhode Island

PROVIDENCE – The federally funded Advance Clinical and Translational Research program recently received a $19.9 million grant from the National Institute of General Medical Sciences to fund the program’s expansion into a second five-year phase.

Advance-CTR is a statewide partnership that consists of the host institution, Brown University, URI, Care New England, Lifespan, the Veterans Affairs Providence Healthcare System and the Rhode Island Quality Institute. Since 2016, the program has supported biomedical and public health scholars across Rhode Island who are working to turn scientific discoveries into solutions that can directly improve the lives of patients.

Researchers apply directly to the Advance-CTR program, whose local directors decide on project funding and disburse the funds directly. The partnership across the major research institutions in the state has resulted in a surge in translational research. During its first five years, Advance-CTR has become a model for scientific collaboration that crosses academic disciplines, builds on the strengths of multiple partners and ultimately makes a difference for patients and communities.

After its 2016 launch, Advance-CTR leaders surveyed clinical and translational researchers in Rhode Island and learned that pilot funding for new research projects, as well as training in key skill sets were the most in-demand resources. In response, the program was structured to include a pilot projects award program, a professional development core, and an array of trainings and workshops. Advance-CTR faculty and staff provide research consultations in biomedical informatics and cyberinfrastructure work, epidemiology, biostatistics, community engagement and more.

Advance-CTR has awarded funding to 85 investigators with funding for research that addresses community health priorities in Rhode Island and have the potential for direct benefits to patients.

Brown Surgical Associates’ Dr. Sean Monaghan tapped as principal investigator in $1.98M sepsis research grant at Rhode Island Hospital

PROVIDENCE – Brown Surgical Associates’ trauma and critical care surgeon SEAN MONAGHAN, MD, will serve as principal investigator in a 5-year research grant looking into potential new treatments for sepsis.

With nearly $2 million in grant money procured by Rhode Island Hospital, Dr. Monaghan and Lifespan’s Director of Critical Care Medicine DR. MITCHELL LEVY will perform RNA sequencing on 75 patients with sepsis and 75 control patients. Researchers will then use computational methods to better diagnose patients with sepsis and hopefully find new treatments.

“When it comes to sepsis treatment, time is vital. The sooner we can diagnose sepsis, the sooner we can get the infection under control, either with antibiotics or surgery,” Dr. Monaghan said. “We have previously obtained RNA sequencing from 15 patients with COVID-19. This grant will allow us to study a larger group and hopefully make a bigger impact by improving diagnostic capabilities which will, in turn, save lives.”

Through previous grants from Brown University, The American College of Surgeons, the National Institutes of Health through the CardioPulmonary Vascular Biology Center of Biomedical Research Excellence, and Brown Physicians, Inc, and the support of Brown Surgical Associates and Rhode Island Hospital, Dr. Monaghan was able to build computational infrastructure to perform this research while keeping patient data secure.

CharterCARE Health Partners introduces new digital resuscitation education system

PROVIDENCE – CharterCARE Health Partners recently announced the implementation of Resuscitation Quality Improvement® [RQI]®, a program co-developed by the American Heart Association and Laerdal Medical, to help clinicians at the network’s acute care hospitals achieve sustained mastery of high-quality CPR skills and competence, leading to improved patient outcomes.

CharterCARE is one of the first health systems in Rhode Island to launch the program, introducing RQI at Roger Williams Medical Center and Our Lady of Fatima Hospital and enrolling nearly 2,000 learners. Each hospital is deploying two RQI simulation stations, to deliver Basic Life Support, Advanced Life Support, and Pediatric Advanced Life Support course instruction. The stations are positioned throughout the hospitals, affording learners greater flexibility and 24/7 access to resuscitation education.

RQI is self-directed, simulation-based mastery learning and performance provided through cognitive and hands-on CPR quality improvement sessions that measure and verify competence. The program employs a “low-dose, high-frequency” model requiring healthcare providers to complete course assignments in short sessions every quarter. In 2018, the American Heart Association, the world’s leading voluntary organization dedicated to a world of longer, healthier lives, and Laerdal Medical, the world leader in medical simulation and resuscitation training, called for a new standard of care by shifting resuscitation practice from training once every two years to verified CPR competence for healthcare professionals.

To learn more about the RQI program visit heart.org, www.laerdal.com and www.rqipartners.com.
AMA Report: Sharp decreases in opioid prescribing and increases in drug-related overdose and death

CHICAGO – The American Medical Association (AMA) issued a report recently showing a 44.4 percent decrease in opioid prescribing nationwide in the past decade. At the same time, the country is facing a worsening drug-related overdose and death epidemic.

To address this continuing epidemic, the AMA is urging policymakers to join physicians to reduce mortality and improve patient outcomes by removing barriers to evidence-based care. The report shows that overdose and deaths are spiking even as physicians have greatly increased the use of prescription drug monitoring programs (PDMPs), which are electronic databases that track controlled substance prescriptions and help identify patients who may be receiving multiple prescriptions from multiple prescribers. The report shows that physicians and others used state PDMPs more than 910 million times in 2020. In 2019, physicians and others used state PDMPs about 750 million times.

Yet, the nation continues to see increases in overdose mainly due to illicit fentanyl, fentanyl analogs, methamphetamine and cocaine, according to the U.S. Centers for Disease Control and Prevention. In addition, state public health, media and other reports compiled by the AMA show that the drug-related overdose and death have worsened across the nation. Research and data from the National Institutes of Health, U.S. Substance Abuse and Mental Health Services Administration, and Indian Health Service underscore the continued challenges and inequities for Black, Latínx and American Indian/Native Alaskan populations.

Opioid prescriptions have decreased by 44.4 percent between 2011–2020, including a 6.9 percent decrease from 2019–2020. Along with the sharp decreases in opioid prescriptions, new AMA data also show that physicians and other health care professionals used the state PDMP more than 910 million times in 2020. The report also highlights that more than 104,000 physicians and other health care professionals have an “X-waiver” to allow them to prescribe buprenorphine for the treatment of opioid use disorder. This is an increase of 70,000 providers since 2017, yet 80 to 90 percent of people with a substance use disorder receive no treatment.

“The nation’s drug overdose and death epidemic has never just been about prescription opioids,” said AMA President GERALD E. HARMON, MD. “Physicians, have become more cautious about prescribing opioids, are trained to treat opioid use disorder and support evidence-based harm reduction strategies. We use PDMPs as a tool, but they are not a panacea. Patients need policymakers, health insurance plans, national pharmacy chains and other stakeholders to change their focus and help us remove barriers to evidence-based care.”

Actions that states can take

The AMA is urging policymakers to act now:

• Stop prior authorization for medications to treat opioid use disorder. Prior authorization is a cost-control process that health insurance companies and other payers use that requires providers to obtain prior approval from the insurer or payer before performing a service or obtaining a prescription. It is used to deny and delay services – including life-saving ones – as physicians are required to fill out burdensome forms and patients are forced to wait for approval.

• Ensure access to affordable, evidence-based care for patients with pain, including opioid therapy when indicated. While opioid prescriptions have decreased, the AMA is greatly concerned by widespread reports of patients with pain being denied care because of arbitrary restrictions on opioid therapy or a lack of access to affordable non-opioid pain care.

• Take action to better support harm reduction services such as naloxone and needle and syringe exchange services. These proven harm reduction strategies save lives but are often stigmatized.

• Improve the data by collecting adequate, standardized data to identify and treat at-risk populations and better understand the issues facing communities. Effective public health interventions require robust data, and there are too many gaps to implement widespread interventions that work.
VA annual report shows decrease in Veteran suicides

WASHINGTON, DC – New data included in the Department of Veterans Affairs 2021 National Veteran Suicide Prevention Annual Report notably shows a decrease from 2018 to 2019 in the total number of Veteran suicide deaths, and a decrease in the rate of Veteran suicides per 100,000.

This drop is noteworthy when compared to the generally rising rates observed in earlier years.

This latest report provides the most comprehensive data to date regarding suicide among U.S. Veterans from 2001-2019.

Key findings include:
• In 2019, there were 6,261 Veteran suicide deaths, 399 fewer than in 2018.
• In 2019, the Veteran suicide rate was 31.6 per 100,000, substantially higher than the rate among non-Veteran U.S. adults (16.8 per 100,000).
• Adjusting for age- and sex-differences, the suicide rate among Veterans in 2019 was 52.3% higher than for non-Veteran U.S. adults. The suicide rate difference between Veterans and the non-Veteran U.S. population was highest in 2017 at 66.3%.
• From 2018 to 2019, there was a 7.2% overall decrease in the age- and sex-adjusted Veteran suicide mortality rate in 2019, while among non-Veteran U.S. adults, the adjusted suicide mortality rate fell by 1.8%.
• The age-adjusted suicide rate for male Veterans decreased 3.8% in 2019 from 2018 while the age-adjusted suicide rate for female Veterans decreased 14.9% in 2019 from 2018.
• Firearms were more often involved in Veteran suicides in 2019 than in 2018 (among Veteran men who died from suicide: 69.6% in 2018, 70.2% in 2019; among Veteran women who died from suicide: 41.1% in 2018, 49.8% in 2019).

“Suicide prevention remains a top priority for VA, with the most significant amount of resources ever appropriated and apportioned to VA suicide prevention,” said VA Secretary Denis McDonough. “Suicide is preventable, and everyone has a role to play in saving lives. VA continues to implement its 10-year strategy – as outlined in the 2018 National Strategy for Preventing Veteran Suicide – to end Veteran suicide through a public health approach combining both community-based and clinically-based strategies across prevention, intervention and postvention areas of focus.”

To date, VA has not observed increases in VHA documented suicide-related indicators during the COVID-19 pandemic. VA will examine suicide mortality when national death certificate data becomes available.

VA continues to implement its 10-year vision specifically through the department’s strategic plan focused on efforts such as the Suicide Prevention 2.0 initiative; Suicide Prevention Now initiative, the President’s Roadmap to Empower Veterans and End a National Tragedy of Suicide (PREVENTS); 988 and Veterans Crisis Line expansion.

VA enhances geriatric emergency care for older Veterans

WASHINGTON, DC – The Department of Veterans Affairs launched a Geriatric Emergency Department initiative within all of VA’s 18 Veterans Integrated Service Networks through a standardized, comprehensive care model, becoming the nation’s largest integrated health network with specialized geriatric emergency care.

This initiative equips VA emergency departments with the ability to treat older Veterans with complex conditions, catch unmet care needs and develop teamwork strategies throughout VA to better coordinate ED and follow-up care.

VA has partnered with the American College of Emergency Physicians, The John A. Hartford Foundation and the West Health Institute to ensure elderly Veterans continue to be afforded the best possible emergency care and person-centered health services.

The evidence-based approach to caring for older adults includes screenings to identify seniors at risk for cognitive impairment, delirium, fall risk, functional decline, and caregiver burden.

“Nearly half of the nation’s 19.5 million Veterans are over 65 years old and account for more than 45% of ED visits at VA hospitals – more than double the rate for seniors nationwide,” said VA Acting Under Secretary for Health STEVEN L. LIEBERMAN, MD. “Our goal is to lower this number by ensuring VA’s elderly population receives age-friendly emergency care, while improving care coordination in communities across the nation.”

VA continues to promote and augment transitions of care through an interdisciplinary team approach from various services throughout facilities. This is achieved through connecting with social work and VA home/community resources, geriatric education for emergency department staff and supporting geriatric Veterans in the community to prevent avoidable admissions.

The partnership aims to establish 70 VA emergency departments as geriatric EDs eligible for accreditation in alignment with ACEP’s GED Accreditation by December 2022.

Accreditation includes three levels that each have specific education criteria for clinicians and nurses, creating EDs that are more expertly equipped to treat older Veterans with complex conditions and social needs through interdisciplinary service coordination across a hospital.
Appointments

Peter Hollmann, MD, appointed president of the American Geriatrics Society

NEW YORK, NY – PETER HOLLMANN, MD, AGSF, was appointed president of the American Geriatrics Society (AGS) in late August. Dr. Hollmann, who is chief medical officer at Brown Medicine, will lead the 6,000-member national nonprofit through 2022. A 38-year AGS member, Dr. Hollmann has devoted his career to geriatric care in Rhode Island.

As he dons the mantle of the AGS presidency, Dr. Hollmann, MD, AGSF, wants his colleagues, older adults, and caregivers to know that he is committed to working with leaders and members of an organization representing more than 6,000 geriatrics healthcare professionals to improve the health, independence, and quality of life of all older people.

Dr. Hollmann assumes his responsibilities as the United States continues to fight a global pandemic that has claimed more than 500,000 American lives and to confront a history of systemic racism that is deeply embedded in the fabric of our nation. Facing these two crises, Dr. Hollmann, like all of his colleagues in geriatrics, has responded by working tirelessly to ensure older adults receive high-quality, person-centered care during the pandemic. Over the past year, he has continued to champion the improvement of payment for geriatrics health professionals, and he has been a strong voice for adequate payment for telehealth services; in particular, he has advocated for telehealth using audio-only devices to be paid for on par with video telehealth services on the Medicare Physician Fee Schedule.

Dr. Hollmann currently serves as Chief Medical Officer at Brown Medicine, a non-profit, academic medical group with practices in the Providence area, and continues to practice medicine locally. In March, he became Vice Chair of the AMA’s Specialty Society RVS Update Committee [RUC], a volunteer group of 31 physicians from each sector of medicine that advises Medicare on valuing the work of clinicians who bill for their services on the Medicare Physician Fee Schedule.

An AGS member since 1983, Dr. Hollmann has been instrumental in the Society’s efforts to promote payment policies that address the needs of Medicare beneficiaries, especially those with complex and chronic conditions. He has advised the AGS on the development of new CPT codes and represented its interests in various AMA positions. Dr. Hollmann also leads very popular workshops on the CPT coding for geriatric healthcare professionals at the AGS Annual Scientific Meeting.

Beyond his work on reimbursement for the Society, the new president has served as a member and chair of its Public Policy Committee, a member of its quality advisory group, and a member of the AGS board for more than eight years.

“I consider myself incredibly lucky to not have only found the field of geriatrics, but a supportive and encouraging professional home with the AGS,” Dr. Hollmann commented. “Like good geriatrics care, the AGS recognizes the value of teams and diverse expertise, and the importance of making the older adults we serve our number one priority. Over the past year, I have been collaborating with an incredible team of AGS colleagues on our important endeavor to eradicate discrimination in healthcare and research with an initial focus on the intersection of structural racism and ageism. I look forward to continuing to work alongside our outgoing AGS President and others. I know it will take all of us working together to achieve meaningful and lasting change.”

Society of Hospital Medicine–RI Chapter names Board

PROVIDENCE – Lifespan physician BRADLEY COLLINS, MD, has been named the first president of the Society of Hospital Medicine–RI Chapter, formed in April 2021.

Other officers named are: Vice President JINEN THAKKAR, MD, Secretary, ARKADIY FINN, MD, FACP, FHM, Treasurer, JENNIFER O’BRIEN, MD, Director at Large, HUSSAIN KHAWAJA, MD; and Events/Education/Meetings, RICHARD LIM, MD, FHM.
Appointments

G. Alan Kurose, MD, named Lifespan senior VP of primary care and population health

PROVIDENCE — Lifespan recently announced that G. ALAN KUROSE, MD, has been appointed senior vice president of primary care and population health for Lifespan. Dr. Kurose will continue to serve as president of Coastal Medical in addition to his new responsibilities.

Dr. Kurose practiced primary care internal medicine in a community-based office for 20 years and was one of the founders of Coastal Medical in 1995.

"Lifespan is taking the next step in its integration efforts with Coastal to strategically elevate primary care and population health across the Lifespan system, and this appointment recognizes that priority," said Lifespan President and CEO Timothy J. Babineau, MD.

Lifespan's focus on population health is intended to provide individualized care to patients while encouraging medical teams to produce high-quality outcomes across entire patient communities. Population health takes into consideration not only a patient's illness but also the barriers in their community to effective treatment and long-term positive health outcomes.

"This is a critical time in healthcare and elevating the primary care role and expanding population health and value-based care for more patients is extremely important. I'm truly excited about deepening care coordination for patients seeking care outside the primary care office - in the hospital, at a specialist in the community, or in the emergency department, so no patient gets lost in the system, and patients receive the best care in the best setting," said Kurose. “This strategic decision will benefit patients, physicians and all members of the healthcare team and the communities we serve and is good for the future of healthcare locally.”

Latha Sivaprasad, MD, named CMO for VA New England Healthcare System

BEDFORD, MA — The Department of Veterans Affairs this week announced the appointment of LATHA SIVAPRASAD, MD, as the new chief medical officer of VA New England Healthcare System (VISN 1). Dr. Sivaprasad will oversee the clinical delivery of health care to approximately 252,000 Veterans throughout the six New England states.

Dr. Sivaprasad joins the VA from her previous position as Senior Vice President, Medical Affairs and Chief Medical Officer at Rhode Island Hospital and Hasbro Children’s Hospital, which she has held since 2013. She also served as Associate Professor of Medicine, Warren Alpert Medical School, Brown University. Dr. Sivaprasad has over fifteen years of clinical experience in multiple, large hospital settings with an emphasis on physician training, mentoring and leadership development.

She received her medical degree from University of Missouri, Kansas City, and completed her residency in internal medicine from Washington University School of Medicine, Barnes Jewish Hospital, St. Louis, Mo. She has been recognized as one of 25 Healthcare Leaders Under 40, Becker's Hospital Review, and with the 2015 Leadership Excellence Award from the National Diversity Council.

Ponnandai S. Somasundar, MD, named Chief of the Division of Surgical Oncology, at Roger Williams Medical Center

PROVIDENCE — PONNANDAI S. SOMASUNDAR, MD, MPH, FACS, Associate Professor of Surgery Boston University, has been named Chief of the Division of Surgical Oncology, Department of Surgery, at Roger Williams Medical Center. The announcement was made by N. Joseph Espat, MD, MS, FACS, Chair of the Department of Surgery.

Dr. Somasundar completed his general surgical training at the West Virginia University Department of Surgery serving as Chief Resident. Subsequently, he completed a research fellowship in molecular signaling pathways in cancer from West Virginia University. He rose to the rank of Assistant Professor at the same institution before completing a Fellowship in surgical oncology at Roger Williams Medical Center in 2007. Dr. Somasundar subsequently completed a Master’s in Public Health from the University of Massachusetts Amherst in 2011.

Dr. Somasundar has been an active member of the Roger Williams medical staff since 2007 and was promoted to the rank of Associate Professor of Surgery at Boston University School of Medicine in 2013. He has held numerous prestigious positions both locally and nationally, including President of the RWMC medical staff, chair of the bylaws committee, board member for the advisory board of Roger Williams Medical Center, and several peer-reviewed editorial boards. He is the author of over 100 published peer review articles, abstracts, and chapters and is regarded as an authority on the topic of geriatric oncology.

The Division of Surgical Oncology administers a fully accredited AGCME postgraduate fellowship in complex general surgical oncology and is comprised of Dr. Jim Koness, Dr. Joseph Espat, and Dr. Abdul Calvino, in addition to Dr. Somasundar.
Newport Hospital appoints Valentin Antoci, MD, to lead Total Joint Program

NEwPoRT – VALENTIN ANToCI, MD, PhD, has been appointed medical director of Newport Hospital’s Total Joint Program effective September 1.

Dr. Antoci, an Associate Professor of Orthopedic Surgery at the Alpert Medical School and Director of Outpatient Adult Reconstruction with University Orthopedics, completed his surgical training at Harvard with privileges at the Massachusetts General Hospital, Brigham and Women’s Hospital, and the Beth Israel Deaconess Medical Center.

Dr. Antoci focuses on hip and knee adult reconstruction. He has special interests in minimally invasive surgery, partial knee replacement, modern approaches, and implantation techniques, as well as various revision and reconstructive procedures, including trauma. His experience is augmented by his extensive and ongoing research – in such areas as joint implant design, tissue engineering, and biological interactions at the implant interface – which have put him at the forefront of orthopedic advancements.

Dr. Antoci has authored and coauthored two books, over a dozen book chapters, and many journal articles. He served as an associate editor for the Journal of Orthopaedic Trauma, a reviewer for Clinical Orthopaedics and Related Research, JBJS Case Reports, Arthroplasty Today, and BMC Infectious Diseases journals. He is a Fellow of the American Academy of Orthopedic Surgery, member of the American Association of Hip and Knee Surgeons, and the Orthopedic Research Society. Among his awards are the Infectious Diseases Society of America Edward H. Kass Fellowship and the Musculoskeletal Infection Society Jeannette Wilkins Award.

David Curley, MD, PhD, named medical director of Miriam ED

PoRDiNe – DAVID CuRLEY, MD, PhD, has been appointed medical director of the Emergency Department at The Miriam Hospital.

He most recently served as associate director of The Miriam’s Emergency Department, a position he has held since 2018, including during the entire COVID-19 pandemic.

“Dr. Curley is well-positioned to take over as the next director. He has been a steady and effective leader in the Emergency Department for the past four years and during the worst of the COVID-19 pandemic his compassion, devotion and team-oriented approach have shined. We are extremely pleased to promote him to this very important role in an outstanding and vital Emergency Department,” said Jeremiah Schuur, MD, MHS, physician-in-chief of Emergency Medicine for Lifespan’s The Miriam Hospital, Rhode Island Hospital and Hasbro Children’s Hospital, and president of Brown Emergency Medicine.

Dr. Curley has been deeply involved in adjusting operations and updating protocols to respond to the pandemic and serves on many key committees, including his role as co-chair of the Emergency Preparedness Committee. He joined Brown Emergency Medicine in 2014 after completing his emergency medicine residency at the combined program of Brigham & Women’s Hospital and Massachusetts General Hospital. He received his medical degree and PhD from the University of Vermont College of Medicine.

Dr. Curley succeeds Ilse Jenouri, MD, MBA, who served as the department’s medical director since her appointment in 2017. Prior to that she served as the associate director for six years.

Dr. Jenouri is taking on a new role as director of quality and patient safety for Brown Emergency Medicine.

Andrew Kay, MD, joins SCH medical staff

WAKeFiELD – Hip and knee specialist, ANDREW KAY, MD, of Ortho Rhode Island, has joined the South County Health Medical Staff where he will complement the team of orthopedic experts at South County Hospital’s Center for Advanced Orthopedic Surgery.

Dr. Kay is an expert in the most advanced Mako robotic arm-assisted technology, in direct anterior hip replacement, as well as minimally invasive, robotic-assisted, complex, and revision hip and knee replacement procedures.

Dr. Kay earned his medical degree at Jefferson Medical College in Maryland and completed a residency in orthopedic surgery at Houston Methodist Hospital. He also received training in Adult Reconstruction (Total Joint) by completing a Fellowship at the Rothman Orthopaedic Institute.

He is board-certified and is a member of the American Academy of Orthopaedic Surgeons and the American Association of Hip and Knee Surgeons.
Bryce Basques, MD, MPH, joins University Orthopedics

EAST PROVIDENCE – University Orthopedics announced BRYCE A. BASQUES, MD, MPH, is joining the practice’s Center for Spine Health.

Dr. Basques specializes in spinal disorders such as disk herniations, degenerative cervical, thoracic, lumbar disease, spinal deformity, trauma, and tumors. He also specializes in correcting failed surgery and revision procedures. He has extensive experience with the latest advances in spine surgery, including robotic spine surgery, navigation, minimally invasive spine surgery, outpatient spine surgery, and motion preservation (non-fusion surgery).

Dr. Basques attended medical school at Yale University, where he completed a combined MD and Master of Health Science (MHS) program focused on clinical outcomes research. He completed the orthopaedic surgery residency at Rush University, where he was an associate team physician for the Chicago Bulls and the Chicago White Sox. After residency, he completed the spine surgery fellowship at the Rothman Institute, where he was an associate team physician for the Philadelphia Eagles, Philadelphia Phillies, and Philadelphia 76ers.

He has more than 100 peer-reviewed publications, has edited a spine textbook, and has received grant funding from multiple sources including the National Institutes of Health (NIH). He serves on the Research Funding Committee and Clinical Practice Guideline Committee for the North American Spine Society, the world’s largest multispecialty spine society.

Retina Consultants

Altin Pani, MD

is pleased to announce that

Scott H. Greenberg, MD

has joined the practice specializing in diseases and surgery of the retina and vitreous.

Dr. Greenberg is a graduate of Upstate Medical University in Syracuse, New York. He completed a residency in ophthalmology and a fellowship in vitreoretinal surgery at Albany Medical College in New York.

Referrals welcome

Providence
401-274-5844

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Lifespan hospitals honored for excellence in stroke care

PROVIDENCE – Rhode Island Hospital, The Miriam Hospital and Newport Hospital have once again received the American Heart Association/American Stroke Association’s Get With The Guidelines®-Stroke Gold Plus Quality Achievement Award.

The hospitals earned the award by meeting specific quality achievement measures for the diagnosis and treatment of stroke patients including use of medications and other stroke treatments aligned with the most up-to-date, evidence-based guidelines with the goal of speeding recovery and reducing death and disability for stroke patients.

RHODE ISLAND HOSPITAL was additionally recognized with the Target: Stroke Honor Roll Elite Advanced Therapy designation. To qualify for this recognition, hospitals must meet quality measures developed to reduce the time between the patient’s arrival at the hospital and treatment with the clot-buster tissue plasminogen activator, or tPA, the only drug approved by the U.S. Food and Drug Administration to treat ischemic stroke. Also, “door to device times” must occur within 90 minutes for direct arriving patients and within 60 minutes for transfers (for at least 50% of applicable patients).

THE MIRIAM HOSPITAL was recognized with the Target: Stroke Honor Roll Elite award, signifying that the hospital met quality measures developed to reduce the time between patients arrival and treatment with tPA,

RHODE ISLAND HOSPITAL, THE MIRIAM HOSPITAL, and NEWPORT HOSPITAL were all recognized with the Target: Type 2 Diabetes Honor Roll award. To qualify, hospitals must meet quality measures developed with more than 90% of compliance for 12 consecutive months for the “Overall Diabetes Cardiovascular Initiative Composite Score.”

“This continuing recognition is a testament to the hard work of our staff who are part of a highly skilled, specialized team trained to provide rapid assessment and treatment for the acute stroke patient,” said JO-ANN SARAFIN, MS, APRN, CNP, FNP-BC, SCRN, CDOE, stroke program manager for Rhode Island Hospital.

“IT takes quick recognition of stroke in the community, including astute assessment by EMS with appropriate knowledge of stroke triage protocols. It entails efficient management in the Emergency Department encompassing clinical assessment, imaging, and state-of-the-art treatment in Neurointerventional radiology if indicated. It involves frequent monitoring, education, early rehabilitation and support to assist the stroke patient in achieving the best possible outcome. We are honored to receive this award reflecting on the entire spectrum of stroke care we provide, allowing as many patients as possible to regain their best quality of life.”

“This is wonderful news. It takes a team to be able to achieve these awards and it’s due to the efforts of everyone across the hospital – nurses, doctors, rehabilitation specialists, and more. It’s exciting that both The Miriam Hospital and Newport Hospital earned the Target: Type 2 Diabetes Honor Roll award this year. It is also exciting that The Miriam Hospital was also awarded the Target: Stroke Honor Roll Elite for this year,” said KAREN SCHAEFER, MSN, APRN, AGCNS-BC, ASC-BC, FCNS, stroke program manager for The Miriam Hospital and Newport Hospital.

Newport Hospital and The Miriam Hospital have met specific criteria to each be designated as a Primary Stroke Center while the Rhode Island Hospital is designated as a Comprehensive Stroke Center. Primary Stroke Centers are equipped to stabilize and provide emergency care for patients with acute stroke, and Comprehensive Stroke Centers can provide more specialized care for patients with complex strokes.

“Our team provides world-class stroke care and meets the highest quality standards. These awards are a tribute to the local commitment to improve outcomes for people with stroke,” said KAREN L. FURIE, MD, MPH, Chief of Neurology at Rhode Island Hospital and The Miriam Hospital and Chair of Neurology at the Warren Alpert Medical School of Brown University.
Recognition

William Oh, MD, to be inducted into RI Heritage Hall of Fame

The Rhode Island Heritage Hall of Fame recently announced its 2021 inductees. Among the Class of 2021 is WILLIAM OH, MD, a trailblazer in the field of neonatology. He will be inducted on Oct. 23rd at The Crown Plaza in Warwick.

Dr. Oh, Sylvia Kay Hassenfeld Professor Emeritus of Pediatrics at Brown, was inducted into the Legends of Neonatology Hall of Fame in 2012. Also in 2012, Dr. Oh was honored with the Maureen Andrews Mentorship Award, from the Society for Pediatric Research.

In 2019, the Journal of Perinatology published a comprehensive article highlighting Dr. Oh's career: “Reflections on the early years of neonatology. William Oh: neonatal pioneer devoted his career to groundbreaking research, expanding patient care, and mentoring others” and was co-authored by Corey Nason Reese and Jeff Reese [J Perinat (2019) 39:18-27].

Brown School of Public Health re-accredited for 7 years by the Council on Education for Public Health

PROVIDENCE – On September 20, ASHISH K. JHA, MD, MPH, Dean of the Brown University School of Public Health, announced that the Council on Education for Public Health (CEPH) has approved the accreditation of the School for seven more years: the maximum award.

CEPH, the independent agency recognized by the U.S. Department of Education to accredit schools and programs of public health, has re-accredited the School through December 31, 2028.

In a statement, Dean Jha noted, “This re-accreditation marks the culmination of many months of hard work by so many stakeholders at the School, the University, and our amazing community partners. I have to acknowledge the steadfast leadership of Dean Melissa Clark whose knowledge, dedication, and perseverance throughout the process have been essential.

“In addition, I am thankful to the “village” of administrators and faculty who worked tirelessly attending meetings and gathering data for the self-study and the CEPH site visit. Between September 2019 and March 2021, the School engaged virtually with its stakeholders in a rigorous self-study process. This entailed the active participation of faculty, staff, students, senior administrators, alumni, and community members in the assessment of all aspects of the School’s operations, including its resource sufficiency, academic effectiveness, and mission accomplishment. The result was a 380+-page report bolstered by hundreds of pages of supporting evidence.

“CEPH accreditation attests to the quality of our School and will continue to enhance our national reputation as we attract the next generation of leaders who will take on the public health challenges of our time.”
Courtney Baldwin Haviland, MD, and William Randal Shrauner, MD, passed away on September 2nd, 2021, in a small plane crash in Connecticut. Courtney and Will lived happy lives that were full of meaning. The deep love and happiness of their marriage was the foundation upon which they built successful careers, made wonderful friends, and brought genuine happiness to those around them. The greatest joy in their life was their beloved son, Theodore William Shrauner, born in January 2020. Courtney was a star student in the Farmington, CT public school system and a member of the 2005 State Championship soccer team. Her love of learning led her to attend Brown University, where she double majored in Cognitive Neuroscience and Literature and where she had the blessing of forming countless lifelong friendships. She went on to fulfill her childhood dream of helping others as a medical doctor by attending Weill Cornell Medical College. It was during medical school that she met the love of her life, Will Shrauner. Will was raised on a cattle ranch in Protection, KS, moved with his family to Wilmore, KY, for 6th through 10th grade, and graduated as valedictorian from Deer Creek High School in Edmond, OK, in 2008. He was involved in numerous extracurricular activities including Cross Country, Tennis, Stage Crew, and Senior Leadership. During high school, he was also active in his small group at Church of the Servant. Through all of his activities, studies, and interactions, Will exemplified his values of empathy, kindness, and compassion. Will received his undergraduate education at Oklahoma State University, where he was able to fully shine as a dedicated and gifted student. In 2011, Will was named a Sir Alexander Fleming Scholar by the Oklahoma Medical Research Foundation, and graduated from Oklahoma State in 2012 with a Bachelor of Science in Physiology. In the fall of 2012, Will continued to pursue his goal of practicing medicine by attending Weill Cornell Medical College. Courtney and Will graduated from medical school in 2016, where they were both recognized for their distinguished academic performance and leadership abilities as members of the Alpha Omega Alpha Honor Medical Society, of which Will served as the chapter’s president. They were admitted to leading residency programs in Boston, where they moved, were married in June of 2017, and began their happy life practicing medicine, exploring the world, and spending countless hours laughing with friends and family.

Courtney was a skilled and empathetic doctor, specializing in pediatric emergency medicine at Massachusetts General Hospital for Children and, later, Brown University’s Hasbro Children’s Hospital. Courtney could light up a room with her presence, intellect, and kindness. She had a bright, infectious smile and a twinkle in her eye that preceded a witty joke or a generous comment. Her boundless warmth was seen in full force around patients, where she brightened the lives of the young people she served so enthusiastically. Will was passionate about practicing medicine. He brought a calm and reassuring presence to his work. Will completed his physician’s residency and a research fellowship at Brigham & Women’s Hospital in Boston, MA. During his residency, Will determined his path forward was in Cardiology, and began a specialized fellowship at Boston Medical Center in 2020. As a fellow, Will found great joy as an intern educator and left an indelible mark on those he helped train.

At the time of their passing, Courtney and Will were living the happiest period of their lives. Their days were spent helping the sick and injured, entertaining friends and family, loving their son, beaming with excitement for the upcoming birth of their daughter, rejoicing in their nieces and nephews, playing with their dog, Bernie, and loving each other. Selflessly, they radiated this inner joy to everyone around them. Courtney is remembered for her easy laugh, her unmatched wit and intellect, her dimples when she smiled, her devotion to her husband Will and her joy in being a mother to Teddy. Will is remembered for his exceptional blend of empathy and intelligence, his easy and kind nature, his humor and skill as a conversationalist, his ability to make people feel valued, and his fierce love for his wife and son. Will easily mastered anything he set himself to.

In addition to being a skilled doctor, Will was a talented amateur chef. On weekends he and Courtney delighted friends and family with carefully planned and lovingly prepared meals. It was a source of deep joy for Will and Courtney to gather their friends around the table for laughs, stirring conversation, and relaxation. They are survived by their son, Theodore William Shrauner (Teddy), their parents, Nancy and Tim Haviland and Jenny and Randy Shrauner; their siblings, Shawn Haviland, Jordan Haviland, Justin Shrauner, Ben Shrauner, and Sarah Dunn; their brothers and sisters-in-law Sarah Haviland, Elizabeth Haviland, Linh-Vy Shrauner, Ruth Shrauner, and Jeff Dunn; their grandparents Clayton Haviland III, Ralph and Neoma Shrauner; countless nieces, nephews, aunts, uncles and cousins; and lifelong friends who know Courtney and Will held them as family.

Donations in their memory can be made to two charities that were important to Courtney and Will: www.reachoutandread.org or www.infantcrisis.org.
COURTNEY LANE BASS, MD, (October 23, 1979–August 27, 2021) passed away peacefully at HopeHealth’s Hulitar Hospice Center in Providence after a lengthy battle with cancer.

Courtney was born in Rochester, NY, and lived in Honeoye Falls, NY, until graduating from Honeoye Falls-Lima HS in 1998. She finished her BA degree in psychology, Magna Cum Laude, from Middlebury College in 2002, then continued her education at Albany Medical College in Albany, NY. After achieving the Doctor of Medicine degree, she completed a residency in pediatric medicine with Brown University at Hasbro Children’s Hospital in Providence. She went on to practice pediatric medicine for several years with Narragansett Bay Pediatrics in Wakefield, RI.

She is survived by her spouse David Bass of Westerly, RI; two children (a son and a daughter); mother Carol Lane of Macedon, NY, father Jeffery Lane (Marianne) of Henrietta, NY; sister Heather Lane (Brandon Mauks) of Mendon, NY; and many devoted cousins and friends.

She leaves a wide void with her passing and will be deeply missed by her family, friends, colleagues, and patients.

A memorial service celebrating her life is planned for a future date.

Donations in her name may be sent to any of the following: The Tomorrow Fund, TargetCancer Foundation, Alford Lake Camp, Hope, Maine.

A. JOHN ELLIOT, MD, passed away in Sarasota, Florida, on August 11th. He is survived by his wife Judith Metzger Elliot, his daughters Sharon Ahern (husband Tom), Cassie Elliot and stepson Trowbridge Cottrell. He was predeceased by his only son, Robert Elliot, in 2017.

Upon graduating from Princeton in 1955, he went on to graduate with his medical degree from Columbia College of Physicians and Surgeons in NYC, (1959), a surgical internship at Johns Hopkins Hospital in Baltimore, MD (1959–1960), a surgical residency at Saint Vincent’s Hospital in NYC (1960–61) and an orthopedic residency at Yale University in New Haven, CT (1961–64). In 1968, he was Honorably Discharged from the U.S. Army Reserves as Captain from a MASH unit. With his first wife, Stephanie Hilstrom, John moved his family to Westerly, RI. He chose Westerly for two very specific reasons: he was devoted to nature, the ocean in particular, and he wanted to bring his skills to a community largely comprised of Italian Americans. John ultimately rose to prominence within the Westerly Hospital, becoming Chief of Staff and Chief of Surgery.

As a lifelong learner himself, in the early 1980s John went to Cambridge College, UK, to learn the new orthopedic procedure of Arthroscopy. He brought both the tools and his expertise back to the Westerly Community. In 1986 John traveled to West China Medical University in Chengdu as a visiting Professor, and despite the language barrier, he provided instruction on the skill of Arthroscopy. Just last year he was named a Professor Emeritus by the West China Medical University.

A true individual from start to finish, John, a.k.a Bones, will be deeply missed. A local memorial will be held at a date as yet to be determined.