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SPECIAL SECTION

SUICIDAL BEHAVIOR *in* CHILDREN *and* ADOLESCENTS

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Suicidal Behavior in Children and Adolescents: Introduction to Themed Section of RIMJ

ANNE S. WALTERS, PhD; JENNIFER C. WOLFF, PhD
GUEST EDITORS

One in five. This is an oft-quoted statistic for healthcare professionals working with children and families and refers to the number of children and adolescents with a diagnosable psychiatric disorder. For these five children in every classroom, or the 20 out of 100 students on the playground at recess, access to mental health treatment is challenging during the best of circumstances. During the past two years, stressors related to the pandemic have led to a sharp increase in anxiety and depression in our youth. Rates of suicidal thinking and behavior in emergency departments (EDs) have increased by 25% or more,¹ and rates of children and adolescents “boarding” in the ED while waiting to gain access to a mental health hospital bed have also increased by an estimated 25–31%.¹ Emergency-service utilization for suicide and self-injury has nearly doubled in the past 15 years.¹ This crisis among our nation’s youth has been steadily building. Last fall, the American Academy of Pediatrics (AAP), American Academy of Child and Adolescent Psychiatry (AACAP) and Children’s Hospital Association (CHA) declared a national emergency in children’s mental health, citing the serious toll of the COVID-19 pandemic and the struggle for racial justice.³ In the first half of 2021, children’s hospitals reported a 45% spike in reported cases of self-injury and suicide among youth aged 5 to 17 compared to 2019, according to the CHA. The crisis is not limited to the United States; global estimates are that pediatric anxiety and depression have doubled during the past year. Further, suicidal behavior among youth of color has trended upward at greater rates than among White youth, and recent estimates among LGBTQ+ youth indicate that almost half have considered death by suicide.²

These estimates are not likely to be a surprise to those working with children and adolescents during this particularly challenging time frame. We have watched with dismay as the level of need has steadily increased to crisis proportions, after months of concern about the effects of isolation, loss, and stress on children during the pandemic. This means that physicians and other healthcare professionals must be attuned to the presence of elevated levels of distress among the youth they are working with, and points to the need for additional information about identifying suicidal thoughts and behaviors (STBs) and resources for effective treatment.

In this special edition of the *Rhode Island Medical Journal* (RIMJ), we have gathered articles from mental health

professionals sharing the results of their work with children and adolescents at risk for STBs. Authors from Brown University’s Alpert Medical School and their colleagues in other settings have contributed to this edition of RIMJ. Our hope is that these articles will draw attention to STBs in children and adolescents and strategies to help them and their families.

To start off, in the article, “A Comparison of Acute Mental Health Presentations to Emergency Services Before and During the COVID-19 Pandemic,” **MARY KATHRYN CANCELLIERE, PhD**, and **KATHLEEN DONISE, MD**, outline how the pandemic affected youth presentations to the ED’s psychiatric service and how many warranted an inpatient/acute residential admission. Their study noted an increase in acuity among patients evaluated by the emergency service, where 11% more children and 12% more adolescents met criteria for inpatient/acute residential admission from before to during the pandemic. This increase was observed despite fewer overall emergency service evaluations.

Moving on to the role of screening youth that present with STBs, in the contribution, “Single- vs. Multi-Item Assessment of Suicidal Ideation Among Adolescents,” authors **ILANA GRATCH, BA**; **KATHERINE M. TEZANOS, MS**; **SARA N. FERNADES, MA**; **KERRI-ANNE BELL, MA**; **OLIVIA H. POLLAK, BS**, and **CHRISTINE B. CHA, PhD**, point out the barriers to assessment of suicidal ideation (SI) in adolescents. They compare single- and multi-item assessments of SI and factors associated with different responses. Their work provides support for the notion that multi-item assessments provide a more accurate and nuanced picture of SI among adolescents and may be a vital component of routine screening.

Moving on to treatment considerations, “Assessing the Quality of Patient Responses to a Psychosocial Intervention Implemented on an Adolescent Psychiatric Inpatient Unit: Devising the Safety Plan Quality Metric,” authors **PAULINE H. L. BAGATELAS, MD’22, ScM’22**; **JEFFREY I. HUNT, MD**, and **JENNIFER C. WOLFF, PhD**, offer a quality assessment of the Safety Planning Intervention (SPI) that helps individuals identify what they can do to stay safe when they have suicidal thoughts. This intervention is used widely in Rhode Island for addressing suicidality in children, and their project examined whether the quality of the intervention impacted the likelihood of readmission to a psychiatric hospital.

ELIZABETH C. THOMPSON, PhD; MARGARET NAIL, BS, and **SHIRLEY YEN, PhD,** in their article, “Suicide Risk and Psychotic Experiences: Considerations for Safety Planning with Adolescents,” focus on discussion of individuals with psychosis-spectrum conditions who tend to have high rates of STBs. The authors provide suggestions for conducting safety planning with this difficult-to-treat population and their family members.

Consideration of cultural approaches to treatment is the focus of the article by **GISELA JIMENEZ-COLON, PhD,** and **YOVANSKA DUARTE-VELEZ, PhD.** In “Raising Children in Different Cultures: Working with Latinx Youth with Suicidal Behaviors and Their Families,” they discuss working with the families of Latinx/Hispanic youth who have a history of STB, given that suicide is the third-leading cause of death among Latinx/Hispanic youth aged 10 to 14, and the second-leading cause for those aged 15 to 24 in the United States. They present a case to illustrate the application of the Socio-Cognitive Behavioral Therapy for Suicidal Behaviors (SCBT-SB) approach with a Latinx/Hispanic family.

In “Recognizing Suicidal Risk in Very Young Children,” **ELIZABETH WAGNER, MD, MPH; ANJALI GOTTIPATY, BA; JEFFREY I. HUNT, MD,** and **JOHN R. BOEKAMP, PhD,** focus on their work with very young (e.g., preschool age) children who present with self-injurious or suicidal behavior. They outline de-identified cases of young children who were admitted to a local psychiatric hospital. Their aim is to provide information about common risk factors and to reduce the likelihood that these concerns will be under-identified in very young children.

We hope that RIMJ readers find this issue both illuminating and helpful as they navigate their response to the current mental health crisis and needs of youth at risk for suicide.

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A Comparison of Acute Mental Health Presentations to Emergency Services Before and During the COVID-19 Pandemic

MARY KATHRYN CANCELLIERE, PhD; KATHLEEN DONISE, MD

ABSTRACT

OBJECTIVE/BACKGROUND: This study aimed to understand how the COVID-19 pandemic affected youth presentations to the Emergency Department's psychiatric service and how many warranted an inpatient and acute residential admission.

METHODS: This cross-sectional study examined the patients (youth ages 3 to 18 years) evaluated at Hasbro Children's Hospital's Emergency Department by Lifespan's Pediatric Behavioral Health Emergency Service (LPBHES) over four months, March through June, of years 2019, 2020, and 2021. The sample was categorized into two groups: Children ages 3 to 11 years and adolescents ages 12 to 18 years.

RESULTS: Youth evaluated by LPBHES showed an increase in acuity, where 11% more children and 12% more adolescents met criteria for inpatient and acute residential admission from years 2019 to 2020. This increase was observed despite fewer overall LPBHES evaluations.

CONCLUSION: Future directions include prospective studies that explore the barriers to youth receiving the appropriate level of outpatient mental health services to prevent acute mental health crises.

KEYWORDS: Emergency Department, children, adolescents, COVID-19, mental health

Control and Prevention (CDC) community COVID-19 mitigation "lockdown" measures that spanned March through June 2020 (hereafter, the year 2020 is referred to as the "pandemic lockdown").⁸ Understanding how the COVID-19 pandemic has affected youth presenting to the ED is of great importance, as EDs and other mental health services are in an unprecedented state of overburden since the onset of the pandemic that has created a national public health crisis.^{9,10}

Mental health disorders frequently emerge before the age of 14.^{11,12} Caregivers sharing concerns about their youths' mental health with their primary care provider has been shown to improve access to mental health services.^{13,14} However, many youth seen in the ED do not have regular contact with primary care providers and are less likely to receive either intervention or prevention services.¹⁵ As such, EDs are an integral part of the identification, treatment, and coordination of care for youth with mental health concerns. Further, EDs often function as a safety net for youth with mental health conditions seeking care.^{15,16} This is important as EDs have also observed a post-pandemic increase in youth mental health acuity.³

The objective of this study was first to characterize youth presentations to the ED's psychiatric services during the spring (March through June) prior to and during the pandemic. Second, this study aimed to determine the number of youth presentations warranting an inpatient hospital admission over the same time period due to the acuity of their mental health condition.

INTRODUCTION

In the United States (US), approximately 20% of youth are diagnosed with a mental health disorder.^{1,2} Emergency Departments (EDs) are often the first point of entry for youth into the mental health system, where over 50% of youth seeking psychiatric care use the ED without previously seeking outpatient services.^{3,4,5} Over the last decade, EDs have seen an increase in the number of youth presenting with a psychiatric crisis. In the US, ED visits for youth in psychiatric crisis increased 40% between 2009 and 2013 and 28% between 2011 and 2015.^{4,6} However, during the 2020 COVID-19 pandemic, youth presentation to EDs nationally saw a decrease.⁷ This 2020 decrease coincided with the widespread implementation of the U.S. Centers for Disease

METHODS

This cross-sectional study examined patients evaluated at Hasbro Children's Hospital's ED by Lifespan's Pediatric Behavioral Health Emergency Service (LPBHES) via an administrative dataset over four months, March through June, of years 2019, 2020, and 2021. The sample consists of youth ages 3 to 18 years who were referred to LPBHES for a psychiatric evaluation after presenting to the ED for an acute, emotional and/or behavioral concern that needed treatment and/or stabilization.

Hasbro Children's Hospital, in Providence, RI, is part of an academic health care system and is the region's only Level 1 pediatric trauma hospital, serving patients ranging in age from birth through young adulthood, and representing a

wide diversity of racial, ethnic, and socioeconomic groups. Hasbro's ED (HED) exceeds 58,000 patients per year and is the only ED in the region dedicated to the emergency needs of children and adolescents. LPBHES is a multisite, multi-agency service that provides urgent and emergent psychiatric evaluations to approximately 3,000 youth presenting in behavioral health crisis annually, with the majority presenting at HED. With a site embedded in the HED, LPBHES evaluates a subset of the HED's highest acuity (i.e., a safety to self and others) youth presenting in behavioral crisis. The total number of youth presenting to the HED for behavioral health concerns during this study's time frame from March through June were 1,610 in 2019, 996 in 2020, and 1,632 in 2021. These youth were first triaged by the HED team, including vital signs, a medical screening exam, and screened for suicide risk in part by the use of the Columbia-Suicide Severity Rating Scale.¹⁷ Then, after determining acuity level, they were referred to LPBHES for further psychiatric evaluation.

PROCEDURES

This study was approved by the hospital's Institutional Review Board (IRB). Data making up the administrative data set were taken from the electronic health record (EHR; EPIC™ 2010) to characterize and compare youth in March through June, of years 2019, 2020, and 2021. These particular months were selected because they correspond to the March through June 2020 pandemic lockdown, and have been routinely observed as the months with the highest volume of youth referrals to LPBHES each year. Data were collected on youth demographics, including patient age, sex, race, ethnicity, insurance type (private or public, as a proxy of socioeconomic status [SES]), city (urban core: yes/no), primary problem/diagnosis for insurance, Columbia-Suicide Severity Rating Scale score of youth 11-years-old and older in 2020 and 2021, and LPBHES disposition (discharge plan). We categorized youth into two groups: children ages 3 to 11 years and adolescents ages 12 to 18 years. We also included the presentation of a documented (via the administrative report) primary mental health problem, including depression, adjustment, anxiety, attention deficit hyperactivity disorder (ADHD), oppositional/conduct, disruptive mood, schizophrenia, and other psychosis.

Descriptive statistics were employed to characterize findings. Percentages were presented for all categorical variables and continuous variables were presented using means (M) and standard deviations (SD). Sample sizes are presented. All analyses were performed with SPSS, version 28 (IBM SPSS Software 2021).

RESULTS

In 2019, there were a total of 732 youth comprised of 215 children ($M_{age}=8.97$, $SD=2.02$) and 517 adolescents

($M_{age}=14.61$, $SD=1.67$) referred to and evaluated by LPBHES pre-pandemic. In 2020, a total of 470 youth were referred to and evaluated by LPBHES during the COVID-19 lockdown: 97 children ($M_{age}=8.93$, $SD=1.99$) and 373 adolescents ($M_{age}=14.73$, $SD=1.67$). Year 2020 had 36% fewer youth evaluated by LPBHES than the prior year. In 2021, during the same four months, a substantial increase upwards of 50% was observed from 2020 to 2021, where 157 children ($M_{age}=9.13$, $SD=1.84$) and 775 adolescents ($M_{age}=14.56$, $SD=1.64$) were referred to and evaluated by LPBHES. Over all three years, children who presented to the ED were primarily males, and the adolescents who presented to the ED were primarily females. On race and ethnicity, medical records indicated that children and adolescents were predominately White and minority representation included Black/African American (8–13%), Asian (1–2%), more than one race (2% to 3%), Hispanic/Latinx (16–26%), and Unknown/Refused/Other (20–25%). These findings are consistent with the Rhode Island state census pattern of race and ethnicity percentages.¹⁸ Moreover, children in this study were documented as using public insurance/lower SES, about 4% to 8% more than private insurance from 2019 to 2021. However, in 2020 the majority of child patients were privately insured (50.5%). The adolescent samples before and during the pandemic were almost evenly split in their use of public and private insurance. Also, 2020 showed an increase in publicly insured/lower SES adolescent patients, with 55% documented publicly insured versus 45% documented privately insured.

Youth referred to LPBHES and living in the RI urban core represented 34% to 46% of this study's sample. Adolescents presenting from the urban core catchment area were particularly high in 2020 compared to the other years. However, for children, 2020 had the lowest number of children from the urban core.

In addition, the prevalence of primary presenting diagnosis that were identified in the administrative database were relatively the same over the three years for both the child and the adolescent samples. That is, LPBHES consistently evaluated children presenting predominantly with adjustment disorders and adolescents predominately with depressive disorders. Adolescents, however, presented with an increase in depressive disorders from 2019 to 2021, whereas children showed an increase in adjustment disorders in 2020 compared to 2019 and 2021.

To add, symptom acuity for both the child and the adolescent samples were determined by the LPBHES team and presented in this data as the Disposition Determination. For those youth presenting with acute and emergent symptoms, and unable to ensure and plan for safety to self and others, inpatient hospitalization or acute residential admission was determined. All others were discharged home and referred to a lower level of outpatient services including, but not limited to, partial hospitalization, in-home family services, and

outpatient therapy services. Children and adolescents evaluated by LPBHES during the lockdown showed an increase in acuity, where 11% more children and 12% more adolescents met criteria for an inpatient and residential admission compared to years 2019 to 2021. This increase was observed despite fewer overall LPBHES evaluations. This upward trend in acuity did not cease, because from 2019 pre-pandemic to 2021 post-pandemic lockdown, percentages went up 6% in the child sample and 3% in the adolescent sample. As

presented in **Table 1**, the total number of youth evaluations completed by the LPBHES was greater for adolescents than children. Likewise, adolescent inpatient hospitalizations and acute residential placements were substantially greater for adolescents than children over all three years. See **Table 1** for a complete list of child and adolescent characteristics.

The CSSR-S scores were collected during the HED triage process for the youth evaluated by LPBHES. As mentioned, these scores were used by HED as a screener to gauge youth

Table 1. Child & Adolescent Characteristics 2019 (N =732), 2020 (N =470), 2021 (N =932)

	Child 2019 Ages 3-11 n = 215	Child 2020 Ages 4 -11 n = 97	Child 2021 Ages 3-11 n = 157	Adolescent 2019 Ages 12-18 n = 517	Adolescent 2020 Ages 12-18 n = 373	Adolescent 2021 Ages 12-18 n = 775
Youth Sex n(%)						
Female	68 (31.6)	31 (32.0)	59 (37.6)	322 (62.3)	207 (55.5)	528 (68.1)
Youth Age M(SD)	8.97 (2.02)	8.93 (1.99)	9.13 (1.84)	14.61 (1.67)	14.73 (1.68)	14.56 (1.64)
Youth Race n(%)						
White	135 (62.8)	63 (64.9)	101 (64.3)	334 (64.6)	239 (64.1)	502 (64.8)
Black/African American	28 (13.0)	9 (9.3)	13 (8.3)	53 (10.3)	42 (11.3)	64 (8.3)
Asian/Alaskan Native/ Other Pacific Islander	—	2 (2.1)	—	8 (1.5)	1 (0.3)	7 (0.9)
More than one race	2 (0.9)	3 (3.1)	3 (1.9)	5 (1.0)	3 (0.8)	15 (1.9)
Unknown/Other	50 (23.3)	20 (20.6)	39 (24.8)	117 (22.6)	83 (22.3)	187 (24.1)
Youth Ethnicity n(%)						
Hispanic	49 (22.8)	15 (15.5)	38 (24.2)	124 (24.0)	92 (24.7)	199 (25.7)
Insurance Type n(%)						
Public	112 (52.1)	47 (48.5)	82 (52.2)	252 (48.7)	195 (52.3)	372 (48.0)
Private	103 (47.9)	49 (50.5)	72 (45.9)	256 (49.5)	169 (45.3)	395 (51.0)
Missing/None	—	1 (1.0)	3 (1.9)	9 (1.7)	9 (2.4)	8 (1.0)
Presenting Problem*n(%)						
Adjustment	105 (48.9)	55 (56.7)	70 (44.6)	130 (25.3)	108 (29.0)	161 (20.6)
Anxiety	34 (15.9)	11 (11.3)	22 (14.0)	63 (12.2)	37 (9.9)	70 (9.1)
Depression	24 (11.2)	9 (9.3)	30 (19.1)	223 (43.1)	141 (37.8)	419 (54.1)
Disruptive Mood	23 (10.7)	12 (12.4)	17 (10.8)	37 (7.2)	28 (7.5)	40 (5.2)
Traumatic Stress/PTSD	22 (10.3)	9 (9.3)	18 (11.5)	46 (8.9)	41 (11)	60 (7.7)
OCD	1 (0.4)	—	—	3 (0.6)	1 (0.3)	3 (0.4)
Bipolar	2 (0.9)	—	—	9 (1.7)	13 (3.5)	10 (1.3)
Oppositional/Conduct	1 (0.4)	—	—	3 (0.6)	2 (0.5)	6 (0.8)
ADHD	3 (1.3)	1 (1.0)	—	—	—	2 (0.3)
Schizophrenia/ Other Psychosis	—	—	—	3 (0.6)	2 (0.5)	3 (0.4)
Conversion	—	—	—	—	—	1 (0.1)
RI Urban Core n(%)						
Yes	83 (38.8)	33 (34.4)	63 (40.1)	196 (38.0)	169 (45.6)	286 (36.9)
Disposition Determination n(%)						
Inpatient/Resident.	81 (37.7)	47 (48.5)	68 (43.3)	240 (46.4)	217 (57.9)	382 (49.3)
Home/Outpatient	134 (62.3)	50 (51.5)	89 (56.7)	277 (53.6)	156 (41.8)	393 (50.7)

*Presenting problem diagnosis represent a single problem noted in the administrative dataset; therefore, each patient encounter only has one problem identified.

Table 2. C-SSRS: Using new definitions of HIGH Score ranges for youth 11- to 18-years-old

	2020		2021	
	11yrs	12 to 18yrs	11yrs	12 to 18yrs
Number of C-SSRS Scores N	23	325	40	726
0: Score=0	7 (30.4)	82 (25.2)	10 (25.0)	134 (18.5)
1: Low Risk (0.5–1.5)	5 (21.7)	37 (11.4)	6 (15.0)	78 (10.7)
2: Moderate Risk (2.0–4.5)	3 (13.1)	33 (10.2)	3 (7.5)	78 (10.7)
High Risk Stratified (5+)	8 (34.8)	173 (53.2)	21 (52.5)	436 (60.1)
4: High Score1 (5.0–8.0)	0 (0.0)	43 (13.2)	12 (30.0)	117 (16.2)
5: High Score2 (8.5–12.0)	3 (13.1)	51 (15.7)	6 (15.0)	143 (19.7)
6: High Score3 (12.5–15.5)	5 (21.7)	79 (24.3)	3 (7.5)	176 (24.2)

Note: C-SSRS = Columbia-Suicide Severity Rating Scale; Year 2019 C-SSRS scores were not available, as that was the year when the screener was implemented into the HER.

Figure 1. 2019 Adolescent inpatient hospitalization & Acute residential admission status versus Outpatient service referrals from March through June by sex and by public/private insurance type.

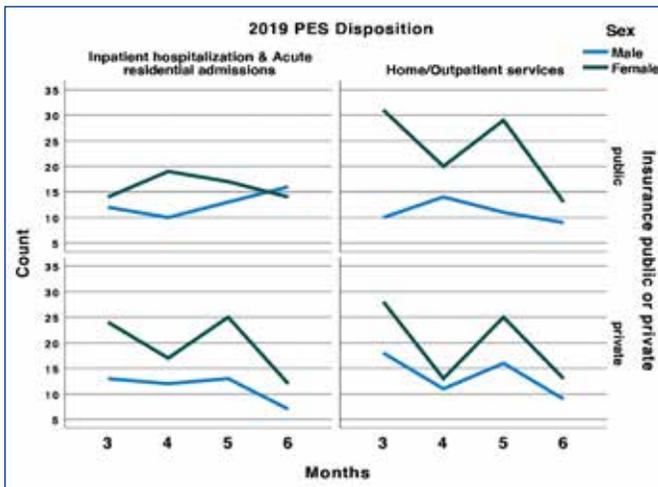
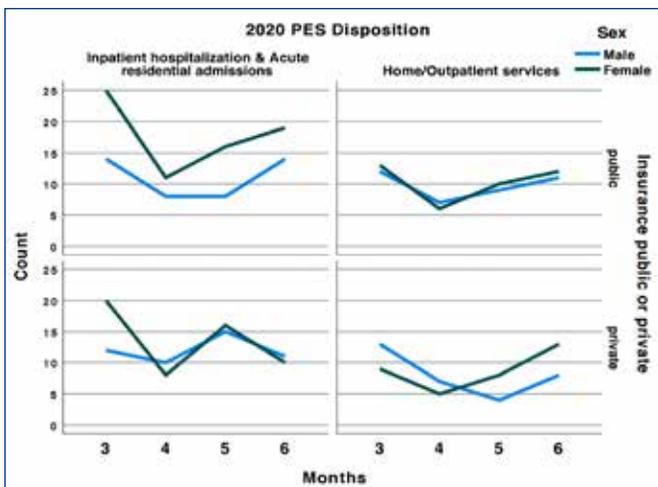


Figure 2. 2020 Adolescent inpatient hospitalization & Acute residential admission status versus Outpatient service referrals from March through June by sex and by public/private insurance type.

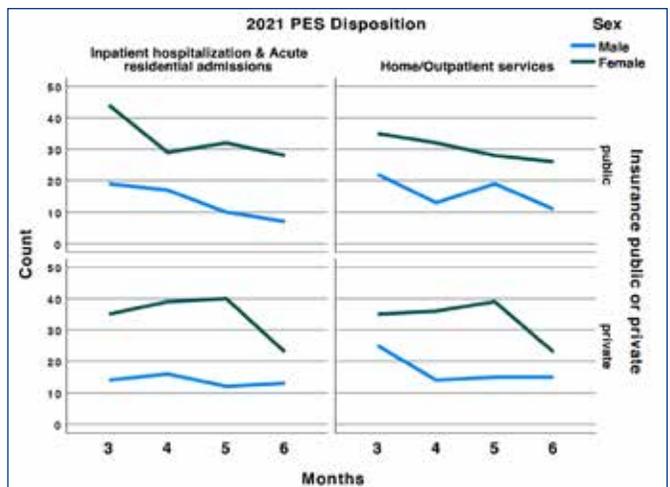


suicide risk. The CSSR-S for both children and adolescents indicated higher percentages of Low to Moderate suicide risk but not High Risk during the 2020 pandemic lockdown compared to 2021. However, when the High Risk scores were stratified into three ranges, the High Score3 scores (the highest range of acuity; 12.5–15.5) revealed higher suicide risk and acuity for both children and adolescents during the 2020 pandemic lockdown compared to the following year, 2021. (See **Table 2.**)

Lastly, to better understand the distribution of adolescents' inpatient and acute residential services, three figures were constructed to illustrate adolescent inpatient and acute residential admission status versus adolescent outpatient service referrals from March through June by sex and by public/private insurance type (i.e., SES). **Figure 1** depicts adolescent data from 2019 and shows a prevalence of female adolescents' inpatient and acute residential admission status across all four months, no matter the insurance type. However, in June of 2019, males utilizing public insurance/low SES demonstrated an increase in inpatient and acute residential admissions while females had a decrease in admissions.

In 2020, during the pandemic lockdown, **Figure 2** presents a pattern of female public insurance/low SES with higher inpatient and residential admissions than males across all four months. Privately insured female users in March appeared to experience greater inpatient and acute residential admissions but then decreased and followed a similar pattern as the adolescent male admissions. Interestingly, publicly insured/lower SES females and males admitted to

Figure 3. 2021 Adolescent inpatient hospitalization & Acute residential admission status versus Outpatient service referrals from March through June by sex and by public/private insurance type.



inpatient and acute residential services increased from April to June 2020, while privately insured adolescents admitted to inpatient and acute residential services were variable as they increased from April to May but decreased in June.

Finally, **Figure 3** depicts year 2021, with prevalence rates from March through June about equally distributed between inpatient and acute residential admissions and outpatient programming. Females, however, made up the majority of inpatient and acute residential admissions and outpatient service referrals across insurance types. More specifically, females with public insurance/low SES maintained a higher usage of services compared to those with private insurance.

DISCUSSION

With EDs often utilized as the first point of entry for youth into the mental health system, this study aimed to understand how the COVID-19 pandemic affected youth presentations to HED's psychiatric service. It also looked to determine during that same time frame how many youth warranted an inpatient and acute residential admission.

Consistent with the literature and other EDs, findings revealed that HED and LPBHES observed a noticeable decline in ED admissions and LPBHES evaluation during the 2020 pandemic lockdown compared to other years. However, while there were fewer youth who presented to the ED and referred to LPBHES, the acuity of those who presented to HED during March to June 2020 had an increased percentage of inpatient and acute residential admissions compared to youth evaluated pre-pandemic 2019 and post-lockdown 2021. Similar findings were observed in other studies and may be due to the increased stressors many youth experienced during the national stay-at-home measures put into place for the onset of COVID-19 in the US, including school closures, limited peer interactions, and the isolation created by having to stay home.^{7,8} Interestingly, the 2020 increase in acuity was seen prior to the 2021 post-lockdown increase in referrals to LPBHES of approximately 21% youth from 2019 ($N=732$) to 2021 ($N=932$). This increase of LPBHES referrals indicates that more youth have been presenting to HED and that these youth have been experiencing greater mental health symptomatology and increases in acuity. Yet the cause for this increase is unknown. It is likely, however, that youth mental health symptoms, overall, were exacerbated by what we might consider a disaster in the US, where some youth may have experienced traumatic-like stressors after extended isolation and possible limited degrees of support (e.g., friends, family, therapist, etc.).⁷ Our findings suggest that the distress from the pandemic may have translated into increased acute service use (i.e., inpatient and acute residential admissions) for youth mental health. However, the children and adolescents in this study may represent a high-risk group that has been particularly affected by the 2020 COVID-19 mitigation measures, including physical

distancing (including a lack of connectedness to schools, teachers, and peers), barriers to mental health treatment, and anxiety about family health and economic problems, which are all risk factors for acute psychiatric crises, e.g., suicide thoughts and/or behaviors (STB). Similar to this study's findings, past research, prior to the COVID-19 pandemic, has been compiling information on adolescent females showing this subset of youth as having both higher and increased rates of ED visits for acute mental health concerns (i.e., STB) compared to males.^{19,20} This reinforces a general need for increased attention to, and prevention for, this female population, particularly during acute stressors that may exacerbate symptoms. In addition, recent research has shown that suspected child abuse and neglect also increased in 2020 compared to 2019, thus potentially contributing to increases in youth acuity.²¹ Nonetheless, by having more time at home during the 2020 lockdown, caregivers may also have had more attention toward youth mental health symptoms and needs and been able to better intervene to seek services.²²

LIMITATIONS

While this study assists in our understanding of youth presenting to the ED in psychiatric crisis, it is not without limitations. 1) This study utilized an administrative dataset; therefore, chart review variable options were limited as it was a predetermined set of variables. Further, variation in provider reporting and coding practices can influence the procedures of data collection. However, data were taken from patient electronic health records and representative of the clinical samples seen by LPBHES. 2) This study was unable to confirm whether the data on race, ethnicity, and sex identified in this sample was provided by the patient or if it was collected during the patient triage process without patient consultation. The inability to validate and confirm clinical data is a limitation. Future directions should include a prospective study gathering data that support sensitive measures inquiring about youth identity and asserted gender. 3) This study's sample of adolescents included few 18-year-old youth and is not representative of the 18-year-old population of youth who may have sought ED services during the same time frame, because youth this age often transition to adult services. Thus, some 18-year-old youth may have sought similar services within the adult ED. 4) These data are not representative of the national sample and thus are not generalizable to a broader population of youth. 5) The CSSR-S is a well-documented screening tool utilized by EDs (and elsewhere) to assess youth suicide risk in the 11- to 18-year-old age group and were not collected as a part of the psychiatric evaluation. As such, its purpose is to identify youth at risk so that they can be receive further evaluation. This screener was presented to provide information about the presentation of the HED sample.

CONCLUSION

This study looked to understand how the COVID-19 pandemic affected youth presentations to HED's psychiatric service, including how many youth warranted an inpatient and acute residential admission. Results revealed that while fewer youth sought ED services during the pandemic lockdown compared to other years, the youth who presented to HED and were referred to LPBHES were observed to have increased acuity and needed higher levels of care. While unprecedented times, these findings suggest the need for youth mental health services to be available and accessible to intervene and decrease the acuity of youth mental health symptoms before higher levels of care are warranted. As such, more information and education on youth mental health literacy and mental health services are needed so that families and youth are able to identify and utilize appropriate levels of mental health care. Future directions include prospective studies that explore mental health literacy and the barriers to youth receiving the appropriate level of mental health services to prevent acute mental health crises.

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Single- vs. Multi-Item Assessment of Suicidal Ideation Among Adolescents

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ABSTRACT

Several barriers exist to routine assessment of suicidal ideation (SI) in adolescents across settings, including insufficient time, tools, and training. Such barriers often result in the use of brief or even single-item assessments of SI, which may result in misclassification. The present study sought to compare single- and multi-item assessment of SI in adolescents, and to examine factors associated with different response profiles. Adolescents ($n=206$) were recruited from the community and completed a lab visit including a single and multi-item assessment for SI. Results suggest that two thirds of adolescents with passive SI go undetected when relying solely on a single-item screener, yet they present a similar clinical profile to those with passive SI who endorse the screener question. The present study provides support for the notion that multi-item assessment paints a more accurate, nuanced picture of SI among adolescents and may be an important component of routine screening.

KEYWORDS: suicidal ideation, single-item assessment, adolescents

INTRODUCTION

Previous research suggests 20–24% of people experience suicidal ideation (SI) at some point during adolescence.¹ Suicidal behavior is typically preceded by thoughts of suicide. Assessment and identification of suicidal thinking during adolescence thus promises to be an important step towards preventing suicide. Given the drastic increase in the incidence of SI during adolescence, it is a particularly important developmental period to begin screening.¹⁻³

Implementing accurate routine screening of suicidal thoughts and behaviors (STBs) in educational, primary, and/or emergency care settings affords the opportunity to detect youth at risk.⁴ A range of clinical assessments have been validated for use with adolescents, including clinical retrospective interviews assessing history of STBs,^{5,6} retrospective self-report measures,⁷ and screeners assessing current risk.⁸ The lack of universal routine assessment may be due, in part, to barriers associated with implementation

of such measures. Indeed, pediatric emergency department staff report that barriers to suicide risk screening include not having sufficient time, tools, and training.⁹

Such barriers often result in the use of brief assessments, particularly in non-clinical settings. For example, the *Patient Health Questionnaire (PHQ-9)*, a brief, self-report measure that assesses depression and includes a single-item assessing SI, has been widely used in general hospitals.^{10,11} Similarly, some Veterans Affairs Medical Centers introduced single-item assessments of mental health for use in primary care settings.^{12,13,14} Single-item assessment of STBs is common practice in research as well.¹⁵⁻¹⁷

While single-item assessments are minimally burdensome and help overcome a key barrier to implementing screenings, their potential limitations warrant investigation. Prior research suggests that single-item assessments of STBs are more likely to result in misclassification, including under- and over-reporting.¹⁶ For instance, one study found that, among college students reporting suicide attempt history on a single-item prescreen survey, only two-thirds endorsed having made a suicide attempt on a multi-item follow-up survey.¹⁸ In contrast, Millner and colleagues found that among adults who denied lifetime SI when asked using a single-item approach, more than 10% went on to endorse having thought “maybe I should kill myself” in a multi-item assessment, and more than one third went on to report passive SI such as “I wish I was dead.”¹⁶ In keeping with these discoveries highlighting misclassification resulting from single-item assessments, a recent online study by Ammerman and colleagues found that adults responded differently to single-item assessments of SI, planning, and attempt depending on the wording of the question.¹⁵ Taken together, these studies suggest that single-item assessment may be especially likely to lead to misclassified STBs.

In the present study, we sought to compare single- and multi-item assessments including both active and passive SI in a sample of adolescents to examine the extent to which single-item assessment results in misclassification in this population (Aim 1). We then examined whether those whose single-item response corresponds to their multi-item responses differ significantly on any baseline demographic and clinical characteristics from those whose reports are discrepant (Aim 2).

METHODS

Sample and Procedures

Adolescent participants were recruited from the community via flyers, advertisements, and street fairs for two lab-based studies examining cognitive mechanisms in suicidal and nonsuicidal adolescents (there were no significant differences in lifetime presence of SITBs between the two samples and just two demographic differences: one sample was 1.43 years older on average ($p < .001$), and had a greater proportion of White and Asian adolescents ($p < .01$)). During an initial phone screen, adolescents must have either endorsed past year SI or indicated no lifetime history of STBs. Additional inclusion criteria were: 12–19 years, English fluency, and ability to complete an in-person interview. Study exclusion criteria were: presence of any factor impairing the adolescent's ability to effectively participate in the study, including high/imminent risk of suicide. Each encounter (phone screen, lab visit) with suicidal adolescents concluded with a risk assessment, safety planning (if applicable), and a reminder of local/national resources to hotlines/textlines, as well as treatment centers and hospitals.

The sample featured 218 adolescents between 12 and 19 years of age ($M = 16.86$, $SD = 1.97$), the majority of whom identified as female (70%). One-third (33%) identified as White, 22% Black/African American, 25% Asian, and 18% multiracial/other. Nearly one-quarter (24%) reported Hispanic ethnicity. Almost one-third (32%) identified as a sexual orientation minority (i.e., not heterosexual).

Adolescents completed an in-person lab visit and completed a battery of self-report measures and interviews, for which they were compensated with a gift card and a subway pass. All study procedures were approved by the Teachers College, Columbia University Institutional Review Board.

MEASURES

Single- vs. Multi-Item Assessment of Suicidal Ideation.

Adolescents were administered the *Self-Injurious Thoughts and Behaviors Interview-Revised (SITBI-R)*¹⁹ by research staff who had been trained and supervised by an experienced clinical psychologist. A range of self-injurious thoughts and behaviors were assessed during the interview and have been described elsewhere along with the SITBI's psychometric properties.⁵ The present study focused on two questions from the SITBI-R: (1) Have you ever thought about killing yourself? (i.e., single-item screener) and (2) Which of the following thoughts have you had (i.e., multi-item follow-up): *I wish I could disappear or not exist [Passive]*; *I wish I were never born [Passive]*; *Life is not worth living [Passive]*; *I wish I could go to sleep and never wake up [Passive]*; *I wish I were dead [Passive]*; *Maybe I should kill myself [Active]*; *I should kill myself [Active]*; *I am going to kill myself [Active]*; *I have never had any of these thoughts [Negative]*. The single-item screener is the first question in the SI

module of the SITBI and most frequently used in research to distinguish individuals with and without a history of SI, and thus was selected as the single-item screener in the present study. All adolescents were asked both sets of questions regardless of their answer to the single-item screener. In line with widely used definitions in the field, passive SI refers to a desire to be dead, whereas active SI refers to the desire to kill oneself.²⁰ A response of "yes" to the screener question was considered a "positive" response, and a response of "no" was considered a "negative" response."

The groups were thus defined as follows: *Pos/Active* (i.e., responded 'yes' to the screener and subsequently endorsed at least one active suicidal thought); *Pos/Passive* (i.e., responded 'yes' to the screener and subsequently endorsed at least one passive (but no active) suicidal thought); *Pos/None* (i.e., responded 'yes' to the screener, but subsequently did not endorse any active or passive suicidal thoughts); *Neg/Active* (i.e., responded 'no' to the screener and subsequently endorsed at least one active suicidal thought); *Neg/Passive* (i.e., responded 'no' to the screener and subsequently endorsed at least one passive (but no active) suicidal thought); and *Neg/None* (i.e., responded 'no' to the screener and subsequently did not endorse any active or passive suicidal thoughts).

Clinical and Demographic Characteristics. To assess severity of recent (past month) SI severity, adolescents completed the *Suicidal Ideation Questionnaire (SIQ)*,⁷ a self-report measure rated on a 6-point scale. The SIQ has high internal consistency and average test-retest reliability and construct validity.⁷ In the present study, it demonstrated excellent internal consistency ($\alpha = .98$). Adolescents also completed the *Hopelessness Scale for Children (HSC)*,²¹ a 20-item measure of hopelessness which has demonstrated adequate reliability in youth samples.²¹ The HSC demonstrated good internal consistency in the present sample ($\alpha = .80$). To assess depression severity, adolescents completed the 16-item self-report version of the *Quick Inventory of Depressive Symptomatology (QIDS)*.²² The QIDS has strong construct validity,²² and showed good internal consistency in the present study ($\alpha = .86$). Finally, adolescents completed the *Screen for Child Anxiety Related Emotional Disorders (SCARED)*,²³ a 38-item self-report measure that assesses anxiety in children over the past three months using a 3-point scale. The SCARED has good internal consistency and discriminant validity,^{23,24} and yielded excellent internal consistency in the present study ($\alpha = .94$).

RESULTS

Response Patterns

SI Groups. Adolescents were classified into six distinct groups based on their responses to the screener question and their subsequent endorsement of specific thoughts. Among those adolescents who endorsed the screener question, most

reported active SI ($n=78$, 75.7%; *Pos/Active*), though 20.4% endorsed passive SI ($n=21$; *Pos/Passive*), and 3.9% endorsed none of the SI items ($n=4$; *Pos/None*). Of those adolescents who denied the screener question, most denied any subsequent suicidal thought ($n=73$, 63.5%; *Neg/None*); however, surprisingly, 35.6% endorsed a subsequent passive suicidal thought ($n=41$; *Neg/Passive*) and one individual endorsed active SI (0.5%; *Neg/Active*). Due to their small sample sizes, *Pos/None* and the *Neg/Active* groups were excluded from further analyses.

Demographics

We examined whether demographic characteristics differentiated the four SI groups. Sample demographics, organized by SI group, are presented in **Table 1**. There were statistically significant differences in age among SI groups (**Table 1**). Post hoc analyses (**Table 2**) revealed that individuals in the *Pos/Active* group were significantly older than those in the other three groups. There were no significant differences in age among the *Pos/Passive*, *Neg/Passive*, and *Neg/None* groups.

Among the SI groups there were no significant differences in terms of race, sex at birth, and ethnicity (**Table 1**). There were statistically significant differences in gender identity and sexual orientation among SI groups (**Table 1**). Of the 13 individuals who identified their gender as different from male or female, 11 were in the *Pos/Active* group, one each in the *Pos/Passive* and *Neg/Passive* group. Due to low cell counts across the groups, these individuals were excluded from multivariate analysis.

Post hoc analyses regarding gender identity and sexual orientation were conducted (**Table 2**), revealing statistically significant differences in gender identity between the *Pos/Active* and *Neg/None* groups. There were statistically significant differences in sexual orientation between

Table 1. Demographic and Clinical Characteristics of Suicide Ideation Groups ($N = 206$).

Variable	Pos/Active	Pos/Passive	Neg/Passive	Neg/None	Test
Age, M(SD)	17.86 (1.36)	16.76 (1.56)	16.62 (1.96)	16.64 (2.09)	20.98 ^{a***}
Sex at Birth (%)					4.97 ^b
Male	12 (24)	2 (18)	4 (19)	17 (40)	
Female	38 (76)	9 (82)	17 (81)	25 (60)	
Gender (%)					21.67 ^{b**}
Male	14 (23)	6 (33)	5 (14)	21 (35)	
Female	35 (58)	12 (67)	31 (84)	38 (63)	
Transgender Male	3 (5)	0 (0)	1 (3)	0 (0)	
Non-Binary	4 (7)	0 (0)	0 (0)	1 (2)	
Other	3 (5)	0 (0)	0 (0)	0 (0)	
Prefer Not to Answer	1 (2)	0 (0)	0 (0)	0 (0)	
Race (%)					3.72 ^b
White	25 (33)	5 (26)	11 (27)	31 (42)	
Black	12 (16)	5 (26)	6 (15)	18 (25)	
Asian	22 (29)	6 (32)	10 (24)	15 (21)	
Other	14 (19)	3 (16)	12 (29)	9 (12)	
Unknown	2 (3)	0 (0)	2 (5)	0 (0)	
Ethnicity (%)					5.19 ^b
Hispanic	23 (31)	3 (16)	14 (34)	14 (19)	
Sexual Orientation (%)					34.96 ^{b***}
Heterosexual	27 (36)	9 (47)	31 (76)	58 (79)	
Homosexual	11 (15)	3 (16)	0 (0)	4 (5)	
Bisexual	25 (33)	4 (21)	6 (15)	6 (8)	
Questioning	3 (4)	2 (11)	1 (2)	2 (3)	
Other	7 (9)	0 (0)	2 (5)	2 (3)	
Unknown	2 (3)	1 (5)	1 (2)	1 (1)	
QIDS	19.99 (5.05)	16.90 (2.97)	16.54 (3.98)	13.35 (2.86)	71.40 ^{a***}
SIQ	45.00 (31.27)	17.95 (14.91)	12.85 (13.71)	2.99 (3.88)	132.57 ^{a***}
HSC	5.66 (3.74)	4.05 (3.82)	3.76 (2.92)	2.22 (1.71)	36.83 ^{a***}
SCARED	36.04 (14.05)	28.00 (12.29)	30.15 (13.47)	16.95 (10.67)	57.79 ^{a***}

Note. All means and standard deviations were calculated based on only those who responded in each category. ^aKruskal-Wallis, ^bChi Square, * $p<.05$, ** $p<.01$, *** $p<.001$

Table 2. Multiple Comparisons Between the Suicide Ideation Groups ($N =206$).

	PA vs PP	PA vs NP	PA vs NN	PP vs NP	PP vs NN	NP vs NN
Age ^a	2.69*	3.54**	3.83**	0.08	0.31	0.31
Gender ^b	4.00	7.83	9.86***	3.32	0.34	5.41
Sexual Orientation ^b	0.83	16.64***	28.57***	4.66	7.84**	0.23
QIDS ^a	1.81	3.09*	8.39***	0.53	3.68**	4.01**
SIQ ^a	3.16***	5.61***	11.46***	1.10	4.39***	4.15***
HSC ^a	2.13	2.61	6.07***	0.10	1.86	2.55
SCARED ^a	1.97	1.82	7.47***	-0.56	2.86*	4.55***

Note. PA=Pos/Active; PP=Pos/Passive; NP= Neg/Passive; NN= Neg/None. Bonferroni corrections were applied for all multiple comparisons. Only significant values are noted in bold type font. SIQ = Suicide Ideation Questionnaire. QIDS = Quick Inventory of Depressive Symptomatology. HSC = Hopelessness Scale for Children. SCARED = Screen for Child Anxiety Related Emotional Disorders.

^aDunn's Multiple Comparisons; ^bChi Square with corrected p -value; * $p<.05$, ** $p<.01$, *** $p<.001$

the *Pos/Active* and *Neg/Passive* groups, the *Pos/Active* and *Neg/None* groups, and between the *Pos/Passive* and *Neg/None* groups.

Clinical Characteristics

We examined whether clinical characteristics differentiated the four SI groups (Table 1). Results demonstrated significant differences across the SI groups in terms of SI severity, hopelessness (HSC), depressive symptomatology (QIDS), and anxiety severity (SCARED; Table 2). Post hoc analyses revealed those in the *Pos/Active* group reported significantly higher SI severity and were older compared to all other groups. Individuals in the *Neg/Passive* group reported significantly higher SI severity than those in the *Neg/None* group. Individuals in the *Neg/Passive* group reported significantly lower SI severity and depressive symptomatology than the *Pos/Active* group. There were no significant differences between the *Pos/Passive* and the *Neg/Passive* group in terms of any of the clinical characteristics. There were no significant differences between the *Neg/Passive*, *Pos/Active* and *Pos/Passive* groups along hopelessness, and anxiety sensitivity.

A multinomial logistic regression with all significant characteristics (i.e., SI severity, hopelessness, anxiety, depression, age, and sexual orientation) distinguished group membership with statistical significance (Table 3). Age and SI severity significantly differentiated the SI groups, such that adolescents with higher SI severity scores were at increased odds of belonging to any group other than the *Neg/None* group, and younger adolescents were at increased odds of belonging to the *Neg/None* group compared to the *Pos/Active* group. Sexual orientation significantly differentiated between the *Pos/Active* group and the *Neg/Passive* group such that adolescents who identified as a sexual orientation minority were at greater odds of belonging to the *Pos/Active* group compared to the *Neg/Passive* group. Sexual orientation did not differentiate the other SI groups.

DISCUSSION

The present study is the first to assess single- vs. multi-item assessment of SI in a face-to-face interview with adolescents. Our findings suggest that when relying solely on a single screening question, more than two thirds of adolescents reporting passive SI will go completely undetected. These adolescents with passive SI who go undetected with a single screening question present as clinically similar to those who endorse SI originally. Therefore, they represent a vulnerable and hidden subgroup. Regarding other between-group differences, consistent with previous research, those endorsing active SI were more likely to be older than those reporting no suicidal thoughts or passive SI, and those identifying as a sexual minority were more likely to report active than passive SI.^{20,25,26}

High rates of undetected passive SI in a setting akin to that of a routine screening is alarming; previous research suggests that more than two thirds of individuals reporting a passive wish to be dead ultimately progress to experience thoughts of killing themselves.²⁷ Moreover, a recent meta-analysis suggests that passive SI is strongly associated with both suicide attempt and suicide death, and trivial differences between other psychological correlates of active and passive SI led the authors to suggest that they are essentially equivalent with regards to clinical implications and suicide risk.²⁰ Detecting SI when it is passive thus presents both an opportunity for preventing thoughts from escalating further and an opportunity for intervention in and of itself.

These findings should be interpreted in light of several limitations. First, the sample was relatively small and thus not fully representative of all suicidal adolescents. This is seen in the small cell counts for gender minority youth. Second, the present study is a cross-sectional and descriptive study and as such does not speak to clinical and prospective implications of misclassification. Future studies are needed to determine clinical significance of differentiating ideation based on multi-item assessment.

Our findings are consistent with previous research highlighting the limitations of single-item assessment for the accurate classification of STBs in adults,^{16,28} and more broadly with research demonstrating discrepancies between assessment methods of STBs.^{5,29,30} Moreover, results from the present study suggest that misclassification and undetected risk resulting from single-item assessment extends to adolescent populations as well. The present study underscores the importance of implementing accurate and scalable assessments of SI in adolescents.

Table 3. Multinomial logistic regression analyses (Reference category = *Neg/None*)

	Pos/Active		Pos/Passive		Neg/Passive	
	OR	CI	OR	CI	OR	CI
SIQ	1.34***	1.21–1.49	1.25***	1.12–1.39	1.19***	1.08–1.32
QIDS	1.16	0.94–1.43	1.06	0.85–1.33	1.12	0.93–1.35
HSC	1.01	0.76–1.35	1.13	0.84–1.53	1.02	0.79–1.32
SCARED	1.01	0.95–1.07	1.04	0.97–1.11	1.05	0.99–1.10
Age	1.95**	1.29–2.97	1.20	0.82–1.75	1.09	0.82–1.47
Sexual Orientation	0.30	0.08–1.14	0.49	0.12–2.05	1.13	0.34–3.74

Note. SIQ = Suicide Ideation Questionnaire. QIDS = Quick Inventory of Depressive Symptomatology. HSC = Hopelessness Scale for Children. SCARED = Screen for Child Anxiety Related Emotional Disorders. *p<.05, **p<.01, ***p<.001

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Assessing the Quality of Patient Responses to a Psychosocial Intervention Implemented on an Adolescent Psychiatric Inpatient Unit: Devising the Safety Plan Quality Metric

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ABSTRACT

The Safety Planning Intervention (SPI) helps patients use coping strategies when in a suicidal crisis. This project aimed to characterize SPI quality and determine if it is associated with reduced risk of readmission to psychiatric hospitals. The sample included 145 participants hospitalized on an adolescent psychiatric unit from May to December 2018 who met suicidal criteria per items 18 and 91 on the Youth Self Report. The Safety Plan Quality Metric was created to rate SPI quality. A significant association between higher-quality SPI and fewer instances of readmission was identified ($X^2(1, N = 94) = 4.32, p = .038$). A logistic regression conducted to determine the impact of other patient factors on readmission did not yield a statistically significant model, ($X^2(5, N = 94) = 8.43, p = 0.13$). The results suggest that patients with higher quality SPIs were less likely to be rehospitalized.

KEYWORDS: Safety Planning Intervention, suicide prevention, adolescent, inpatient psychiatric hospitalizations

INTRODUCTION

The rate of suicide among adolescents has markedly increased in the last decade.¹ While there are inpatient treatments for suicidality, patients admitted for mental health conditions are frequently readmitted, with readmission rates as high as 8% within the first month post-discharge.² Moreover, the lengths of hospitalizations are shorter – making the imperative for effective yet brief interventions more urgent.³ Such interventions do now exist – including the SPI which was first conceived of with adolescent populations in the context of Cognitive Behavioral Therapy. The SPI allows patients to identify their coping strategies, sources of support, and methods of means restriction in a time of suicidal crisis.⁴ Subsequently, the SPI was adopted as a brief Emergency Department intervention with veteran populations and has since been officially termed the SPI.⁵

Since its inception, the SPI has been adopted by hundreds of healthcare organizations and has been deemed comparable to other standardized brief health interventions such as counseling on smoking cessation.⁶ Although the pervasive

adoption of the SPI is encouraging, few studies assess the quality of the SPI the patient completes. One study conducted in the Veterans Health Administration (VHA) with adults noted that there was significant variability in the quality of the SPI amongst a cohort of veterans.⁷ Therefore, there is a need for an assessment of this variation in the quality of the SPI on patient outcomes. The goals of this study were two-fold – to devise a standardized quality metric that objectively rates the quality of the SPI completed by the patient, and to use this metric to determine the impact of the SPI quality on the clinical outcome of readmission to the psychiatric hospital within 6 months from discharge from the hospital stay during which the SPI was completed. We hypothesized that higher quality SPI was associated with fewer readmissions to the psychiatric hospital.

METHODS

This study was conducted using data from the adolescent inpatient unit of a pediatric psychiatric hospital in the Northeast as part of a broader study that was approved by the hospital IRB. The patients from the dataset were hospitalized at Bradley Hospital from May to December 2018. A total of 145 patients met suicidal criteria per item 18 and 91 on the Youth Self Report.⁸

Participants

Within this larger dataset, patient demographics and variables such as sex assigned at birth, age at hospitalization, and total score on the Suicidal Ideation Questionnaire (SIQ)⁹ upon admission were included. A chart review was conducted to identify the race and ethnicity of each of the patients. These patient demographics and SIQ scores were included to control for patient factors that could impact readmission to the hospital other than the quality of the SPI given that the severity of suicidal thoughts and patient demographics may influence readmission.¹⁰⁻¹² The majority of participants were assigned female at birth (72.22%) with a mean age of 14.67 (standard deviation [SD] = 1.76). Of note, 70.14% of the participants were listed as “White or Caucasian,” 6.94% as “Black or African American,” 1.39% as “Asian,” and the remainder as either “Other,” “Other, White or Caucasian,” “Unknown,” or “Patient refused,” in the EHR. In terms of ethnicity, 19.44% were listed as “Hispanic or Latino,” in the

EHR. For subsequent analyses, the patient's race and ethnicity was dichotomized into a minoritized variable whereby 1 signified either that patient's race was anything but "White or Caucasian," or that their ethnicity was listed as "Hispanic or Latino", and 0 signified both that the patient's race was listed as "White or Caucasian," and that their ethnicity was listed as "Not Hispanic or Latino," in the chart. In terms of severity of suicidal ideation, 63.19% of participants had a score of 41 or higher on the SIQ, a commonly utilized clinical cutoff for severity of suicidal ideation.¹³

Safety Planning Intervention

The SPI completed during hospitalizations from May 2018 to December 2018 was retrieved from each patient's EHR (see [Appendix A](#) for a blank safety plan). At the point of this study, the SPI was completed by the patient in collaboration with the milieu staff or nurse. The psychiatrist or psychologist would review the SPI and help the patient to finalize it. All medical staff (psychiatrists and psychologists), milieu staff and nurses who assist with SPI are specifically trained in SPI before implementing. The training has been integrated into on-line training modules and into on-the-unit training with observation and feedback by senior staff. Which medical provider/staff member helped a patient fill out an SPI was not indicated in the chart. If an SPI was located for a patient, it was printed, and any Protected Health Information (PHI) was redacted. If an SPI could not be found for a patient's hospitalization in the EHR, this was assumed to imply that the patient did not fill out an SPI during that hospital stay and it was noted that there was no SPI completed for that patient.

Safety Plan Quality Metric

Subsequently, a metric (Safety Plan Quality Metric, see [Appendix B](#)) was created to measure the quality of the SPI for each patient. The metric was based on the Safety Plan Intervention Rating Scale and the Cognitive Therapy Rating Scale.^{14,15} The metric was revised a total of four times before it was used to code the SPI. In order to test each revision of the metric, a total of nine safety plans that were not included in the dataset of 145 participants were used as "pilot" safety plans to test the metric. These nine safety plans were from the larger dataset the 145-patient sample originally came from but were outside the date range. In summary, the Safety Plan Quality Metric functioned to rate the quality of each SPI based on completeness, specificity, and relevance. Additionally, a coding manual (see [Appendix C](#)) was iteratively revised twice based on feedback from a panel of psychology residents in training on the unit.

In the final version of the Safety Plan Quality Metric, each section of the SPI could receive a score of either 0,1,2,3 or 4. The SPIs that were coded had a total of 6 sections but only Sections 1,2,3,4 and 5 were coded. Section 6 (reason to live section) was not coded because this section invites more

"free-form" responses, and we chose not to examine these as part of this initial project. Therefore, each SPI could receive a maximum total score of 20 (since each of the 5 sections were coded and each section could receive a maximum score of 4). For each SPI, the coders both gave each section of the SPI a score as well as a total score which reflected the sum of scores across the five sections of the SPI.

Scoring of SPI Quality

Once the Safety Plan Quality Metric was finalized, two coders scored each section of each SPI according to the Safety Plan Quality Metric, using the Coding Manual as a guide. After scoring was complete, the Individual Interclass Correlation Coefficient (ICC) was calculated for a two-way random-effects model using the statistical software STATA version 15.1 (StataCorp, College Station, Texas). Following the ICC calculation, the mean score for each section of each SPI across both coders was calculated creating a composite score reflective of the score given by both coders. Consequently, the mean composite score across all sections was calculated for each SPI. This mean composite score across sections was used in the subsequent data analyses.

Prior to conducting statistical analyses, the mean composite score across sections for each SPI was dichotomized into a high-quality (score of 1) or low-quality (score of 0) variable on STATA. For each SPI, a score of 3 or higher was categorized as high-quality and a score of 2 or below was categorized as low-quality. This cut-off was informed by clinical reasoning. Given that a score of 4 on the Safety Plan Quality Metric was defined as the "gold standard," while a score of 3 signified that the content of that filled out section both met the rationale and had at least 2 specific items, it seemed appropriate to designate scores of 3 or higher as high-quality.

In order to assess the effect of higher quality SPI on patient outcome, we examined re-hospitalization as a measure of patient outcome. During the initial chart review, for each participant, this writer identified any re-hospitalization to the inpatient psychiatric hospital within six months of the date the patient was discharged.

RESULTS

We first calculated the ICC amongst the two coders who scored each SPI. The ICC was 0.83, which indicates good reliability between the two coders.¹⁶ Of the 145 patients that met suicidal criteria on the Youth Self Report, the data from two patients could not be used. One, because the medical record number for the patient was incorrectly listed in the database, and the other, because the SPI was illegible. A total of 65.97% (N=95) of the patients had completed an SPI. The next step in our analysis was to determine how many of the completed and legible SPI could be classified as a high- or low-quality SPI according to the quality variable explained previously. 57.45% (N=54) of SPIs were classified

TABLE 1. Summary of Logistic Regression Model Predicting Readmission to Bradley Hospital Within 6 Months of Discharge

Predictor	OR	P> z	95% CI		Prob > χ^2
					0.1343
Minoritized status	1.064011	0.906	.3792161	2.98541	
Sex assigned at birth	0.8921205	0.424	.6742401	1.180409	
Age	0.683082	0.476	.239351	1.949442	
Total SIQ score	0.9847021	0.114	.9660465	1.003718	
Quality	0.3886062	0.049*	.1514929	.9968436	

as high-quality SPIs. Ultimately, we investigated the relationship between higher quality SPIs and re-hospitalization. Indeed, a chi-square analysis revealed a significant association between high-quality SPI and readmission $X^2(1)=4.32, p = .038$). Of adolescents who had high-quality SPIs (rated for completeness, specificity, and relevance), 20.37% (N=11) were readmitted compared to 40.00% (N=16) of patients with SPIs of low quality. A logistic regression was conducted to determine the impact of age, sex assigned at birth, minoritized status per chart review, and severity of suicidal ideation (using total score on SIQ as a marker) in addition to high-quality SPI on readmission. The results of the logistic regression model were such that the model was not statistically significant, $X^2(5, N = 94) = 8.43, p = 0.13$ (see **Table 1**).

DISCUSSION

Previous literature has emphasized the importance of the SPI, resulting in the adoption of SPI as a gold standard for treatment for those presenting with suicidal ideation. Importantly, this study reiterates the feasibility of the SPI as a brief psychiatric inpatient intervention for the treatment of suicidality in adolescent inpatients. However, literature relating to the way in which the SPI is filled out by the patient, and how to rate the quality of the SPI each patient comes up with, is lacking. This study indicates that although there was variability in the quality of the SPI among patients, over half of the SPIs were of high quality. Additionally, our results suggest that the patients with higher-quality SPIs were less likely to be readmitted to an inpatient psychiatric facility within six months. The effect of high-quality SPIs on readmission rates illustrates the importance of the investment in the SPI. The findings of this study also suggest that there is merit to having a clinical team member vet the quality of the SPI with the patient before discharge, given the relationship of the SPI to the probability of re-admission. Thus, this study serves to encourage psychiatric organizations to continue using the SPI and also to ensure that the SPI is of high quality, for doing so can have a positive impact on the health of patient populations experiencing suicidality.

The lack of statistical significance of the model could be accounted for by myriad factors. Firstly, due to the limited

research available in this area, there is a lack of effect size estimates in the existing literature. Therefore, we were unable to conduct a proper power analysis to identify if there was adequate statistical power for a logistic regression model. Secondly, as will be discussed below, if some of the patient variables included represented more nuanced demographics, perhaps the model would have been significant. Given the complexity of factors influencing re-hospitalization, it is likely that other factors that are not included in the model are more robust predictors, such as adverse childhood events.¹⁷

Limitations

This study was limited by its statistical power and the fact that the only measure of patient outcome was re-hospitalization to an inpatient psychiatric facility. Additionally, patients who may have been readmitted to a facility not using the same EHR of the study hospital’s healthcare network are not accounted for. While this is a minority of patients given that the study hospital serves the majority of patients in this age range, the number of patients that were readmitted may be underestimated.

Moreover, given that at the time of data collection the SPI was still hand-written and subsequently had to be uploaded onto the chart, it is certainly possible that some patients did indeed complete an SPI, but it was never uploaded into the chart. Therefore, the number of completed SPIs could be higher than the 65.97% calculated in this study.

Additionally, the fact that there is variability in terms of which medical provider/staff aided the patient in filling out the SPI is not something this study could account for. It is certainly possible that the providers/staff members who help with the completion of SPI could influence SPI quality even though there was a clearly defined protocol for training and implementation of the SPI.

There are notable limitations to how patient demographics were included in this study. The sex assigned at birth does not in any way reflect the complexity and diversity of gender that patients can express. Moreover, given that sexual minority youths are at higher risk of attempting suicide,¹⁸ having access to more nuanced gender and sexual identity variables would have been helpful. Had more nuanced gender and sexual identity variables been included in the logistic regression – a relationship between such variables, SPI quality and likelihood of readmission could have been captured. Race and ethnicity are other patient demographic variables in this study that didn’t accurately reflect the diversity and nuance these variables inherently have. In this study these variables were limited to the way race and ethnicity are recorded in the EHR. In future studies, it would be more appropriate to have patients self-identify their race from a more diverse and nuanced list of categories.

CONCLUSIONS

The preliminary results presented here suggest that high-quality SPI can be protective against readmission to an inpatient psychiatric hospital. However, further assessment of how other patient variables such as race, gender expression, and diagnoses may impact SPI quality is warranted.

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Suicide Risk and Psychotic Experiences: Considerations for Safety Planning with Adolescents

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ABSTRACT

Individuals with psychosis-spectrum conditions have strikingly high rates of suicidal thoughts and behaviors, especially in the early stages of illness. Given increasing rates of suicide among adolescents, and given that psychosis symptoms often emerge during this developmental period, it is important that practitioners working with adolescents are attuned to the intersection of psychotic experiences and suicide risk. Furthermore, youth with emerging signs of psychosis often struggle with other mental health concerns that are linked to suicidal thoughts and behaviors, including depression, anxiety, mania, trauma, and substance use. Taken together, these factors indicate that identifying early signs of psychosis can be critical for addressing suicide risk, and psychosis-spectrum symptoms are important experiences to include in safety planning for youth. Herein we discuss considerations for safety planning for adolescents experiencing psychosis-spectrum symptoms, drawn from clinical observations and pilot data collected from adolescents in a psychiatric inpatient unit and their families.

KEYWORDS: adolescence, psychosis, suicidality, safety planning

INTRODUCTION

Suicide is a major public health concern for youth, as it is the second leading cause of death for those aged 10–24 years.¹ Individuals with psychosis-spectrum conditions have a markedly elevated risk for suicide in the early stage of illness, with even higher risk for those under the age of 18 and in the months before and after first presentation for psychiatric care.^{2,3} The time surrounding an individual's first episode of psychosis, typically occurring in late adolescence or young adulthood, is linked to increased suicidal ideation, attempts, and death by suicide.^{3,4} Suicide risk is also elevated during the clinical high risk (CHR) phase of illness,⁵ when individuals begin to experience lower-intensity psychosis-spectrum experiences that put them at high risk for developing full-threshold psychosis. The CHR phase of psychosis often emerges in adolescence and is characterized by the persistence of distressing and/or impairing positive

symptoms (e.g., hallucinations or delusions) which are attenuated or below the threshold for a psychotic-disorder diagnosis (e.g., experiences are less intense, more fleeting, and lacking full conviction).⁶ Examples of attenuated experiences include hearing indistinct whispers or intermittent voices that are recognized as not being real, or recurrent thoughts of being targeted by others, accompanied by doubt as to whether this is truly occurring. Approximately two-thirds of individuals at CHR endorse suicidal ideation, and an estimated 18% of people at CHR attempt suicide.⁵ Given that suicide risk may be particularly high for those with untreated psychosis-spectrum symptoms, under the age of 18, and within the first year of psychosis onset,^{4,5,7} health professionals working with adolescents need to be attuned to psychosis-spectrum symptoms and the intersection of psychosis and suicidal thoughts and behaviors (STBs).

PSYCHOSIS-SPECTRUM CONDITIONS

Although psychotic disorders are relatively rare, with less than 1% estimated prevalence of psychotic diagnoses among adults, psychotic experiences are far more common, especially among adolescents. Research indicates that 10–25% of adolescents report some level of psychosis-spectrum experiences; however, the clinical significance of these experiences varies greatly across individuals.⁸ Notably, among adults with psychotic disorders, 20% report symptom onset prior to the age of 18, and distressing symptoms, compared to benign experiences, are linked to higher risk for future psychosis and comorbid concerns, including suicidality. Taken together, these findings indicate that psychosis-spectrum experiences are relatively common and individuals' reactions to these experiences may influence their clinical relevance and associated risk.

Individuals with full-threshold psychosis are often identified by providers due to observable disorganized and/or alarming thoughts, behavior, and communication. For those at CHR, however, attenuated psychosis symptoms may not be readily disclosed and/or perceived by providers due to lower-level symptom presentation (e.g., less severe, distressing, and impairing symptoms) that may be masked because of stigma, embarrassment, confusion, lack of insight, or relational factors that impede disclosure (e.g., lack of trust, rapport, or supportive environment to open up about

experiences). Thus, providers may not be aware of important psychosis-spectrum symptoms associated with suicide risk without screening for them specifically and probing the impact of these experiences on STBs and other risk factors for STBs (e.g., stress, hopelessness, etc.). Notably, adolescents at CHR commonly experience comorbid mental health concerns including depression, anxiety, PTSD, mania, and substance abuse.^{9,10} These comorbid difficulties often motivate help-seeking behavior and may predominate over attenuated psychosis, and they are also associated with increased suicide risk. While co-occurring mental health concerns such as depression may account for some STBs for youth with psychosis-spectrum conditions, research indicates that positive symptoms of psychosis such as hallucinations and delusions may be uniquely associated with STBs (beyond the effects of other mental health diagnoses and symptoms).¹¹⁻¹⁵

PSYCHOSIS-SPECTRUM EXPERIENCES AND SUICIDALITY

Although more research is needed to better understand the co-occurrence of psychosis and STBs, it is evident that identifying early signs of psychosis can be critical for reducing suicide risk for some youth, and psychosis-spectrum symptoms can be important factors to include in safety planning for these individuals. Pilot data collected by the authors from hospitalized adolescents in a psychiatric inpatient setting suggest that for some youth with psychosis-spectrum symptoms, unsafe behaviors labelled as “suicidal” are a function of positive symptoms (e.g., hallucinations or delusions), and subsequent life-threatening behaviors may lack intent or desire to die.¹⁶ For example, unsafe behaviors may stem from experiences such as command hallucinations (e.g., voices encouraging suicide), delusions of grandeur (e.g., believing oneself is invincible), impaired reality testing (e.g., believing that the world, oneself, or threats are not real), or other psychotic processes (e.g., injuring oneself to stop or silence voices or thoughts perceived to be externally controlled). These experiences are distinct from symptoms that typically drive suicidal intent (e.g., hopelessness, a desire to escape), and strategies to mitigate risks related to intent to die may not be helpful for these types of psychosis-driven experiences. As such, these contributing factors have important treatment implications and require unique consideration in the context of safety planning.

SAFETY-PLANNING CONSIDERATIONS

The goal of safety planning is to mitigate future risk by helping youth identify vulnerabilities, triggers, and warning signs, and find solutions for future occurrences of suicidal ideation by planning coping skills, help-seeking strategies, and ways to keep one’s environment safe (e.g., by limited access to lethal means).¹⁷ Although safety planning has been

shown to reduce occurrences of suicidal behaviors, some evidence suggests that safety planning may not be as effective for individuals with severe mental illness.¹⁸ This may be particularly true for certain psychiatric conditions, such as psychotic disorders, that impede insight and distort perceptions of reality, necessary faculties for effective problem solving. Furthermore, elements of traditional safety planning that focus on hopelessness and intent to die may not be as applicable to unsafe behaviors linked to hallucinations, delusions, and distorted reality. For these reasons, safety planning for youth with psychosis-spectrum conditions warrants special considerations aimed at improving the applicability and helpfulness for these adolescents and their caregivers. Outlined below are several steps that providers can take to help reduce safety-related risk for this population.

1. Screen for psychosis-spectrum experiences in mental-health settings serving adolescents

There are several validated screening tools that can be used across settings to screen for potential psychosis-spectrum experiences in youth.¹⁹ Screening tools that are designed to measure attenuated psychosis are helpful tools to capture the full spectrum of experiences, rather than focusing on full-threshold psychotic experiences. These measures include broader, tentative, and perhaps gentler language (e.g., “Do you ever think that you may hear voices or other sounds that others don’t seem to hear?”). This approach allows for endorsement of lower-level experiences, as compared to probing overt psychotic experiences that may be met with trepidation or symptom denial due to perceived connotation of saying “yes” to the experience (e.g., “Do you hear voices that are not really there?”). Some validated, open-source options for screening include the PRIME Screen-Revised,²⁰ the Prodromal Questionnaire-Brief (PQ-B),²¹ and the Youth Psychosis At-Risk Questionnaire (YPARQ).²²

2. Explore the clinical characteristics of potential psychosis-spectrum experiences

Follow up on screening questions to explore why adolescents have endorsed specific items. If adolescents are not asked explicitly about symptoms, they may be less likely to spontaneously disclose or open up about their experiences. Ask follow-up questions in an open and non-judgmental manner, remaining calm and supportive throughout the conversation. Empathize with the individual’s emotional experiences in reaction to symptoms, and refrain from challenging the veracity of experiences such as hallucinations or delusions, as this may impede rapport and/or rupture trust. As you seek to understand the adolescent’s experience, it may be helpful to probe specific characteristics that influence the intensity or severity of symptoms: duration (how long the experience lasts), frequency (how often it happens), conviction (how real it feels versus self-generated doubt), distress (how it makes them feel), impairment (how it interferes with functioning),

meaning (how does the adolescent understand the experience and what it means), reactions (how the adolescent behaves in response to symptoms), and patterns (co-occurrence with other mental health or behavioral experiences; are symptoms linked to specific triggers or contexts).²³ Having a full understanding of the adolescent's experiences will help you to probe how psychosis-spectrum symptoms may intersect with STBs. Keep in mind that for some individuals, psychosis-spectrum experiences may not be considered clinically significant (i.e., they do not cause significant distress or impairment), and they may not need to be included in a safety plan, underscoring the need for conversation around the impact of these experiences.

3. Discuss safety in relation to psychosis-spectrum experiences

Once you have a better understanding of an individual's psychosis-spectrum experiences, ask about how these experiences might impact safety, mood, anxiety, stress, substance use, and other mental-health experiences that may influence STBs. Psychosis symptoms may directly impact safety and/or indirectly influence STBs via other factors (e.g., depression or hopelessness).²⁴ Alternatively, psychosis-spectrum experiences and STBs may not be related for some individuals. Attend to how psychosis-spectrum experiences may exacerbate stress and coincide with other risk factors that are relevant for the individual. Try to avoid making assumptions about the nature and impact of symptoms by using Socratic questioning (e.g., clear, neutral, and focused questions asked with genuine curiosity) and open-ended prompts to explore how the individual understands their experiences (e.g., "What do you mean when you say X?" "How does that make you feel?"). Another important thing to keep in mind is that among individuals with early psychosis, higher levels of insight and beliefs about negative outcomes for psychosis have been uniquely linked to suicidality, beyond the effects of depression.²⁵ Insight and negative beliefs may also directly impact depression.^{3,26} These findings indicate that a person's understanding of their illness and their beliefs about what psychosis might mean for their future may play an important role in their experience of STBs. Although more research is needed to better understand how to address psychosis-related stigma in youth,²⁷ normalizing adolescents' experiences, instilling hope, and taking a recovery-based approach to care may help individuals to be more future-oriented in their goals and perspectives.²⁸

4. Tailor the safety plan components specifically to psychosis-spectrum experiences

As you start to create a safety plan, include as many psychosis-spectrum experiences related to safety as possible. It may even be helpful to generate a separate safety plan for psychosis-specific experiences, in addition to one created for general mood-related suicidality. Discuss ways to reduce

exposure to triggers for hallucinations or delusions, identifying early warning signs of these experiences, listing unique coping or grounding skills effective for psychotic experiences, and naming trusted people to go to for distraction or adults to go to for help when specific experiences occur. It is particularly important to discuss ways to cope with each psychosis experience, and it could be helpful to provide a battery of coping options, including a variety of ideas for what someone can do on their own and what others may be able to do to offer support or direction when they notice signs of distress. For example, some coping skills for hearing voices might include listening to music, wearing an earplug in one ear, practicing vocal activities (singing, humming, reading or counting aloud, talking, or whispering), or using general grounding skills to orient oneself to the present reality. Remember that finding the right coping skills may be a process of trial and error, and more options will increase the likelihood of finding something that works.

5. Include caregivers in the process of safety planning

It is important to include caregivers in safety planning as much as possible, as they may be able to offer unique insight into the adolescent's behavior patterns, especially in situations where the individual may have limited insight. Caregivers may also benefit from hearing about and understanding their adolescents' experiences, as this insight may help them support the individual in different ways. Caregivers may need support in coping with their adolescent's mental-health struggles, and they will likely benefit from efforts to enhance their own self-efficacy in coping with a crisis. It may be helpful to ask the caregiver to create a safety plan for the adolescent from their perspective, outlining their observations of triggers and warning signs, ways that they can support coping, ways that they can avoid contributing to distress and minimize triggers, considerations for keeping the environment safe (e.g., locking up sharps and medications), and options for help to utilize in times of crisis. The method of safety planning alone with the adolescent, alone with the parent, and then together in a joint session has been shown to be helpful and well received by families coping with adolescent suicidality.²⁹ It may also be helpful to tailor safety plans to various contexts such as school or multiple households to help support the adolescent across settings. It might take some additional time to discuss the adolescent's willingness to share their plan with supportive adults and find solutions for barriers that may get in the way of discussing or using their plan in different contexts.

6. Incorporate a crisis plan

Include in the safety plan signs of mental-health deterioration and stress that may indicate a need for hospitalization (for psychosis or safety concerns). This might include increasing signs of disorganization, such as difficulty communicating one's thoughts, expressing bizarre ideas or not

making sense, believing ideas that may influence unsafe behaviors, having difficulty participating in daily routines such as hygiene or work/school responsibilities, or demonstrating odd behaviors or changes in appearance that may indicate disconnection from reality. Other signs of crisis might include an individual skipping or refusing medication, social withdrawal or isolation, impulsive or risky behaviors, and expressing a desire or plan to end one's life or leave the world. Collaborative crisis planning should include a discussion of the adolescent's preferences for care in crisis situations, and a clear plan for seeking appropriate treatment in the event of crisis (who to include in the conversation and where to go for help). Crisis planning has been shown to reduce involuntary admissions among adults with psychosis,³⁰ and this type of planning may reduce the likelihood of the adolescent experiencing traumatic psychiatric admissions.

7. Discuss strategies to maintain a healthy lifestyle and manage stress

While some individuals may report a direct influence of psychotic experience on STBs (e.g., command hallucination encouraging suicide), other individuals with psychosis-spectrum experiences report that STBs seem to be driven primarily by other mental health concerns such as depression and anxiety. For these youth, psychosis-spectrum symptoms may indirectly influence STBs by exacerbating stress, mood, anxiety, and other risk factors. In either case, it is important to discuss the impact of lifestyle choices and stress on mood, psychosis, STBs, and other risk factors relevant for the individual. Early psychosis is linked to high rates of substance misuse,³¹ and misuse of substances, particularly marijuana, is linked to higher suicide risk among those experiencing their first episode of psychosis.² Youth with psychosis symptoms may be especially vulnerable to negative effects from marijuana use,³² including exacerbation of mental health distress, so it is important to discuss this openly and brainstorm alternatives to using.

8. Consider and frame safety planning as an ongoing, iterative process

Lastly, take your time with safety planning. It may take several sessions to complete a comprehensive draft and ensure that the individual and caregiver(s) understand all of the components and are willing and able to use it effectively. As families try to implement their safety plans, they may face barriers to address via problem solving and role playing.¹⁹ Consider the safety plan a living document that may need to evolve over time and with experience. It is helpful to complete a safety plan in a format that is editable (e.g., via an app, word doc, cloud or Google drive, etc.) and accessible across settings (e.g., on an app or saved as a picture on one's phone or other devices). Families should be encouraged to add to and edit their safety plan as needed, or create a new

one altogether, especially as strategies are determined to be helpful (or not). Remember that an individual's safety-planning needs may change over the course of treatment, and it is helpful to check in periodically to ensure that the safety plan stays relevant.

CONCLUSION

Assessing suicide risk and safety planning are important components of treatment for many adolescents experiencing mental health difficulties. Given the high risk for suicide associated with psychosis, practitioners working with adolescents may benefit from implementing procedures to screen for psychosis-spectrum symptoms and assess how these experiences may influence STBs. Helpful safety planning considerations for youth at CHR or with early psychosis might include reducing exposure to triggers for hallucinations or delusions, identifying early warning signs of these experiences, listing unique coping or grounding skills effective for psychotic experiences, and incorporating parent input to provide insight that may be unrecognized by the teen. A careful process of safety planning may be a critical preventative measure for the unique population of adolescents experiencing psychosis-spectrum symptoms who are at markedly high risk for suicide.

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Raising Children in Different Cultures: Working with Latinx Youth with Suicidal Behaviors and Their Families

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ABSTRACT

In the United States suicide is the third leading cause of death among Hispanic youth ages 10 to 14 and the second leading cause for those ages 15 to 24. Given that Rhode Island's Latinx/Hispanic (L/H) population is growing, and L/H youth are more likely to attempt suicide compared to their White peers, culturally relevant interventions are needed. The objective of this case presentation is to illustrate the application of a cultural approach when working with L/H families using the Socio-Cognitive Behavioral Therapy for Suicidal Behaviors (SCBT-SB).

KEYWORDS: Latinx/Hispanic families, suicidal behaviors, cultural approach, evidence-based intervention

INTRODUCTION

In Rhode Island (RI), the Latinx/Hispanic (L/H) population constitutes 16% of the total population, and has increased by approximately 39% in the last 10 years.^{1,2} In the United States (US), suicide is the third leading cause of death among L/H youth between the ages of 10 and 14 and the second for L/H youth ages 15 to 24.³ According to the 2017 and 2019 Youth Risk Behavioral Surveys in RI, L/H youth are more likely to attempt suicide in comparison with their White peers.^{4,5}

The aim of this case report is to illustrate the application of a cultural approach when working with L/H families using the Socio-Cognitive Behavioral Therapy for Suicidal Behaviors (SCBT-SB), particularly regarding the strategies used with adolescent's caregivers. Integrating L/H caregivers into the treatment of adolescents with suicidal thoughts and/or behaviors (STB) is crucial for various reasons including assessing protective and risk factors at home, having caregivers as allies monitoring teen's symptoms, and putting in place a realistic safety plan with the family.⁶ Additionally, families have their own struggles and having a child with STB increases their stress and can lead to feeling worried, anxious, or overwhelmed.⁷

L/H immigrant families face multiple challenges, including the acculturation process/stress, which includes adjusting to and adopting a new culture and language.^{8,9} At the same time, families sometimes face the difficult task of

keeping their own traditions and values (enculturation process). In this context, many immigrant caregivers stay close to their culture, while their children get more acculturated to the American culture. In many instances, adolescents become bicultural (identifying and valuing both cultures), which allows them to navigate both cultures fluently.⁹

TREATMENT APPROACH

The SCBT-SB is a treatment protocol that was developed in Puerto Rico with Puerto Rican youth.¹⁰ Subsequently, it was expanded to L/H youth and their families living in the US through a pilot randomized clinical trial (RCT).^{11,12} An RCT is currently in place testing the efficacy and effectiveness of the SCBT-SB (1R01MD013907, PI: Duarte-Velez). The SCBT-SB takes into consideration cultural, contextual, and social circumstances that influence STB in L/H adolescents. The SCBT-SB Core Module focuses on stabilization and providing basic skills to manage STB and includes individual, family, and caregiver sessions throughout nine visits. After finishing the Core Module, a participant can choose based on their needs which other modules they would like to complete next.¹⁰ Each participant can select from nine different modules: Thoughts, Emotional regulation, Family communication, Activities, Social interaction, Trauma, Identity affirmation, and Substance use. Workbook manuals are supplied to teens and caregivers in their preferred language, English or Spanish, as part of the SCBT-SB. Treatment is provided through intense home-based services, which includes three to five hours of direct contact per week.

This article presents the case of one L/H youth with STB who participated in the RCT. The objective is to illustrate the process of addressing cultural considerations in SCBT-SB when working with L/H caregivers. Specifically, four of the core sessions conducted with the caregivers will be discussed: *Understanding the suicidal crisis*, *Raising children in different cultures*, *Parenting skills*, and *Family Communication*.

The first core session, *Understanding the suicidal crisis*, is a family intervention focused on getting to know the family, identifying possible barriers to treatment, learning the family story regarding the suicidal crisis, identifying social and contextual risk factors that need to be addressed, identifying family strengths and resources, and providing psychoeducation regarding the SCBT-SB conceptual approach to the

suicidal crisis and the teen’s mental health. The clinician also reviews safety measures, prevention agreements, and develops a family emergency plan.

The session *Raising children in different cultures* was developed to foster empathy and rapport with L/H caregivers while trying to understand their personal stories. This session has the following objectives: assess the caregivers’ values and expectations regarding child rearing during the adolescent phase; for immigrant caregivers, explore and discuss cultural differences between their country of origin and the US, including the caregiver’s experiences growing up in a different country or with a different language; for non-immigrant families, explore and discuss the differences between the time in which they grew up and the present.

The *Parenting skills* session is aimed at exploring the caregiver’s parenting styles and discussing effective parenting strategies. During the parenting skills session, the protocol’s cultural and societal premises are discussed, as well as differences in parenting strategies by country (US vs. Country of Origin) or time period. The *Communication* session targets exploring communication patterns in the family and teaching basic communication skills with the purpose of increasing positive interactions between family members.

CASE PRESENTATION

Ana (pseudonym) is a 16-year-old cis-gender woman, from a second-generation family (caregivers were born in a Latin American country and Ana in the US). Ana lived with both biological parents (Spanish-speaking only). Ana was fluent in both languages, but reported her preferred language as English. Her self-report questionnaires indicated a moderate to high identification with both cultures. For example, Ana highly identified with and valued the L/H culture and customs and felt proud of being Latina. She also reported that American values are part of her life and that she enjoys the language. Her mother reported higher connection with the L/H culture; however, she reported that she values the American culture as well and that it is very important for her to raise her children with both American and L/H culture and values. These reports highlight some differences in acculturation between Ana and her parents, particularly in their preferred languages. In addition, differences between Ana and her mother were found in the religious faith questionnaire. The mother had a high score while the teen had the lowest score on this scale. Self-report questionnaires (See **Table 2**) showed that Ana’s mother at baseline had a more positive view of their communication compared to Ana. Similarly, in their self-report for the general family functioning, the mother reported a more positive view than Ana.

Ana had a history of one previous psychiatric hospitalization, STB, anxiety, depression, and post-traumatic stress disorder (PTSD) related to exposures to multiple traumatic events. Ana presented to the emergency department (ED)

Table 1. Outcome variables teen report

Variables	Baseline	3 months	6 months
Suicide Attempts ¹³	2	0	0
Suicide Ideation Questionnaire-JR ^{14, 15}	52	17	19
Children Depression Inventory CDI-2 ¹⁶	27	19	19

Note: SIQ-JR cut off point = severe suicidal ideation ≥ 31; CDI cut off point = severe depressive symptoms ≥ 19

Table 2. Family variables: teen and caregiver report

Variables	Teen		Mother	
	Baseline	6M	Baseline	6M
Open Communication Scale (OCS) ¹⁷	21	32	41	46
General Family Functioning (GFF) ¹⁸	79	71	57	34
Family Critic (FC) ¹⁹	18	14	--	--

Note: OCS teen= (x̄=29.80, SD= 10.08); OCS caregiver = (x̄=36.38, SD=9.15); GFF = is a subscale of the Family Assessment Device and higher scores implies worst functioning; GFF teen= (x̄=65.83, SD=10.50); GFF caregiver= (x̄=59.76, SD=11.89); FC = (x̄=20.21, SD=4.5)

after a suicide attempt (SA) via overdose. The lethality of the SA required medical intervention, stabilization, and psychiatric inpatient hospitalization for two weeks. Ana presented with suicidal ideation and depressive symptoms in the severe range (See **Table 1**). Ana and her parents consented to participate in the study for their aftercare. Ana’s clinical presentation was assessed at baseline, 3- and 6-month follow-up.

The parents demonstrated engagement in treatment, developed a positive rapport with the clinician, and showed willingness to learn how to support their teen throughout the therapy. Ana’s parents participated in a total of 11 sessions after the intake, which included 7 caregiver sessions and 4 family sessions that included Ana and sometimes her siblings. Ana completed the Core and Thought Modules. Therapy was provided by a bilingual master’s level mental health counselor trained in the SCBT-SB and supervised by the second author. Sessions with the parents were performed in Spanish. Joint sessions including the teen and siblings were conducted utilizing both languages; while the parents communicated in Spanish, the teen did so in English. Sometimes the teen was able to speak directly to her parents in Spanish, while other times she needed the clinician to translate for her.

CONTEXTUAL FACTORS

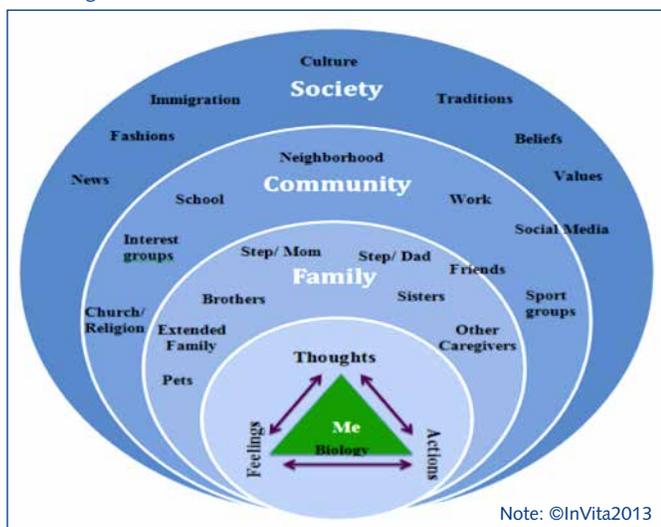
The patient experienced different stressful situations that included multiples exposures to community violence. Trauma symptoms contributed to maintaining the patient’s avoidance of certain places, including school, and further complicated her depression. Consequently, Ana was struggling with academic performance and school attendance.

Directly working with the school was an additional part of the clinician’s work. Another stressor that impacted Ana was that her religious beliefs were different from those of her parents. For example, Ana’s parents used Biblical verses seemingly with the intention of encouraging her to do better and provide emotional support. However, this was seen by Ana as her parents trying to force their beliefs on her, which at times made her feel worse.

Family Session: Understanding the suicidal crisis

All family members (Ana, both parents, and siblings) participated in the first therapy session. This session provided an opportunity to explore how each family member experienced the patient’s crisis, to promote a safe space for communication, and to generate a family safety plan. Therapy was discussed as a collaborative process in which everyone has a role and works together to support the teen. The psychoeducation around the SA as a crisis helped Ana’s parents be more understanding. The SCBT-SB conceptual model (see Figure 1) was introduced by explaining the positive and negative factors in each level (individual, contextual, societal/cultural level) that may have had an impact on the teen, as well as on the family as a whole. For example, the stress around immigration, societal expectations and norms, violent events at school, and relationship issues, among others, were discussed.

Figure 1. Understanding the suicidal crisis: Socio-cognitive behavioral model



Caregiver Session: Raising children in different cultures

Motivations and barriers to engaging in treatment were initially explored with each caregiver with the purpose of addressing any resistances. Both parents were motivated, no significant barriers were identified, and they both actively participated in the session. They provided examples about themselves growing up in another country and commented

on the differences in comparison to the US. The clinician built trust and rapport with Ana’s caregivers by paying attention to their life experiences and showing appreciation for their culture. The exercise “walking in my teen’s shoes” allowed Ana’s parents to empathize with their teen’s reality of being an adolescent in two different cultures and have a conversation with the clinician about realistic expectations for her. One of the differences they mentioned was the freedom and access to connect with neighbors and others, for example, “in our country, kids go outside and play and here that does not happen that often”. Additionally, they recognized aspects of their culture they wanted to continue promoting in their family and started to contemplate areas that needed to change. Ana’s parents decided that they wanted to ask more questions to allow her emotional expression, have more open conversations, and listen more.

Caregiver session: Parenting skills

During this session both parents participated and multiple topics were discussed, including parenting styles, examples of parenting skills, and popular ideas regarding gender roles. Both parents were very receptive and showed a willingness to learn more. They were able to identify that they work as a team and recognize how the way they grew up influences some aspects of their parenting. Both parents acknowledged that they could increase the way they provide warmth and support. This included identifying positive things about their teen to help their child’s wellbeing. The SCBT-SB protocol includes a worksheet in which examples about parenting strategies are discussed. Ana’s mother found this discussion very helpful, and both parents wanted to continue implementing these strategies at home.

Family Session: Communication

All family members (Ana, both parents, and siblings) participated. A perspective-taking exercise was done which helped in two different ways, the first being as an icebreaker activity which allowed everyone to participate in a creative way and alleviated some of the tension inherent in starting treatment. They all laughed and collaborated while completing the activity. Secondly, the exercise provided the opportunity to talk about having different perspectives and the importance of understanding the other person’s point of view. During this session, family members identified their communication styles and practiced some assertive statements to share with each other while maintaining consideration for family values such as *respect* (the L/H value of showing special regard to adults).

Closing session: Exploring gains received from therapy

At the end of treatment, gains/progress made with therapy were assessed with both Ana and her parents. Caregivers reported feeling satisfied with the progress they made. They highlighted some improvements in Ana and as a family.

They mentioned that Ana was more involved in family activities and that she had begun to look happier and more hopeful. Parents reported that she was expressing more of her thoughts and points of view at home. Additionally, they reported how the family sessions had also helped Ana's siblings become more patient and understanding with the family. The mother expressed, *"you educated us and helped the whole family and we all learned"*, expressing that, for example, they learned how to identify the appropriate moment to talk and communicate with each other. Another aspect of the treatment that the mother reported as helpful was having a therapy manual for them, *"Having things written down helped me to review it on my own time and if I forgot something, I could go back and read what was in there"*. During the closing session, therapists encouraged the parents to continue validating Ana, understanding her perspective even though they may have different opinions. The therapist reviewed the safety plan and provided resources to the family, including an outpatient referral to continue working with Ana's depressive symptoms and trauma.

Follow-up assessment

At the follow-up assessment, Ana did not report any SA and showed significant improvement in her suicidal ideation in comparison to her baseline (See **Table 1**). In terms of depressive symptoms, there was some decrease, but at 6 months still fell under the severe range. Regarding family variables at the 6-month follow-up, a noticeable improvement in general family functioning (two standard deviation difference) was observed, according to the mother's report, and a slight improvement was reported from the teen's perspective. Likewise, mother-daughter open communication increased significantly, according to Ana's report, and according to the mother, it remained around the same, which was seen as positive. In the Family Critic Scale, Ana reported a decrease of nearly one standard deviation, which translates to less perceived family criticism at the 6-month follow-up.

DISCUSSION

Ana represented a complicated case due to her comorbidity, multiple traumatic experiences, history of STB, the severity of her depressive symptoms, and her academic difficulties. One of the strengths of this family was their parental involvement and willingness to provide support, which eventually translated into more participation in therapy and increased communication at home. Both the teen and the mother reported improvements in family variables, which may have been related to Ana's substantial reduction in suicidal ideation, and no further suicidal crisis. However, her multiple diagnoses, including her trauma impacting her academic performance, were still affecting her mood (depressive symptoms), requiring further treatment.

Psychoeducation with this family regarding trauma and

depression was fundamental. This permitted the parents to be more understanding of Ana's situation and more engaged in providing support. This case illustrated how family willingness to learn more about how to support their child is important. The use of motivational interviewing at the beginning of the treatment with parents can help the therapist better understand their positionality regarding therapy. Paying attention to psychoeducation and motivation for treatment may help parents become more invested in their teen's treatment. Additionally, the family interventions with a cultural approach helped this family increase mutual understanding and communication at home.

CONCLUSION

Cultural considerations when working with immigrant families are essential for treatment success. This case provides an example of exploring the level of acculturation of both patient and caregivers. One way to explore acculturation in therapy is having a conversation about the differences and similarities they observe between the American and L/H culture and their values. Clinicians can directly explore with caregivers how connected they feel, or not, to the American culture and how this may be different between them and the way they see their teen. Exploring these cultural factors with L/H families can make some caregivers feel seen and heard and be a crucial part of establishing rapport. In addition, this case depicts the use of a specific treatment to address a suicide attempt. The treatment, developed in Puerto Rico and expanded to be used with L/H families in the US, employs a modular approach that allows the clinician to address core components initially and then can be tailored to the needs of the family and the patient. Use of this culturally relevant treatment holds promise for addressing the specific needs of L/H adolescents, a population at high risk for suicidal behavior.

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Recognizing Suicidal Risk in Very Young Children

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ABSTRACT

Suicidal thought and behavior (STB) in preschool and kindergarten-age children is an alarming event. Until recently, these young children's experiences have been under recognized, in part due to an under appreciation for their awareness of the finality of death. Although rare, serious suicide attempts and death by suicide among preschool and kindergarten-age children are well documented. There is limited research on the risk factors that contribute to STB in very young children. We present de-identified case descriptions of very young children seen for psychiatric treatment at a day hospital program who presented with self-injurious behavior and suicidal ideation (SI). The patients described have common risk factors, including exposure to trauma, family conflict and family history of suicidal behavior. It is critical that children presenting with STB be assessed and offered services to mitigate these risks.

KEYWORDS: suicide, suicidal ideation, suicidal attempt, early childhood school-age children

INTRODUCTION

Over the past few decades, there is growing recognition that preadolescent children experience suicidal thoughts, engage in suicidal behavior, and die by suicide at alarming rates. In 2018, suicide was the fifth leading cause of death among children aged 5–12, resulting in 185 deaths.¹ Although the overall rate of suicide in school-age children over a 20-year period from 1993–2012 was stable, the rate increased significantly among Black children.^{2,3} In 1993, the suicide rate was comparable between White and Black children, but by 2012 the suicide rate among Black children was 2.6 times as high as the rate among White children. Moreover, the age-adjusted suicide rate for adolescents and young adults has increased substantially over the past two decades.⁴ School-age children are also presenting more often to emergency departments (ED) with suicidal ideation and suicidal attempts. For example, in a large recent study of inpatient admissions across 14 states, 12% of children under age 12 reported a past suicide attempt.⁵ Moreover, 43% of ED visits for suicidal ideation

and attempts involved children under the age of 12.⁶ There is also emerging recognition that very young children may experience suicidal thoughts and engage in suicidal behavior. One recent study, recruited through pediatric practices, reported that 11% of study participants between ages 3–7 years expressed suicidal ideation to their parents.⁷

Despite the emerging recognition that some school-age children, and even preschool-age children, may experience STB, including attempts, the clinical literature on risk factors for STB in school-age and younger children is limited. Depression, anxiety, disruptive behavior disorders including impulsivity, and exposure to trauma have all been associated with STB in adolescents.⁸ Evidence is emerging that this wide range of psychiatric disorders as well as family conflict and low parental monitoring is also associated with STB in preschool and school-age children.^{9,10} Moreover, early STB predicts psychiatric impairment including risk for psychiatric day hospital readmission¹¹ and school-age SI.⁷

Early identification of children at risk for suicide is a critically important step. For the youngest children, who are unable to report on their level of distress and psychiatric symptoms, clinicians must rely on parental report. However, caregivers may not recognize the distress as reflecting suicidal ideation due to beliefs that young children have limited awareness of the finality and irreversibility of death. And yet, studies have consistently found that children as young as 4-years-old grasp the biological finality of death, and that most children have a mature understanding of death by ages 6–7.^{12,13,14}

METHODS

To illustrate how these young children exhibit suicidal thoughts and behaviors, the current paper provides several de-identified composite case descriptions (with fictional first names) of preschool and young school-aged children who presented to an early childhood psychiatric day hospital with concerns about behavioral and emotional dysregulation, self-injurious behavior, and STB. All children received the standard clinical assessment protocol and the case presentations reflect information gathered as part of the standard clinical protocol.

CASE DESCRIPTIONS

Child #1: Lee-Anne is a 4-year-old girl admitted for psychiatric day hospitalization to address escalating self-injurious and aggressive behavior, depressed mood with irritability, death and negative self-statements including suicidal ideation. Lee-Anne lived with her mother, step-father, and two older siblings. Parents noted that Lee-Anne started to exhibit seizures in early infancy. Her parents separated following several episodes of domestic violence in later infancy. Lee-Anne reportedly exhibited frequent temper loss dating back to just after her second birthday. Parents described her as not only “headstrong,” easily frustrated, and often non-compliant, but also “loving” and “a good girl who worries too much about her family.” Mother reported extended family health issues with several hospitalizations over the past year, which has resulted in significant family stress.

Prior to admission, parents noticed that Lee-Anne scratched herself on multiple occasions and tried to hide them afterward. She also banged her head more frequently during temper-loss episodes, while saying that she wanted to hurt herself. Parents started to routinely check for scratches every day, which Lee-Anne frequently resisted. Lee-Anne also started talking more about death, expressed more worries about her parents’ health, and resisted separations more in the months prior to her day hospitalization.

Upon day hospital admission, Lee-Anne started to say that she wanted to die, both at home and in the program. Lee-Anne protested separations upon morning arrival, appeared more often sad and tearful, and reacted with aggression to staff and family members. In response to supportive interventions by staff, Lee-Anne exhibited irritability, self-injurious behavior, and intensifying aggression which required physical interventions for safety. During these episodes of self-directed aggressions, which involved pinching, scratching, and banging her head forcefully against the wall, Lee-Anne also stated that “I want to die,” “I want to kill myself,” and “God should kill me in an accident.” Her parents expressed the belief that these suicidal statements reflected Lee-Anne’s intention to die. These episodes of behavioral dysregulation and SI appeared to be associated with separation distress, and worries about the health and well-being of immediate family members.

Child #2: Joey, a 5-year, 4-month-old boy, was admitted for psychiatric day hospitalization to address escalating aggression towards family members, self-injurious behavior, anxiety, and constipation with overflow and fecal smearing. Joey lived with his adoptive parents and sibling. He did not see his two older biological siblings who were adopted by another family. He also lost contact with his younger biological sibling who was reunified with the biological parents. Joey’s maltreatment or neglect history prior to foster care was unknown. He was placed in two foster homes prior to placement with his then pre-adoptive parents. Within the

first year of placement, his biological parents’ rights were terminated and his adoption was finalized. Joey’s adoptive parents cited the loss of contact with his younger sister as particularly distressing, and reported that he often mentioned missing his sister.

At day hospital admission, Joey’s parents reported multiple episodes of losing his temper per week, which included throwing himself to the floor with force, face and arm scratching, headbanging on floor, walls, and door edges, throwing objects at family members, and prolonged screaming and crying. These episodes lasted 30–45 minutes and occurred several times per week, up to several times per day. During one temper-loss episode before admission, Joey’s parents reported that he stated that he wanted to be dead, but they were unable to recall additional details about the statement.

At the day hospital program, Joey exhibited several high-intensity temper-loss episodes, with self-directed aggression that included scratching and headbanging with force, and screaming. During episodes of dysregulation, which lasted between 15–20 minutes, Joey received 1:1 care but did not require safety interventions. Joey responded impulsively to comments from staff to help him orient and prepare for upcoming transitions among activities. Following these prompts, Joey often displayed rapid-onset hyperactivity and increased frustration. He also avoided eye contact, screamed, but no self-harming statements were noted.

His mother reported that she tried to manage self-directed aggression at home by offering choices. She noted that when she prompted him to consider a different choice following continued dysregulation, he often stated “but it’s okay to hurt myself.” Mother also noted that Joey occasionally expressed concerns that others might come to some harm, including dying, after prolonged separations. He also wondered if his biological father had died.

As part of his day hospital program evaluation, Joey was administered a brief, structured interview measuring his understanding of key biological concepts of death.¹⁵ Joey’s answers indicated a good grasp of the concepts of finality and irreversibility, emerging understanding of non-functionality, and limited awareness of internal causes of death.

Child #3: Frank is a 6-year, 11-month-old boy who was admitted for day hospitalization for self-injurious behavior and suicidal statements, including “I want to kill myself” and attempted self-choking. Frank lived with his mother and younger sister during the week and visited with his father and stepmother on most weekends and one afternoon every other week. Frank had expressed the wish to die and kill himself on multiple occasions at home and school. He had also displayed oppositional and defiant behavior, and often refused to comply with directives from adult caregivers. Frank attended a regular first-grade classroom, and the school team was in the process of evaluating him for special education eligibility.

Frank's history was noteworthy for prenatal complications, developmental delays in motor coordination and planning, attention deficit hyperactivity disorder (ADHD), anxiety, exposure to significant family conflict, and parental divorce. Frank had a long history of inserting objects in his mouth. Extended family history was significant for suicide. In addition, Frank's mother reported that he had a long history of expressing grief for a family member who died when he was an infant.

Frank expressed numerous suicidal statements during the course of his day hospitalization. Several of these statements were violent, including wanting to cut off his head with a knife and putting a gun in his mouth to reunify with a lost relative. He also disclosed a past attempted suicide that was not witnessed. Specifically, he reported during an interview assessing his understanding of death that "I attempted to cut myself with a knife to sacrifice yourself – if someone else dies and you feel sad." Frank was also able to explain the difference between a general death and "killing oneself." On several occasions he attempted to sit on a window sill while stating, "I will fall off and break my neck." In addition to multiple SI and non-suicidal statements, Frank exhibited prominent aggressive behavior towards staff when distressed or appearing agitated.

Child #4: Sandy is a 5-year, 6-month-old girl admitted for day hospitalization to address increasing aggression, self-injurious behavior, sexualized behavior, impulsivity, negative self-statements, and property damage. Additional concerns included gagging on non-preferred foods, and sleep difficulties, including delays in sleep onset and night waking. Sandy lived with her mother and father. History was noteworthy for exposure to domestic violence and physical abuse. First-degree family history was significant for SI and past suicide attempts (SA).

Upon program admission, Sandy displayed intermittent temper loss with moderate intensity to staff. She also displayed brief headbanging and wall kicking when frustrated with staff prompts and redirections. Sandy expressed the following suicidal ideation at home and in the program: "I wish I wasn't here," and "I want to go to sleep but I don't want to wake up."

Sandy's mother did not believe that Sandy intended to harm or kill herself when she expressed SI and engaged in self-injurious behavior. Mother stated, "She is too young; she doesn't know what she is saying." Mother also reported that "she acts this way for attention." Sandy was administered an interview measuring her understanding of key biological concepts of death¹⁵ as part of her program evaluation. Sandy's answers indicated an emerging understanding of the concepts of finality, irreversibility, and non-functionality, but limited awareness of internal causes of death.

TREATMENT

The focus of treatment for very young children presenting with STB is initially focused on crisis stabilization and helping parents to identify and manage safety concerns. Clinical support following initial stabilization includes facilitating problem identification, communication of distress, promoting the child's experience of feeling understood, and helping the child and parents share activities that increase positive and decrease negative experiences or interactions. For children admitted to psychiatric day hospitalization, intensive parent-child guidance is a core element of the treatment plan. Treatment is optimally provided by a multi-disciplinary team including pediatrics, psychiatry, psychology, occupational therapy, speech therapy, nursing, and behavioral health staff. Upon discharge from the higher level of care, families can expect to continue in outpatient treatment, which may include a home-based component with the support of psychiatry, pediatrics and psychological services, and collaboration with their school teams.

DISCUSSION

These cases illustrate the recently established finding that young children can exhibit suicidal thinking and behavior¹⁶ by introducing children ages 4-, 5-, and 6-years-old who were observed by clinicians and reported by parents to make suicidal and death-related statements and physical aggression towards themselves and others. This is consistent with research that shows that preschool-onset depression occurs in children as young as age 3,¹⁷ with multiple documented cases of preschool children having serious suicide attempts and death by suicide.¹⁸ It is important to keep in mind that depressed children present differently than adults; the more common presentation seen in adults of withdrawal and neuro-vegetative symptoms is much less likely in early developmental levels. Although most young children with SI present with heightened irritability or distress, and impulsive and disruptive behavior, we do recommend routine suicide screening for young child with significant withdrawal, depression and anxiety. Children with internalizing presentations may be more difficult to identify for suicide screening and support because they are quiet and not disrupting others. It is critical that young children exhibiting symptoms of depression receive a full behavioral-health assessment and be offered interventions to prevent negative outcomes in the context of later risk. Researchers are continuing to investigate effective interventions for this population,¹⁹ with the hope that provision of services to this population and their families at an early stage will prevent further development of depression and its sequelae in later years. Very young children's self-injurious behavior and suicidal statements represent real distress and psychiatric impairment, which is deserving of further assessment and referral for treatment.

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Pen Foreign Body Ingestion Mimicking Crohn's Disease in a Pediatric Patient

JULIA R. DONNER, MD; ANN DING, MD; MICHAEL HERZLINGER, MD; SHOVA SUBEDI, MD; BRIAN ALVERSON, MD

ABSTRACT

Foreign body ingestion is common in pediatrics, particularly in children with psychiatric illness. Foreign bodies present for extended periods of time can trigger a local inflammatory reaction causing weight loss, abdominal pain, and elevated inflammatory markers, mimicking inflammatory bowel disease (IBD). We report a case of intentional pen ingestion in a 13-year-old, whose clinical presentation with elevated inflammatory markers and terminal ileitis suggested on imaging was initially suspicious for Crohn's disease but was found on colonoscopy to be due to foreign body reaction from ingestion of a pen.

KEYWORDS: endoscopy, foreign body ingestion, chronic inflammation, pediatrics, foreign body reaction

BACKGROUND

Foreign body ingestions in the pediatric population are common.^{1,2,3} Over 100,000 cases occur each year and 80% occur in children, the majority of which are in children less than five years of age.^{4,5} In addition, 80–90% of foreign bodies pass spontaneously through the gastrointestinal tract without complication.⁴ However, those present for extended periods of time can trigger a local inflammatory reaction which can present as weight loss, abdominal pain, and elevated inflammatory markers, mimicking inflammatory bowel disease (IBD). We report a case of intentional pen ingestion in a 13-year-old male, whose clinical presentation was suspicious for Crohn's disease due to foreign body reaction.

CASE DESCRIPTION

A 13-year-old male with past medical history of constipation, attention deficit hyperactivity disorder, and depression presented to the Pediatric Emergency Department with three days of acute right lower quadrant abdominal pain in the setting of three months of intermittent generalized abdominal pain. He also reported a 10-pound weight loss over a six-month period. He endorsed dysuria, nausea, fatigue, and constipation, but denied fevers, rash, bloody stools, diarrhea, oral ulcers, joint pain, or eye redness or discomfort. A detailed family history included ulcerative colitis in an uncle but was otherwise unremarkable. His vital signs were

Figure 1. Image from colonoscopy illustrating foreign body in descending colon.



stable with a temperature of 98.5F, pulse of 78 bpm, blood pressure of 109/62 mm Hg, respiratory rate of 20 breaths/minute, and oxygen saturation of 100% in room air. Physical examination revealed right-sided abdominal tenderness without rebound but was otherwise normal.

Initial laboratory workup showed elevated inflammatory markers with a C-reactive Protein (CRP) of 306.7 mg/L [0–10 mg/L] and an Erythrocyte Sedimentation Rate (ESR) of 58 mm/h [0–15 mm/h], leukocytosis with a white blood cell count of $29 \times 10^9/L$ [$3.5\text{--}11.0 \times 10^3/L$], a hemoglobin of 12.8g/dL (7.94 mmol/L) [7.07 mmol/L – 9.56 mmol/L] and normal fecal calprotectin of 33 mg/kg [0–49.9 mg/kg]. An abdominal ultrasound was done outpatient prior to presentation to the Emergency Department to rule out appendicitis which showed inflammatory changes in the right lower quadrant, most pronounced at the terminal ileum thought to represent primary inflammation of the small bowel.

The patient was admitted to the pediatric gastroenterology service for further workup and management. Follow-up imaging with magnetic resonance enterography (MRE) re-demonstrated marked right lower quadrant inflammation centered around the thick-walled terminal ileum, thought to be concerning for inflammatory bowel disease (IBD),

specifically Crohn's disease. There was also a moderate to large volume of stool present throughout the rectosigmoid colon. He was scheduled for endoscopy and colonoscopy. Upper endoscopy showed a normal esophagus with scattered aphthae and erythema in the stomach. On colonoscopy, the team was surprised to find a 14.1 cm pen impacted in the left colon (**Figure 1**). The foreign body was removed via snare. The pen was deeply embedded in the mucosa, raising concern about potential perforation so the procedure was aborted without visualization of the right colon or terminal ileum. An abdominal x-ray immediately following the procedure was normal, and without evidence of free air, but due to concern for micro-perforation the patient received 48 hours of intravenous Piperacillin-Tazobactam.

Following the procedure, the patient disclosed swallowing the pen five months prior to presentation in a suicide attempt, which was never disclosed. He was transferred to a psychiatric ward for a voluntary psychiatric admission. Two days following the procedure, his CRP had decreased to 53 mg/L [0–10 mg/L] and his white blood cell count to $7.8 \times 10^9/L$ [$3.5\text{--}11.0 \times 10^3/L$]. Ten days following foreign body removal, his CRP had normalized to 1.66 mg/L [0–10 mg/L] and his abdominal pain had resolved. He continued psychiatric care and has remained asymptomatic since discharge with no further need for outpatient gastroenterology follow-up.

DISCUSSION AND CONCLUSIONS

Foreign body reactions mimicking IBD are reported in isolated cases but are very rare,^{3, 6} particularly in pediatric patients. Montacer et al.³ discussed a 22-year-old patient with abdominal pain, diarrhea, and constipation who was found to have ileocecal thickening due to a foreign body. Visagan et al.⁷ presented a 41-year-old patient, presumed to have Crohn's disease for six years, who presented with an ileocecal perforation and an inflammatory mass but was found to have a plastic foreign body on laparotomy. Following removal, he had complete resolution of symptoms.⁷ Within the pediatric population, O'Gorman et al.⁸ reported on a 7-year-old child with abdominal pain found to have an edematous rectosigmoid junction with an ulceration and fistula; biopsy results showed acute nonspecific inflammation and necrosis and were thought to be consistent with Crohn's disease. On repeat imaging he was found to have a 6 cm toothpick embedded into the mucosa of the rectosigmoid colon which was removed via laparotomy. Following removal, the child recovered without gastrointestinal sequelae.⁸ Müller et al.⁹ reported on a 13-year-old male who presented with several months of weight loss and abdominal pain. He was later found to have half of a pen impacted in the colon, which was unable to be removed, but passed spontaneously days after the procedure. It was discovered the pen was intentionally swallowed and was likely the cause of his gastrointestinal symptoms as he was symptom-free following its passage.

While most foreign bodies that pass beyond the lower esophageal sphincter will likely pass without complication, others, as in this case, can lodge in the intestine and cause morbidity.¹⁰ In many of these reported cases of foreign body reaction mimicking IBD, the foreign body was found to be distal to the duodenum. It is very rare for objects longer than six centimeters to traverse the duodenal C-loop¹; approximately 10–20% of long objects fail to pass through the gastrointestinal tract and can cause complications including small bowel inflammation, obstruction, perforation, fistula formation, and even death.^{1,11,12} The ileocecal junction is the most common site for intestinal perforation, although perforation can occur anywhere throughout the gastrointestinal tract.¹³ The foreign body reaction at the site of impaction causes a local inflammatory response with bowel wall thickening.² This thickening can result in an inflammatory mass, which shares similar histopathology with Crohn's disease, including granulomas and chronic inflammation.^{3,14} Many symptoms that occur in foreign body ingestion also commonly occur in IBD, including abdominal pain, weight loss, and fatigue.^{2, 15} Rates of complications increase in patients who are symptomatic or have a delay in diagnosis over 48 hours following ingestion of pointed objects.¹³

In this case, it was presumed the inflammatory changes were due to a foreign body reaction. However, even following endoscopic removal, Crohn's disease remained a possibility given the patient's presentation of chronic gastrointestinal symptoms, his family history of inflammatory bowel disease, and the gastric aphthae noted on endoscopy, which are consistent with Crohn's disease, albeit a nonspecific finding. Moreover, it was difficult to reconcile the left colonic pen impaction with the right-sided, terminal ileal inflammation noted on imaging. The right colon and terminal ileum were not evaluated during colonoscopy given concern for colonic perforation. A follow-up colonoscopy was planned. However, given resolution of symptoms and normalization of inflammatory markers, ultimately it was concluded that his symptoms and his abnormal studies were due to a foreign body inflammatory response rather than Crohn's disease.

This case is unique given the unexpected colonoscopy findings, size and attributes of the foreign body, and location in which it was found, in addition to the longstanding presence of such a large foreign body without acute complications. This case also highlights the need for a broad differential when considering causes of small bowel inflammation.

In conclusion, a careful history should always be taken in pediatric patients presenting with signs and symptoms suggestive of inflammatory bowel disease since the differential diagnosis is broad. It is important to recognize unusual mimickers of Crohn's disease, including a foreign body reaction. Laboratory and imaging studies alone are insufficient in differentiating these conditions, and therefore colonoscopy remains necessary for diagnosis. Foreign body ingestion should be considered in all patients, particularly those with comorbid psychiatric illness.

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A Rare Case of Esophagitis Dissecans Superficialis Occurring with Barrett's Esophagus

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ABSTRACT

Esophagitis dissecans superficialis (EDS) is a rare but benign disease of the esophagus often identified endoscopically by sloughing of the superficial esophageal mucosa. We present an asymptomatic 66-year-old patient found to have EDS in the setting of Barrett's esophagus. The association of EDS with Barrett's esophagus has not been previously reported. He was initiated on proton pump inhibitor therapy with rapid and complete resolution of the endoscopic abnormality. This case illustrates the importance of identification of EDS as prognosis relies on prompt diagnosis and treatment.

KEYWORDS: esophagitis dissecans superficialis, sloughing mucosa, endoscopy, esophagus, proton pump inhibitor

INTRODUCTION

Esophageal dissecans superficialis (EDS) is a rare and under-recognized desquamative disorder of the esophagus, in which large fragments of the superficial esophageal mucosa slough off in vertical sheets. EDS has been associated with physical and chemical trauma, heavy smoking, autoimmune bullous dermatoses, and certain medications such as bisphosphonates, non-steroidal anti-inflammatory drugs, and antidepressants. However, with less than 200 cases of EDS reported worldwide, the paucity of literature on EDS limits our understanding of its etiology and pathogenesis.¹ Here, we report an asymptomatic patient diagnosed with EDS in the setting of Barrett's esophagus (BE), suspected secondary to chronic gastroesophageal reflux (GERD) and tobacco use. To date, there has been no description of EDS occurring concurrently with BE in the published literature.

CASE REPORT

The patient is a 66-year-old male with a history of hypertension, chronic obstructive pulmonary disease, paroxysmal atrial fibrillation, tobacco use, and BE referred for surveillance esophagogastroduodenoscopy

(EGD) for BE, which was initially found on an EGD in 2016 after an episode of stress-induced chest pain. He had no history of gastroesophageal reflux symptoms. Outpatient medications include: amlodipine, carvedilol, albuterol, and aspirin. He smoked half a pack per day but denied significant alcohol or substance use. He was asymptomatic and denied nausea, vomiting, abdominal pain, dysphagia, odynophagia, early satiety, unintentional weight loss, decreased oral intake, and anorexia. EGD showed a tongue of salmon-colored mucosa in the distal esophagus (**Figure 1**). EGD also revealed white, linear, desquamating fragments of the superficial mucosa in the distal esophagus consistent with the classic features of EDS (**Figure 2**). Biopsies were taken of the affected areas. Histopathological examination showed BE with an area indefinite for dysplasia. Also noted were the typical histologic features of EDS including abnormal esophageal squamous epithelium with a two-toned appearance: superficial eosinophilic zone containing pyknotic or necrotic nuclei separated from normal appearing basal epithelium (**Figures 3A and 3B**).

Outpatient treatment with a twice-daily, oral proton pump inhibitor (PPI) was initiated and patient was counseled on tobacco cessation. Approximately three months later, repeat endoscopy was performed, re-demonstrating short segment Barrett's esophagus with complete resolution of EDS (**Figure 4**). Pathology confirmed intestinal metaplasia without evidence of dysplasia. We recommended repeat upper endoscopy in two years for continued BE surveillance.

Figure 1. Salmon-colored mucosa typical of Barrett's esophagus seen in the lower third of the esophagus on initial EGD.



Figure 2. Endoscopy showing multiple white sheets of peeling superficial mucosa with normal underlying basal mucosa in the distal one-third of the esophagus, consistent with EDS.



Figure 3. (A) Typical two-toned histologic appearance of sloughing esophagitis with eosinophilic superficial zone that has pyknotic or necrotic nuclei (arrows) splitting from more normal-appearing basal zone (arrowheads) (H&E, x40). **(B)** On higher magnification Barrett's esophagus is seen on the left (arrow) and sloughing esophagitis on the right (arrowhead) (H&E, x100).

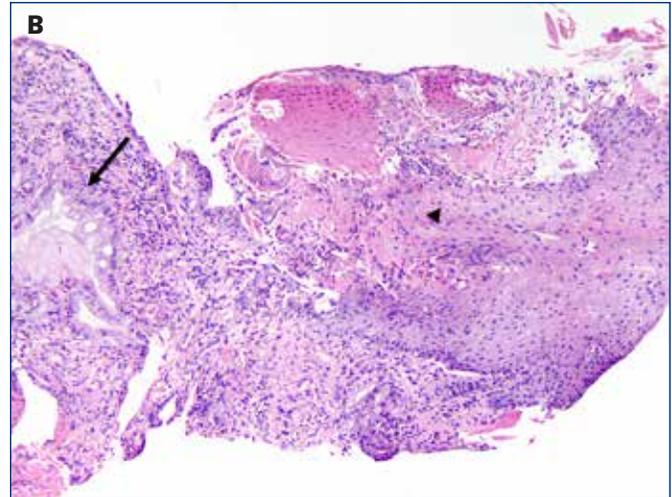
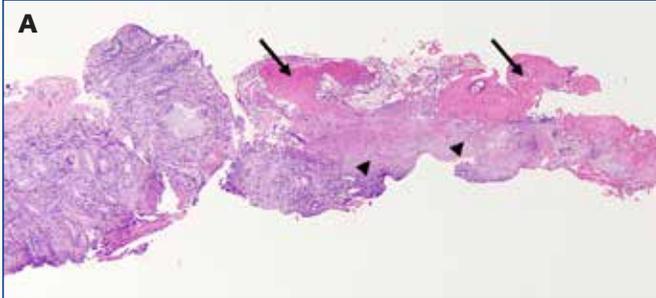


Figure 4. Second EGD reveals normal esophagus and resolution of esophageal dissecans superficialis as seen on prior EGD.



DISCUSSION

EDS is a rare benign entity first described over a century ago in the 1800s.² It is characterized endoscopically by sloughing of the superficial mucosal layer, which is seen on EGD as multiple columns of peeling mucosa. Clinical manifestations vary from an incidental discovery on endoscopy to dysphagia, odynophagia, nausea, vomiting, abdominal pain, and heartburn. Additionally, EDS can present with weight loss, non-cardiac chest pain, and iron deficiency anemia.³ A unifying pathogenesis of EDS remains unclear. However, it has been proposed that EDS stems from exposures and conditions that cause esophageal damage, including heavy smoking, ingestion of hot beverages, and mediastinal radiation.⁴ Psychoactive medications, such as selective serotonin reuptake inhibitors and serotonin-norepinephrine reuptake inhibitors, bisphosphonates, non-steroidal anti-inflammatory drugs, and iron have been implicated as sources of topical injury leading to defects in the mucosal adhesion. Systemic autoimmune bullous dermatoses, most notably pemphigus vulgaris and pemphigoid, have also been linked to EDS.²

Diagnostic criteria for EDS have not been established. Currently, EDS is a clinical and endoscopic diagnosis supported

by histological findings. The most common histological features are parakeratosis and intraepithelial splitting. However, these histological findings are non-specific; thus, it has been proposed that fulfillment of 3 of the following endoscopic criteria is consistent with EDS: (1) strip(s) of sloughed esophageal mucosa >2cm in length; (2) normal underlying esophageal mucosa; and (3) lack of ulcerations or friability of immediately adjacent esophageal mucosa.⁵

In spite of the striking appearance of EDS on endoscopy, the prognosis of EDS is generally favorable. The mainstay treatment involves discontinuation of the culprit agent and implementing PPI therapy. The use of steroids has been demonstrated to be effective in cases refractory to PPI treatment alone and with an underlying autoimmune etiology.⁶ Aside from a small number of patients who had coexisting esophageal strictures requiring dilatation, long-lasting sequelae as a result of this condition are infrequent and complete mucosal healing can be achieved.⁷

Here, we have described the first encounter of EDS in a patient with BE, which has not been previously detailed in the literature. BE most often occurs as the result of chronic GERD with other risk factors including White or Hispanic race, male sex, advanced age, smoking history, and obesity.⁸ In our case, it is speculated that longstanding inflammation from GERD and tobacco use caused mucosal injury, leading to the development of not only metaplastic changes but also sloughing esophagitis. This is further supported by the rapid endoscopic improvement of the EDS after starting PPI therapy. Once our patient's EDS resolved, repeat surveillance biopsies that were previously read as indefinite for dysplasia were confirmed as non-dysplastic BE.

Our case underscores the importance of endoscopic recognition of EDS. Since the entity was first established more than a century ago, it has been widely under-recognized. A retrospective study of 21,497 upper endoscopies performed from 2010 to 2016 identified 7 cases of EDS; at the time of endoscopy, however, only one patient was suspected to have

EDS, while the endoscopic abnormalities in the remaining patients were mistaken for candida esophagitis, esophagitis, and malignancy.⁹ In another retrospective study, EDS was considered at time of endoscopy in only a minority of patients (41.5%) despite the presence of characteristic features. EDS was most commonly misdiagnosed as candida esophagitis.⁵ In conclusion, EDS is poorly recognized and frequently misdiagnosed by endoscopists, resulting in non-targeted therapy. Given its overall favorable prognosis with the appropriate treatment, further accurate characterization of EDS is warranted to improve endoscopic recognition, diagnosis, and patient outcome. EDS in BE patients may masquerade as *dysplastic or indefinitely dysplastic* BE. This increases the risk of unnecessary endoscopic surveillance procedures as well as endoscopic ablative therapies. Thus, it is critical to recognize the coexistence of EDS in BE patients in order to initiate accurate treatment and appropriately characterize the dysplastic risk of a patient's BE.

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Mobile Mitral Valve Vegetations: Not Your Usual Endocarditis

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ABSTRACT

Mitral annular calcification (MAC) is a chronic degenerative condition that is associated with age, chronic kidney disease, diabetes, dyslipidemia, hypertension, and tobacco use. Mobile calcified lesions can be mistaken for endocarditis on trans-thoracic echocardiogram (TTE), creating a unique diagnostic challenge. In this case, we describe a young dialysis patient who presented with dyspnea on exertion with no obvious etiology on initial work-up. TTE was obtained, which showed mobile lesions on the mitral and aortic valves, initially thought to be endocarditis, but later diagnosed as MAC. Trans-esophageal echocardiography (TEE) is a useful modality to differentiate mobile masses on the mitral valve.

KEYWORDS: mitral annular calcification, end stage renal disease, endocarditis, echocardiography

CASE PRESENTATION

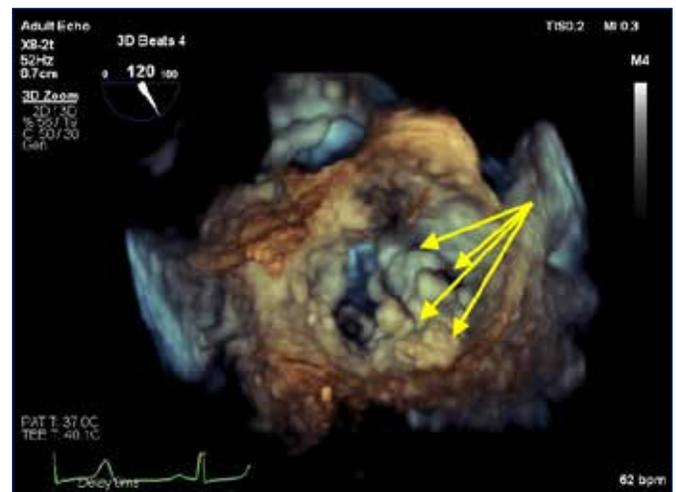
A 42-year-old female with a past medical history of end-stage renal disease from focal segmental glomerulosclerosis on hemodialysis for the past four years presented to her cardiologist with worsening dyspnea on exertion and a feeling of “increased fluid in her lungs.” When basic work-up did not reveal any obvious etiologies, an outpatient transthoracic echocardiogram (TTE) was obtained, which showed a normal ejection fraction and lesions on the mitral and aortic valves highly suggestive of vegetations. The patient was hospitalized with concern for endocarditis. On admission, the patient was afebrile. Physical examination was notable for hypertension and bilateral inspiratory pulmonary crackles. A holosystolic murmur was heard by the overnight admitting provider in the Emergency Department, but the inpatient medicine team did not hear any murmurs. Her leukocyte count was normal. Her sedimentation rate was elevated (64 mm/h), as was her C-reactive protein (40.30 mg/dL). An admission chest radiograph was notable for findings suggestive of pulmonary edema. As part of the workup, a repeat TTE revealed severe mitral annular calcification causing moderate-severe mitral inflow tract obstruction, and several mobile lesions on the mitral and aortic valves concerning for vegetation. Mitral regurgitation was not observed on TTE. The patient had no known history of rheumatic fever. Given dialysis patients’ increased risk for

infective endocarditis, with some studies showing 50–60 times the incidence compared to the general population, an extensive work-up was undertaken for infectious etiologies.¹ Blood cultures did not grow any organisms. Bartonella and Coxiella serologies were negative, and a β -D-Glucan assay was indeterminate. Despite negative blood cultures, the inpatient care team successfully advocated for a transesophageal echocardiogram (TEE) for further characterization of the valvular lesions. TEE revealed severe mitral valve calcifications with associated moderate mitral inflow tract obstruction and focal calcifications of the aortic valve, but no evidence of endocarditis. (Figures 1,2)

Figure 1. TEE in midesophageal long axis view. Notable for hyperechoic, mobile masses on the mitral valve (arrow).



Figure 2. 3D reconstruction of mitral valve from TEE images. Notable for significant calcification resulting in moderate mitral inflow tract obstruction and thickened mitral valve annulus (arrows).



The diagnosis of mitral annular calcification resulting in moderate mitral inflow tract obstruction was made. Given the non-severe degree of her mitral valve disease, valve replacement or repair were not recommended by the cardiothoracic surgical service. The patient received routine care and was discharged from the hospital. Her outpatient cardiologist recommended echocardiograms every six months to monitor for progression of her mitral valve disease. Four months after discharge, the patient returned to the hospital with further dyspnea on exertion. A repeat TTE did not show any changes; however, left heart catheterization revealed severe mitral inflow tract obstruction. The patient is currently being evaluated for mitral valve replacement.

DISCUSSION

The pathophysiology of MAC is thought to be a product of endothelial disruption, chronic inflammatory cell infiltration, and elevated calcium-phosphorus product.² Although mitral annular calcification is associated with older age, young patients on hemodialysis are at greatly increased risk for developing this condition. Observational studies have found MAC to be prevalent in over one third of patients who have been on hemodialysis for more than three years.³ Advanced cases of MAC can result in left ventricular inflow obstruction and increased risk of arrhythmias. MAC is a marker of atherosclerotic disease and is associated with 60% increased incidence of cardiovascular disease related death and 30% increased incidence of all-cause mortality.^{4,5} This case highlights the potential for mitral annular calcification to mimic vegetations on TTE, and therefore the possibility for MAC to be misdiagnosed as endocarditis. This case additionally highlights the importance of transesophageal echocardiography for the characterization of vegetations detected on transthoracic echocardiography when the pretest probability of endocarditis is not high. The clinical suspicion for MAC should be high in ESRD patients presenting with valvular abnormalities, regardless of their age, especially if stigmata of infective endocarditis are absent.

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Disclaimer

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Delayed Unilateral Facial Weakness in COVID-19-Associated Guillain-Barré Syndrome

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[Click to view video](#) [1:24, <https://vimeo.com/687251635>]

KEYWORDS: delayed facial weakness, Guillain-Barré syndrome, COVID-19, acute inflammatory demyelinating polyneuropathy, SARS-CoV-2

INTRODUCTION

Delayed facial weakness is a rare manifestation of Guillain-Barré syndrome (GBS). We describe a patient with COVID-19-associated GBS who, despite showing marked sensorimotor recovery following immunotherapy, developed delayed unilateral facial weakness 12 days after the onset of GBS. To the best of our knowledge, this is the first video report of delayed facial weakness in COVID-19-associated GBS.

CASE PRESENTATION

A 67-year-old man presented to the emergency department for acute onset of distal paresthesias, weakness affecting the lower extremities, and falls. Within 24-48 hours the paresthesias ascended to involve the upper extremities and he became unable to ambulate. In retrospect, the patient reported that he experienced transient fever, malaise, myalgias, and fatigue 3 weeks prior to the index hospitalization.

At the time of hospital admission his physical examination revealed normothermia, mild symmetric quadriplegia, distal sensory disturbance of the hands and feet, and global areflexia. There were no cranial nerve deficits. Complete blood count and comprehensive metabolic panel showed no significant abnormalities. Cerebrospinal fluid (CSF) demonstrated no leukocytes, glucose 59 mg/dL (serum 83 mg/dL), and elevated protein of 71 mg/dL. CSF Gram stain and cultures showed no microorganisms. Nasopharyngeal swab was positive for SARS-CoV-2 (real-time polymerase chain reaction, Roche cobas[®] Liat[®]). Investigations for *Borrelia burgdorferi*, *Babesia* spp., Influenza A and B viruses, HIV, Cytomegalovirus, Epstein-Barr virus, and viral hepatitis panel were all negative. Vitamin B12, folate, and thyroid stimulating hormone were normal. Pre- and post-gadolinium MRI of the cervical, thoracic, and lumbar



Video 1. Examination showing right-sided facial weakness. This is manifested by facial asymmetry at rest that is accentuated by frowning of the forehead, cheek-puffing, smiling, and whistling. There are decreased forehead skin folds, slow eye blinking, and weakness of eyelid closure in the right. The patient reports right hyperacusis and abnormal taste sensation in the right anterior two-thirds of the tongue.

spine revealed no significant abnormalities. A diagnosis of COVID-19-associated GBS was made.

The patient received intravenous immunoglobulin (IVIg) at a dose of 0.4 g/Kg/day for 5 days, which led to marked sensorimotor improvement. By the end of the IVIg course his paresthesias had improved and he was able to ambulate using a walker. However, 5 days after the completion of IVIg (i.e. on day 12 after the onset of GBS) he developed right hemifacial weakness (**Video 1**). There were no new neurological deficits affecting the extremities. A non-contrast MRI of the brain showed no significant abnormalities. Presentation was consistent with delayed unilateral facial weakness in the context of COVID-19-associated GBS.

DISCUSSION

Facial weakness (typically bilateral) can occur around the time of GBS onset in as many as 50% of GBS patients, particularly in those with more severe limb weakness.^{1,2,3} In contrast, **delayed** facial weakness (DFW) is a rare manifestation

of GBS that occurs days after the plateau or recovery of other neurological deficits.^{2,3} Among the 28 patients with DFW that have been reported, DFW appeared between 7-30 days after the onset of GBS (median 12.5 days).³ In a study of 195 consecutive patients with GBS, 12 individuals (6%) developed DFW (unilateral in 5 cases).² DFW may be explained by early subclinical demyelination of the facial nerve, requiring a longer period during disease progression to reach a threshold at which deficits become apparent.³ In most GBS patients with DFW, facial weakness resolves spontaneously within 3 weeks. The use of additional courses of immunotherapy does not seem to accelerate the recovery of DFW.^{2,3}

Multiple cases of COVID-19-associated GBS have been described, most of them in males with a mean age of 56 years.^{4,5,6} The mean time between onset of COVID-19 symptoms and the development of GBS manifestations was 12.2 days.⁵ The clinical and electrodiagnostic findings in COVID-19-associated GBS resemble those from pre-pandemic cases.⁶

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Receipt of Physical Therapy and Chiropractic Care by Adults Diagnosed with Chronic Pain: Analysis of the 2016–2018 Rhode Island All Payer Claims Database

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ABSTRACT

OBJECTIVE: To examine trends and factors associated with physical therapy (PT) and chiropractic care use among Rhode Islanders with private or publicly-funded health insurance who were diagnosed with chronic pain from 2016–2018.

METHODS: We measured monthly PT and chiropractic care use from the RI All Payer Claims Database, and conducted logistic regression to identify factors associated with utilization.

RESULTS: There were 284,942 unique adults with chronic pain representing over one-quarter of insured persons in the state. Chiropractic care use remained unchanged but was more prevalent (7.2%) than PT whose use increased minimally from 4.0% (2016) to 4.5% (2018). Traditional Medicare or Medicaid enrollment was associated with lower odds of receiving PT and chiropractic care than in private plans.

CONCLUSIONS: PT and chiropractic care use varied across payers; however, there were little to no changes in their use over time despite clinical guidelines that encourage non-pharmacologic options to manage chronic pain.

KEYWORDS: chronic pain, physical therapy, chiropractic care, opioid, Rhode Island

INTRODUCTION

Improving pain management through safer prescribing practices and better access to opioid alternatives are part of several public health objectives intended to reduce drug-related harms nationally and in Rhode Island.¹⁻³ Chronic pain, defined as pain generally lasting longer than three months, is a common condition with significant impacts on quality of life, and societal and economic costs.² Failure to adequately manage chronic pain can contribute to unnecessary suffering, illicit opioid use, opioid use disorder (OUD) and overdoses.⁴ Opioids, which are sometimes prescribed to manage chronic pain, lack adequate evidence to support their effectiveness and carry substantial safety concerns when used long-term.⁵ Clinical practice guidelines urge clinicians to shift toward nonopioid medications and

non-pharmacologic treatments, and prescribing opioids at low dosages when opioid therapy cannot be avoided.^{6,7}

Despite the emergence of evidence-based guidelines, chronic pain treatment remains a challenge partly due to reliance on opioid therapy and insurance coverage restrictions for non-pharmacologic and complementary approaches.^{8,9} To our knowledge, no recent study has quantified receipt of non-pharmacologic pain treatments across different payers and over time despite the emphasis of their importance in clinical practice guidelines. There is need to also understand the use of opioid alternatives such as gabapentinoid medications (gabapentin or pregabalin) for which off-label use for chronic pain is widespread and new evidence points to substantially increased overdose risk when used concurrently with opioids.¹⁰ This study provides foundational empirical data needed to understand the extent of, and temporal changes in, receipt of non-pharmacologic treatments by Rhode Islanders with chronic pain. Our objective is to assess trends and factors associated with the receipt of physical therapy (PT) and chiropractic care by persons with chronic pain from 2016–2018. Furthermore, we characterize the individuals diagnosed with chronic pain with respect to demographics, comorbid conditions, and use of select medications including prescription opioids and gabapentinoids.

METHODS

We analyzed health care utilization data from HealthFacts RI, Rhode Island's All Payer Claims Database (APCD) which covers approximately 80% of the state's population. The HealthFacts RI APCD collects deidentified medical and pharmacy claims, enrollment, and provider data from publicly-funded (Medicare, Medicaid) and commercial health insurers in the state. We included Rhode Island residents ≥ 19 years of age who were diagnosed with chronic pain from January 2016 to December 2018. Individuals without concurrent enrollment for medical and pharmacy insurance benefits were excluded. Observations in Traditional Medicare were affected by lack of 2018 Part D pharmacy data due to lag time.¹¹ Chronic pain was defined by ≥ 1 diagnosis code highly likely to indicate chronic pain (ICD10: G89.21; G89.22; G89.28; G89.29; G89.4) or ≥ 2 diagnosis codes (≥ 3 months apart) for back pain, neck pain, limb/extremity/joint pain, fibromyalgia, or headache/migraine. We focused on these conditions following previously published algorithms for identifying chronic pain patients,^{12,13} and based

on the potential relevance of nonpharmacologic and complementary approaches in their treatment.¹⁴ We measured treatments and covariates at the monthly level. We identified PT and chiropractic care using procedure codes which are available from authors upon request.

We identified medications through the use of National Drug Codes and created monthly variables for any use of opioids, gabapentinoids, and non-steroidal anti-inflammatory drugs (NSAIDs). We note that NSAIDs use is likely underreported in claims data due to availability over the counter without a prescription. For opioid prescriptions, we included full and partial opioid agonists for pain management excluding buprenorphine-suboxone which is indicated for OUD treatment. We also excluded injectable opioids because of their uncommon use in outpatient settings.

Statistical analysis proceeded in two parts. First, using Joinpoint Regression Program version 4.8.0.1 we estimated the average monthly percent change and conducted tests of trend (no joinpoints/breaks) for PT and chiropractic care receipt from January 2016 to December 2018. We report results for the overall trend and stratified by payer. Second, we examined factors associated with the use of PT or chiropractic care using separate multivariable logistic regression models with generalized estimating equations. The variables in the regression models included payer, year, demographics (age group, sex), mental conditions, alcohol and other substance use disorders, pain conditions, and medication use. The model with chiropractic care as an outcome analyzed a sample that excluded Traditional Medicare enrollees due to highly restricted reimbursement for this service. Traditional Medicare pays for only one chiropractic service – manual manipulation of the spine if deemed medically necessary to correct a subluxation. Due to the large number of observations available in the person-month data, we specified a stricter level of 0.01 for statistical significance. All analyses, except the joinpoint trend analysis, were conducted using SAS version 9.4 software.

The Brown University Institutional Review Board deemed the study not to meet the criteria for human subjects research because the data extract provided to the investigators did not contain identifiable information.

Table 1. Overall sample characteristics and by use of physical therapy or chiropractic care among adults with chronic pain in Rhode Island, 2016 to 2018

Observations in person-months	Overall	Physical Therapy		Chiropractic care	
	N=8,884,906	None N=8,514,793	Received N=370,113	None N=8,245,993	Received N=638,913
	%	%	%	%	%
Age, mean (SD), years	54.3 (17.9)	54.3 (18.0)	56.0 (16.7)	54.4 (18.0)	53.1 (16.5)
19 to 29	10.8	10.9	7.6	10.9	9.9
30 to 44	19.2	19.3	16.6	19.1	20.0
45 to 64	40.1	39.8	46.0	39.7	45.6
65+	30.0	30.0	29.8	30.4	24.5
Female sex	61.2	61.1	64.2	61.2	62.0
Pain-related conditions					
Fibromyalgia	1.3	1.1	5.0	1.0	5.0
Headache/migraine	2.5	2.3	5.0	2.1	6.4
Neck	4.1	3.1	25.2	2.5	24.0
Back	8.9	7.4	44.0	6.5	39.9
Limb	12.5	10.7	54.4	11.0	32.0
Neuropathy	1.4	1.3	2.9	1.2	2.8
Fractures	3.1	2.6	16.1	2.7	9.0
Cancer	1.1	1.1	1.1	1.0	2.1
Mental health conditions					
Depressive disorder	5.8	5.6	9.8	5.6	8.7
Anxiety disorder	6.2	6.0	10.3	5.9	10.4
Sleep disorder	3.0	2.8	5.6	2.7	6.2
Substance use disorders					
Opioid use disorder	1.8	1.8	0.7	1.8	1.6
Alcohol use disorder	0.8	0.8	0.8	0.8	1.1
Cannabis use disorder	0.3	0.3	0.3	0.3	0.5
Select medication use					
Prescription opioids	9.9	9.8	12.9	9.9	10.8
NSAIDs	8.1	7.9	11.9	7.8	11.1
Gabapentinoids	4.9	4.8	7.0	4.9	5.5
Payer					
Commercial	41.5	40.8	57.3	40.1	59.4
Medicare Advantage	15.7	15.7	15.6	15.4	18.4
Traditional Medicare	7.8	8.0	4.1	8.4	0.1
Medicaid	24.2	24.7	11.1	25.0	13.5
Dual with MA	3.0	3.0	3.4	3.0	2.7
Dual with TM	7.9	7.9	8.5	8.0	5.9

SD, standard deviation; MA, Medicare Advantage; TM, Traditional Medicare; NSAIDs, nonsteroidal anti-inflammatory drugs; Gabapentinoids include gabapentin and pregabalin

RESULTS

Our analytic sample included 284,942 unique Rhode Islanders representing approximately one-quarter of the state’s total population. One-third (32.9%, n=93,661) of chronic pain patients analyzed received PT, and two-thirds (66.2%, n=188,559) received chiropractic care, with some receiving both, anytime from 2016-2018. These individuals contributed almost 9 million person-months of observation. The mean age was 54 years and 61% of the sample was female (Table 1). The majority of individuals had Commercial insurance (42%).

Unadjusted data showed little to no change in monthly PT (Figure 1) and chiropractic care (Figure 2) use among people diagnosed with chronic pain in Rhode Island from 2016-2018, overall and by payer (Figure 1). On average, the overall prevalence of PT use was 4.2% per month compared with 7.2% for chiropractic care. The average monthly percent changes (AMPC) during the full period suggested a positive trend in PT use (AMPC=0.5%, 95% CI=0.3% to 0.6%) versus a negative trend for chiropractic care use (AMPC=-0.3%, 95% CI=-0.5% to -0.1%) but with small magnitude (data not shown).

Back, neck, and limb-related pain accounted for majority of PT and chiropractic care use (Table 1). Engagement with these services differed by pain type. On average 20.6%, 26.0%, and 18.1% of people diagnosed with back, neck, and limb pain; respectively, received PT monthly. The average monthly prevalence of chiropractic care use was 32.1%, 42.7%, and 18.3% for back, neck, and limb pain; respectively. PT use increased steadily among individuals with back, neck, and limb pain; whereas, chiropractic care use remained stable or decreased slightly (Figure 3).

Temporal changes in the prevalence estimates of PT and chiropractic care use varied in magnitude and/or direction across payers. Use of these services was consistently higher among those enrolled in Commercial plans or Medicare Advantage than among publicly-insured beneficiaries. For example, the average monthly prevalence of PT use among Commercial, Medicare Advantage, Traditional Medicare and Medicaid were 5.7%, 4.2%, 2.1%, and 1.9% respectively among all chronic pain patients. Individuals dually-enrolled in Medicaid and either Traditional Medicare (4.5%) or Medicare Advantage (4.6%) had higher levels of PT use compared with those with Medicaid or Traditional Medicare alone.

Opioid prescribing among Rhode Islanders diagnosed with chronic pain decreased from ~12% in

Figure 1. Changes in physical therapy use by payer among Rhode Island residents diagnosed with chronic pain from 2016–2018

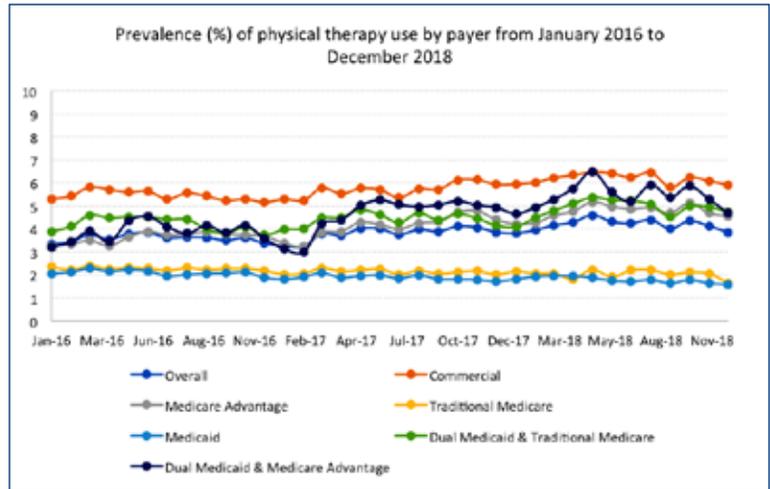


Figure 2. Changes in chiropractic care use by payer among Rhode Island residents diagnosed with chronic pain from 2016–2018

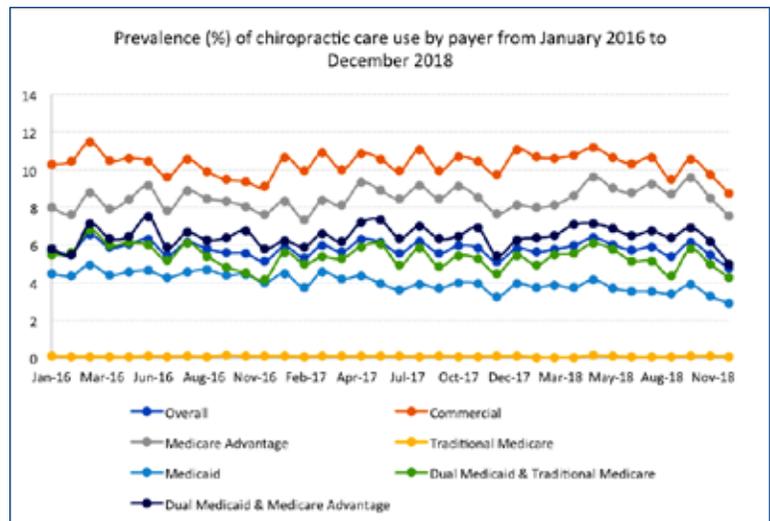


Figure 3. Physical therapy and chiropractic care use in subgroups of chronic pain patients with back, neck, and limb-related pain



Table 2. Logistic regression results for factors associated with the use of physical therapy or chiropractic care by adults with chronic pain in Rhode Island, 2016–2018

	Use of Physical Therapy	Use of Chiropractic Care
	OR (99% CL)	OR (99% CL)
Year 2017 (reference = 2016)	1.04 (1.02, 1.05)	0.99 (0.98, 1.00)
Year 2018 (reference = 2016)	1.12 (1.10, 1.14)	1.00 (0.99, 1.01)
Payer (reference = Commercial)		
Medicare Advantage	0.47 (0.45, 0.49)	0.79 (0.77, 0.81)
Traditional Medicare	0.17 (0.16, 0.18)	*
Medicaid	0.31 (0.30, 0.32)	0.33 (0.32, 0.33)
Dual with TM	0.38 (0.36, 0.40)	0.34 (0.33, 0.35)
Dual with MA	0.36 (0.34, 0.39)	0.49 (0.47, 0.50)
Age category (reference = 45 to 64)		
18 to 29	1.08 (1.03, 1.12)	1.21 (1.18, 1.23)
30 to 44	1.04 (1.01, 1.07)	1.14 (1.12, 1.16)
65+	1.13 (1.09, 1.18)	0.95 (0.93, 0.97)
Female (reference = male)	1.08 (1.05, 1.11)	0.98 (0.96, 0.99)
Clinical conditions (reference = condition absent)		
Cancer	0.81 (0.77, 0.86)	2.33 (2.25, 2.41)
Fractures	2.21 (2.16, 2.27)	1.74 (1.71, 1.78)
Depressive disorder	1.04 (1.01, 1.06)	1.11 (1.09, 1.13)
Anxiety disorder	1.00 (0.98, 1.02)	1.28 (1.26, 1.30)
Alcohol use disorder	0.79 (0.74, 0.84)	1.12 (1.07, 1.18)
Cannabis use disorder	0.77 (0.69, 0.85)	1.22 (1.13, 1.32)
Opioid use disorder	0.65 (0.61, 0.70)	1.17 (1.13, 1.22)
Medication use (reference = no use)		
Prescription opioids	0.69 (0.67, 0.70)	0.64 (0.63, 0.66)
NSAIDs	0.79 (0.78, 0.81)	0.99 (0.97, 1.00)
Gabapentinoids	0.96 (0.93, 0.99)	0.82 (0.80, 0.84)
RI pain & opioid regulations	1.00 (0.98, 1.02)	0.92 (0.91, 0.93)
Clinical risk group (reference = healthy)		
Acute/minor	2.65 (2.58, 2.73)	1.94 (1.91, 1.98)
Moderate	2.39 (2.31, 2.46)	1.82 (1.78, 1.85)
Significant	2.22 (2.14, 2.30)	1.77 (1.74, 1.81)
Cancer or catastrophic	1.97 (1.80, 2.14)	2.12 (2.02, 2.22)
Pain conditions (reference = condition absent)		
Back pain	4.28 (4.19, 4.37)	5.15 (5.06, 5.25)
Limb pain	5.07 (4.98, 5.17)	2.62 (2.58, 2.65)
Neck pain	2.53 (2.46, 2.60)	3.48 (3.40, 3.57)
Headache/migraine	0.79 (0.77, 0.82)	1.51 (1.47, 1.55)
Fibromyalgia	1.10 (1.05, 1.15)	1.72 (1.65, 1.79)

OR, odds ratio; CL, confidence limits; MA, Medicare Advantage; TM, Traditional Medicare; NSAIDs, nonsteroidal anti-inflammatory drugs; RI, Rhode Island
 * Traditional Medicare was excluded (removing n=696,489 from 8,884,906 total person-months) from the analysis of this outcome because of the very limited coverage for chiropractic care by this payer

January 2016 to ~8% in December 2018 (data not shown). There was a gradual increase in gabapentinoid prescription fills owing to rising gabapentin prescribing. The monthly prevalence of gabapentin prescription fills increased from 3.8% to 5.3%; whereas, pregabalin fills remained low ranging from 0.5% to 0.7% from January 2016 to December 2018.

Results from multivariable logistic regression models indicated greater odds of PT use in 2017 (OR=1.04, 99% CI=1.02 to 1.05) and 2018 (OR=1.12, 99% CI=1.10 to 1.14) relative to 2016 (Table 2). There was no change in chiropractic care use over these years; in 2018 versus 2016 the OR was 1.00, 99% CI=0.99 to 1.01. Adjusting for covariates, the odds of receiving PT or chiropractic care were lower for individuals in all other plan types compared to Commercial plans. Medicare Advantage had a smaller relative difference to Commercial plans than other payers. For PT receipt, Medicare Advantage had OR=0.47, 99% CI=0.45 to 0.49; whereas Traditional Medicare had OR=0.17, 99% CI=0.16 to 0.18 compared with Commercial plans.

The variables associated with PT or chiropractic care use were mostly consistent in the direction of the associations with few exceptions. For instance, while diagnosis with cancer, substance use disorders, or headache/migraines was associated with lower odds of PT, the presence of these conditions was associated with greater use of chiropractic treatment.

DISCUSSION

Our analyses revealed three main findings. First, chiropractic care use was more common than PT among adults with chronic pain in Rhode Island, and monthly receipt of either treatment remained low from 2016 to 2018. Second, use of PT increased slightly among subgroups of chronic pain patients with back, neck, and limb-related pain. Third, private plans appeared to better channel individuals to non-pharmacologic pain treatment relative to Traditional Medicare or Medicaid.

The CDC opioid guideline recommends non-opioid options, both pharmacologic and non-pharmacologic, for chronic pain management outside of end-of-life, palliative, or active cancer care.⁶ In adjusted models, we found that use of PT trended upward; whereas, chiropractic care use remained unchanged from 2016–2018. It is possible that the demand for PT and chiropractic care exceeded the availability of these services in the state thereby creating a ceiling effect on non-pharmacologic treatment utilization. In this context, even clinicians with the best efforts to pursue guideline-directed non-pharmacologic therapies may have to rely on pharmacologic approaches to pain management. Lack of historical data on PT and chiropractic providers licensed in Rhode Island precludes our ability to determine changes in provider availability over the study period. Our analyses did not evaluate the impact of the CDC guideline directly, and

mostly our findings predate the July 2018 Rhode Island state regulations establishing minimum requirements for pain management and opioid prescribing. However, we provide a foundational profile of PT and chiropractic care use that can be tracked and evaluated over time.

Clinical trials for the efficacy, effectiveness, and safety of many nonpharmacologic and complementary approaches to manage chronic pain exist but are subject to methodological issues (e.g., small sample sizes, uncertainty about what represents clinically relevant differences, inconsistent outcomes across trials, lack of participant diversity by age, sex, and race) that contribute to mixed findings and variable interpretations of the robustness of the evidence.^{9,14,15} Notwithstanding, there appears to be a preponderance of positive trials versus negative trials,^{9,14} and recent evidence suggests non-pharmacologic and complementary therapies (e.g., spinal manipulation, massage, acupuncture, multidisciplinary rehabilitation) confer small to moderate, usually short-term benefits, mainly for chronic low back pain.¹⁵

Indeed, additional evidence is needed to inform which subgroups of chronic pain patients could benefit most from specific types of non-pharmacologic treatments. Thus, payers potentially face the dilemma of making coverage decisions based on mixed or weak evidence. This challenge combined with spending concerns may manifest in utilization management strategies that limit broader non-pharmacologic treatment access or use with sufficient regularity to make a difference in pain control and physical function. Nonetheless, others posit that insurance coverage is not current with evidence-based nonpharmacologic pain care that support effectiveness and cost-effectiveness for chronic pain.⁹ Given that federal and state actions in response to the opioid epidemic call for greater use of non-pharmacologic options in chronic pain management, there is need to reconcile these recommendations with payer policies in order to expand access and better align with clinical practice recommendations. Unless more generous insurance coverage is provided and sites for PT and chiropractic care are made more accessible, it will be difficult to design and tailor effective and equitable interventions to comprehensively treat pain and mitigate drug-related adverse events.

Expanding access to non-pharmacologic pain treatments in Medicare offers the potential to bring about greater use of these therapies more broadly because coverage policies in Traditional Medicare are often a benchmark for private payers. Our study found that the odds of a Medicare enrollee receiving PT were dramatically low compared with enrollees in Commercial plans. Although Medicare covers 80% of the cost of a PT treatment visit, it is plausible that paying the out-of-pocket cost is a significant barrier especially for those who lack secondary insurance. In contrast, some Medicare Advantage plans offer routine chiropractic services as an additional benefit. The 2020 decision by the Centers for Medicare and Medicaid Services to cover acupuncture for

Traditional Medicare enrollees with chronic low back pain was an example of the agency learning from the private payers in this aspect of patient care, and potentially marked an important step toward increasing access to nonpharmacologic opioid alternatives.

This study has limitations. First, the study lacked race/ethnicity data; therefore, we could not examine or adjust for racial differences in the use of non-pharmacologic pain treatments. Second, we cannot unequivocally differentiate whether studied treatments were provided for chronic pain or other conditions. Third, the extent to which non-pharmacologic treatments were offered as first-line therapy per guideline recommendations is unknown. Fourth, we were unable to ascertain pain severity or patient preferences toward non-pharmacologic versus pharmacologic treatment from the available data. We also do not know about treatments entirely paid for out-of-pocket or other types of pain treatment procedures (e.g., injections) that were not studied. Fifth, lack of historical data on the availability of PT and chiropractic care services in the state prevents us from understanding supply and demand as a factor in the use of these services. Finally, this study focuses on a single state; therefore, the findings may not be generalizable to the entire U.S. population or to those whose health service utilization is not captured in the Rhode Island APCD (e.g., the uninsured or self-insured). We note, however, that we analyzed data that includes private and public payers. This is a significant contribution as our results suggest that analyses of PT and chiropractic care use limited to one type of payer may not generalize to other payers.

CONCLUSIONS

Although non-pharmacologic options are regarded as a key component of guideline-concordant chronic pain management, we found low and largely unchanged overall monthly rates of PT and chiropractic care use in Rhode Island from 2016-2018. We observed slight increases in PT use among those with back, neck, and limb-related pain. Receipt of PT was higher in commercially insured and Medicare Advantage enrollees compared with Medicaid and Traditional Medicare; and rates of chiropractic care also lagged in Medicaid compared with private payers. Since several actions to improve pain management have focused on changing clinician and patient behaviors around opioid prescribing and use, payer policies for the coverage of non-pharmacologic opioid alternatives deserve more attention. Opportunities to raise awareness about effective nonpharmacologic treatments for chronic pain and practical ways to engage patients with such care should also be considered. Independent of referrals and payer policies, improving the state's capacity to deliver PT and chiropractic care by increasing the number of sites, licensed providers and reducing wait times for appointments could benefit chronic pain patients who require these services.

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Disclaimer

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From HRSA Grant to Medical Practice: Improving Care for Children and Adolescents in a Family Medicine Residency Clinic

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ABSTRACT

BACKGROUND: The patient-centered medical home (PCMH) is an ideal primary care model for patients across the lifespan. Family Medicine (FM) practice and training often address adults more than children/adolescents. Few studies describe the efficacy of education programs seeking to enhance PCMH-based care of children/adolescents.

METHODS: At the Brown FM Residency in Pawtucket, Rhode Island (RI), from 2015–2020, we aimed to enhance care of children/adolescents through a HRSA-funded program that enhanced PCMH-based care for children/adolescents and related resident education. Our mixed-methods evaluation assessed learner experiences. Vaccination data assessed patient impact.

RESULTS: 119/155 (77%) residents completed surveys over four years and learning and performance improved, especially in PCMH principles and behavioral health (BH) competencies. Vaccination rates improved. Qualitative interviews supported quantitative results.

CONCLUSIONS: Enhancing care for children/adolescents within a FM residency clinic requires a multi-pronged approach. This initiative improved children/adolescents' care and increased residents' learning and performance.

KEYWORDS: graduate medical education; curriculum development; patient-centered medical home; mixed-methods; children/adolescents

INTRODUCTION

The patient-centered medical home (PCMH), initially conceptualized by the American Academy of Pediatrics for care of children with complex medical illness, has been adopted by the broader primary care community.¹ Today, PCMH is seen as an ideal care model for all ages,^{2,3} incorporating integrated approaches, including behavioral health (BH).⁴ However, family medicine (FM) initiatives embracing PCMH are less likely to focus on children/adolescents than adults.^{5,6} In this paper we describe a five-year initiative funded by a HRSA Primary Care Training and Enhancement (PCTE) grant to enhance training of child/adolescent care within a FM residency in Rhode Island (RI); and share results from our mixed-methods evaluation.

METHODS

Program Description

The Brown FM residency is a primary care training program based in Pawtucket, Rhode Island (RI). Its main teaching site, a safety-net PCMH clinic, serves majority low-income, diverse and medically complex patients.⁷ Our 2015–2020 HRSA grant, “Transforming Family-Centered Care for Children and Adolescents in Underserved Communities in RI,” aimed to enhance the care delivery for children/adolescents within our resident/faculty PCMH clinic through clinical innovations and resident education, and to increase trainee knowledge of child/adolescent determinants of health.

Specific aims of the grant included providing robust training and practice around PCMH principles, panel management, and population health; enhancing child/adolescent BH; establishing a medical-legal partnership (MLP);⁸ and providing nutrition education. (Table 1)

We sought to educate residents in PCMH concepts through a recurring yearly PCMH clinical rotation in all three years of residency; a third-year BH rotation; community engagement during pediatric outpatient months; and didactic education to increase self-efficacy in addressing health needs of child/adolescents.

We used mixed methods evaluation strategies to adapt our approach over the funding period. The research was approved by the Kent Hospital Institutional Review Board (Warwick, RI).

Study Design

We used mixed-methods to evaluate grant programming, incorporating Moore's Expanded Outcomes Framework for Assessing Learners.⁹ This framework is commonly used to evaluate medical education efforts and outlines seven levels of educational development, ranging from physician participation to community-wide health outcomes.¹⁰ We conducted annual quantitative surveys of all residents in Years 1–4 and annual qualitative interviews with graduating residents in Years 2–5.

Quantitative Data Collection and Analysis

We designed an electronic questionnaire in Qualtrics to evaluate outcomes for each of the grant's components which was administered to all residents at the end of each academic year in grant Years 1–4. Survey completion was voluntary,

Table 1. Overview of program initiatives and curricula

PCMH, Panel Management and Population Health	<p>We designed and implemented the following curricula:</p> <ul style="list-style-type: none"> • Geographic information system (GIS) training to understand community characteristics, taught during residents' first year. • Child/Adolescent panel management, taught during three first-year outpatient blocks, used electronic medical record (EMR) tools to examine individual panels to increase well-child checks and immunization rates. • Scholarly development training, to support population health research, was taught during didactic sessions and individual mentorship across all three years.
Behavioral Health	<ul style="list-style-type: none"> • Curriculum, protocols, and resources were developed to enhance child/adolescent BH care, increase access to services, and augment resident education including screening and management of autism, anxiety, depression and risk-taking behaviors. • For the first three years of the grant, an adult clinical psychologist and clinical social worker provided behavioral healthcare, clinical training, and didactics. In Year 4, a pediatric psychologist was added to the care/training team. • In Year 4, we implemented formal BH screening for patients aged 16-17 during well child visits.
Medical-Legal Partnership (MLP)	<ul style="list-style-type: none"> • We contracted with a regional MLP to enable a lawyer to train residents to address civil legal needs that may lead to health inequities and adverse health outcomes.⁸ These included the right to safe and fair housing; educational, employment, food, health, and disability benefits; and immigration and domestic violence legal needs.
Nutrition	<ul style="list-style-type: none"> • A team of residents and medical students taught weekly nutrition and health topics to 4th graders year-round at a local elementary school. Each resident participated for four weeks in their first and third years of training. • After performing a needs assessment of families with children at the clinic, we designed and implemented FM resident-led family nutrition classes in the community.
Community Adolescent Health Sessions	<ul style="list-style-type: none"> • FM residents paired with young adult facilitators ran health education and empowerment sessions with adolescents at a local community agency, focusing on a variety of topics including communication with clinicians, nutrition, substance use, peer pressure and health careers.
Child/Adolescent Health Didactics	<ul style="list-style-type: none"> • During monthly PCMH rotations, residents were taught about key concepts, research, and clinic design innovations for children/adolescents. Examples include ADHD sample care plans, immunization QI interventions, and policies relating to adolescent consent and confidentiality.

and a \$10 gift card was offered. Data were exported into Microsoft Excel, cleaned and exported to IBM SPSS for analysis. We tracked grant outcomes at four levels of Moore's Framework: participation, learning, performance, and patient health. Participation was evaluated through completion of scholarly development projects related to grant programming. Learning and performance were evaluated via self-reported assessment of confidence and competence related to grant activities. Descriptive statistics were used to summarize residents' responses by year and class. For secondary analysis, we used generalized estimating equations (GEE) to account for repeated resident surveys across years. Count variables were modeled with a Poisson distribution and binary variables with a binomial distribution. Patient-related outcomes were evaluated via an EMR data query to assess change in immunization rates and chi-squared test was used to assess significance between years.

Qualitative Data Collection and Analysis

For this qualitative, phenomenological component of the evaluation we explored residents' experiences with the grant curriculum. We developed a semi-structured qualitative interview guide based on literature and our previous HRSA-funded projects related to PCMH,¹¹ with a new focus on children/adolescents and families. In our final grant year, after all residents experienced the entire curriculum, we added questions to comprehensively evaluate all program initiatives.

We interviewed graduating residents interviewed each spring, and offered \$10 gift cards. Interviews were recorded and professionally transcribed. Our qualitative team (co-authors CG and REG) of experienced interviewers with no supervisory role in residents' clinical work conducted the interviews and analyzed the data. We used Immersion/Crystallization¹² techniques for analysis, reading each interview transcript while taking notes, identifying illustrative quotes, and sorting transcript segments into code categories. We documented patterns within and across transcripts from participants in the same class year. Authors discussed the identified patterns, which led to final data interpretation.

RESULTS

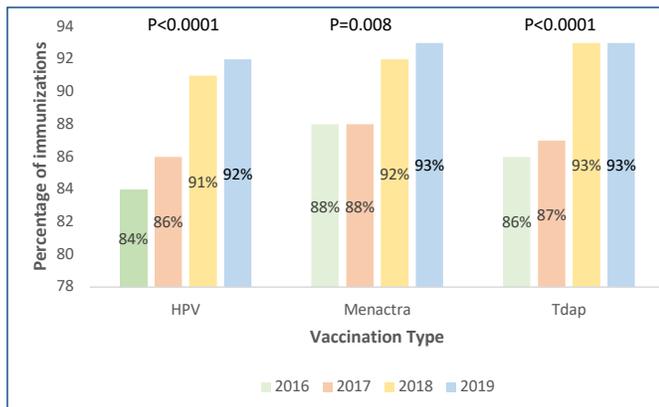
Seventy-seven percent (119/155) of residents completed surveys over a four-year period. (**Table 2**) There was a statistically significant increase in residents reporting being

Table 2. Survey respondents by class year

	2016	2017	2018	2019
PGY-1	10 (32%)	13 (37%)	7 (26%)	9 (35%)
PGY-2	9 (29%)	11 (31%)	11 (41%)	8 (31%)
PGY-3	11 (35%)	10 (29%)	9 (33%)	9 (35%)
Unknown Year*	1 (3%)	1 (3%)	0	0
TOTAL = 119	31	35	27	26

*Respondents chose not to disclose class year.

Figure 1. Change in clinic vaccination rates, 2016–2019
(Moore's Framework Level 6 – Patient Health Outcomes)



'prepared' or 'extremely prepared' to implement patient empanelment, (5/31 or 16.1% Y1; 14/26 or 53.8% Y4, $p<0.01$), and feeling extremely prepared to implement principles of PCMH (2/31 or 6.5% Y1; 6/26 or 23.1% Y4, $p=0.04$). Self-reported performance regarding screening for depression in school-aged children and for anxiety in adolescents increased significantly (11/31 or 35.9% Y1; 16/26 or 61.3% Y4, $p=0.004$; 16/31 or 52.2% Y1; 20/26 or 75.9% Y4, $p=0.007$, respectively). Change in pediatric vaccination rates in the residency clinic, by year, are shown in **Figure 1**.

We conducted 48 qualitative interviews conducted with graduating third-year residents (13, 10, 13, 12 in 2017–2020, respectively). In all areas, we noted improvement in residents' perspectives regarding care of children/adolescents. (**Appendix 1**) For all topics, residents felt sufficiently exposed to different faculty perspectives and practice styles and tools to have obtained the necessary foundation to continue to build their skill after residency.

In the following sections, we present the quantitative and qualitative results for third-year residents by topic.

PCMH, Panel Management and Population Health

The mean confidence among third-year residents in measuring practice-wide clinical outcomes in child/adolescent care after graduation significantly increased between 2016–2019 (2 vs 2.89, $p=0.024$). Residents consistently showed a strong conceptual understanding of PCMH, using terms in interviews such as "multidisciplinary teamwork" and "patient-centered coordination of care." Over time, they were increasingly likely to identify specific roles within a multidisciplinary PCMH, including social workers, pharmacists, and psychologists. Residents were more likely to spontaneously identify strengths of the PCMH clinic and suggestions for improvement of PCMH for children/adolescents in later grant years. For example, they became aware of specific resources that had been implemented, including fluoride varnish, children's books to promote early literacy, and pediatric BH specialist. Residents expressed appreciation for

support staff for care of children within a PCMH, and the importance of adequate staffing, particularly for BH and nutritional needs.

During interviews, many residents expressed uncertainty about their ability to effectively apply the PCMH model to the real world. Some reflected on the inadequacy of reducing PCMH to required "checkbox" categories and risking PCMH devolving into a technical classification rather than a truly improved approach to practice. Over the years, expressions of skepticism toward PCMH increased, even as more residents referred positively to the residency clinic as a PCMH.

All residents valued having been taught to query their panels to determine which children were overdue for well-child checks or vaccines. All felt that more panel management and population health should be included in the curriculum, asserting these are essential to well-functioning practices. Some had identified and seen children who needed care through these efforts. Some anticipated they would do the analyses themselves post residency; others said embedding this task as a support staff role would be more efficient.

Behavioral Health

Between 2016 and 2019, third-year residents reported statistically significant increases in confidence related to child/adolescent mental health screening. For screening school-aged children for depression and anxiety, mean confidence increased (mean = 2 in Y1; mean = 2.78 in Y4, $p=0.003$ for both). For adolescent screening, mean confidence significantly increased for depression (2.45 to 3.11, $p=0.016$) and for anxiety (2.09 to 3, $p=0.004$).

As grant programming evolved, resident classes went from little awareness of the BH role within a PCMH to high awareness. In the 2017 interviews, only a few residents included BH in their PCMH definition. In 2019, all residents except one mentioned this. In later years, residents were more likely to praise the clinic's BH resources, whereas earlier they were more likely to express a need for more BH providers.

In 2020, residents expressed appreciation for the work and teaching of the BH providers, the development of a comprehensive community BH resource guide, and learning from the recently-hired pediatric psychologist. Several residents raised concerns about pediatric BH screening, expressing that identified needs exceeded clinic capacity and community resources. In contrast, others perceived resources for young children to be adequate.

Residents expressed more comfort with BH and developmental screening with young children than with adolescents. This was consistent with a significant increase in mean confidence among third-year residents in screening preschool aged children for developmental delays (2.45 to 3.11, $p=0.03$). Some felt that as they saw more young children, they became more comfortable in their knowledge about developmental milestones. Others explained they

were comfortable screening adolescents for depression because they asked parents to leave the room for other reasons during the visit, though they noted that teenagers are difficult to engage. Regarding screening for developmental delays and autism, several residents appreciated having the “correct pediatric assessment forms” in the clinic to ensure they asked the right questions.

Medical-Legal Partnership

Third-year residents’ self-reported knowledge in making necessary referrals demonstrated a significant increase regarding certain, but not all, issues: employment problems (1.73 in 2016 to 2.56 in 2019, $p=0.001$), parental consent (2 in 2016 to 2.67 in 2019, $p=0.058$), issues related to immigration status (1.55 in 2016 to 2.11 in 2019, $p=0.039$), unmet educational needs (2.27 in 2016 to 2.33 in 2019, $p=0.803$), displacement due to eviction or foreclosure (1.45 in 2016 to 2.22 in 2019, $p=0.0$), unhealthy housing conditions (1.91 in 2016 to 2.56 in 2019, $p=0.019$), disability insurance (1.82 in 2016 to 2.44 in 2019, $p=0.046$), denial or delay of public benefits (1.64 in 2016 to 2.11 in 2019, $p=0.113$) and intimate partner violence or child abuse (2.09 in 2016 to 3.11 in 2019, $p=0.0$).

Residents valued the MLP, especially when the attorney was meeting with patients directly (her role later changed to consulting with residents about patients). They accessed the lawyer during her weekly in-person session at clinic and through email. Residents found the lawyer’s lectures to contain novel, pertinent information about topics such as housing mold and eviction, domestic abuse, maternity leave, immigration status terminology, unemployment during the COVID-19 pandemic due to child care issues, informed consent, and letter writing for work and disability applications.

Nutrition

Most residents chose ‘somewhat confident’ or higher for all questions related to counseling overweight children or adolescents related to physical activity. There was a statistically significant increase over the grant period in the proportion of residents who felt “confident” or “very confident” in MyPlate¹³ counseling (18/31 or 58.1% to 17/25 or 68.0%, $p=0.04$). Third-year residents when analyzed separately did not show significant increase in confidence discussing obesity or overweight with children/adolescents, nor did they have increased confidence in counseling parents or children/adolescents about physical activity or nutrition. This was consistent with qualitative findings. Residents said weight control was more difficult to talk about with children/adolescents than good nutrition in general. With younger children, some residents noted that children’s family members were overweight which guided their strategies for speaking with parents. A few residents were anxious to avoid contributing to children’s body image issues, and did not want to appear judgmental by teaching children that what their parents feed them is unhealthy. Some noted that healthy food

is expensive. Residents said teaching nutrition in a local elementary school was an excellent learning experience and a welcome change of pace from clinical commitments.

Patient Level-Adolescent Vaccination Rates

From 2016–2019, a statistically significant increase in vaccination rates occurred for HPV1 (568/673 to 654/712, or 84.4% to 91.9%, $p<0.0001$), Tdap (577/673 to 661/712, or 85.7% to 92.8%, $p<0.0001$) and Menactra (595/673 to 659/712, or 88.0% to 92.5%, $p<0.008$).

Residents’ Scholarly Activity

Among three graduating classes (2018–2020), the majority (25/38, 66%) of scholarly projects focused on care of children/adolescents.

DISCUSSION

Enhancing care for children/adolescents within a FM residency PCMH clinic requires a multi-pronged approach to implementation and evaluation. Looking at the efficacy of grant implementation through the tiered outcomes lens of Moore’s Framework^{9,10}, and utilizing mixed-methods, allowed us to evaluate a multi-faceted program with complex goals.

Moore’s Framework guided our understanding of our grant’s strongest areas of impact. Survey findings suggest that residents’ learning and possibly performance improved, especially in regard to PCMH principles, BH, and self-reported screening frequency. Patient outcomes as measured by vaccination rates (Levels 6) also improved.

Qualitative interviews provided context for survey findings. For instance, as surveys showed residents’ increasing confidence in implementing PCMH principles for children/adolescents, interviews elicited increasingly detailed understanding of PCMH as a concept; residents frequently referred to their lived experience in a PCMH practice. BH integration responses, too, showed increasing confidence and self-reported frequency of screening; as confirmed in interviews, residents perceived grant-funded BH staff as implementing didactic and clinical improvements for school-aged and younger children mid-way through the grant. Organizational challenges delayed implementation of clinical screening for adolescents’ BH needs until the fourth year of the project, which was reflected in residents’ lack of confidence as identified through qualitative/quantitative data in earlier years.

A major limitation of this study was that Grant Year 5 occurred during the beginning of the COVID-19 pandemic. RI had among the highest rates of infection, nationally. It was not an appropriate time to ask residents to complete a survey so we eliminated this evaluation component that year. Another limitation was only one measurement of patient health outcomes (vaccination data), and no community health data. We experienced challenges in EMR data

extraction, and therefore used self-reported rates of screening as measures of performance. Allocating funds to EMR data extraction should be incorporated in future initiatives.

As a result of this grant, we were able to fund staff (e.g., MLP, evaluation researchers, pediatric BH specialist) who otherwise would not have been hired by our healthcare system. Only some of these positions can be continued via other means (e.g., our Accountable Care Organization is funding MLP). Identifying strategies to sustain essential program staff employment after completion of the grant is critical.

Mixed-methods evaluation strategies can be readily integrated into residency initiatives. Making room in residents' schedules and providing incentives for completion of surveys and interviews are key mechanisms for successful data collection. Incorporating evaluation into education may be beneficial clinically as well. For example, the patient-level vaccination outcomes were obtained from a panel-management didactic. Our residency's next steps include continuation of education sessions across class years; expansion of PCMH services and education to other demographics; and leveraging our evaluation data for program enhancements and future grant applications.

CONCLUSION

Through a HRSA Primary Care Training and Enhancement grant, the Brown FM Residency was able to successfully improve care for children/adolescents within a PCMH, and increase residents' learning and performance in key program areas. A mixed-methods evaluation that incorporated Moore's Framework enabled us to understand the impact of our educational initiatives in detailed and descriptive ways. We believe this strategy can be harnessed by other primary care training programs in the state and beyond to effectively implement and evaluate enhancements in care delivery and resident education.

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Supplemental content

Appendix 2: Quantitative Survey

Brown University. Brown Family Medicine Residency.

Appendix 3: Qualitative Semi-Structured Interview Guide

From HRSA grant to medical practice: Improving pediatric care and resident education in a patient-centered family medicine clinic: Interview questions for residents. Brown Family Medicine

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Differences in Work-Life Experiences of Physicians by Parenting Status, Gender, and Training Level During the COVID-19 Pandemic

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ABSTRACT

BACKGROUND: The COVID-19 pandemic has presented new challenges for physicians, and physician-parents specifically. Few studies have focused on work-life changes in this population. The present study investigated work-life changes in a group of physicians during the first six months of the COVID-19 pandemic.

METHODS: A survey was distributed electronically to physicians affiliated with a U.S. medical school inquiring about experiences during the first six months of the COVID-19 pandemic (March 2020 to September 2020).

RESULTS: In logistic regression models adjusted for age, significantly more female physician-parents reported increased burnout, increased time with kids, and increased fear of going to work compared to male physician-parents. Around 1 in 2 attendings reported burnout, regardless of parenting status.

CONCLUSION: While high rates of burnout were found across all groups in this study, differences were found by gender and parenting status. Further research is needed to understand burnout during the COVID-19 pandemic and to support physician-parents.

KEYWORDS: physician-parents, burnout, COVID-19, pandemic

A recent study in U.S. women found that women physician-parents were more likely to be responsible for childcare, schooling, household tasks, and more likely to work from home and reduce work hours during the pandemic than men physician-parents.⁶

One recent study of participants in a social media group for physician-mothers indicated increased levels of anxiety during the COVID-19 pandemic,¹² suggesting a need for greater community and government support for the mental health of physician-mothers. In separate studies of the same social media group, physician-mothers reported a range of concerns about health and safety for themselves, their families, their staff, and their patients.^{13,14} In another study, female scientists reported decreased time to devote to research during the pandemic, with additive effects among those with young children.¹⁵ Little is known about the different experiences of female physician-parents compared to male physician-parents during the COVID-19 pandemic.

The primary objective of the present study was to investigate gender differences in work-life changes in a group of physician-parents during the first six months of the COVID-19 pandemic. In this study, gender was self-identified. Secondary objectives included examining differences in work-life changes among attendings who were physician-parents compared to physicians who were not parents as well as comparing work-life changes in attendings to trainees.

INTRODUCTION

The COVID-19 pandemic has placed an increased demand on health care professionals and hospitals, imposing limitations on community and social support systems. Notably, the pandemic has presented new challenges for physicians, parents and physician-parents, due to many having changing responsibilities for childcare and at work.¹ Despite studies showing increased rates of insomnia and loneliness,² poor work-life balance,³ and symptoms of mental illness²⁻⁴ among physicians during the COVID-19 pandemic, the experience of physician-parents, and particularly physician-parents who identify as female, has not been well studied.^{5,6} A number of studies performed prior to the COVID-19 pandemic have shown that women physicians spend more time on domestic activities than their male partners.⁷⁻¹⁰ Most studies also find increased burnout in women physicians compared to men.¹¹

METHODS

A survey was distributed electronically via REDCap¹⁶ in September 2020 to residents, fellows, and attendings affiliated with a United States medical school inquiring about work and parenting experiences during the first six months of the COVID-19 pandemic (March 2020 to September 2020). Survey items assessed demographics, training level, parenting status, COVID-19 exposure, and work-life changes between March 2020 and September 2020. A non-proprietary validated single-item questionnaire was used to assess burnout, which has previously been used to assess burnout in health care professionals.^{17,18} All completed surveys were included in the analysis.

Statistical analyses were performed with R studio Version 1.2.5042 (R foundation for Statistical Computing, Vienna Austria, (<https://www.R-project.org>)).

Demographics assessed included self-identified gender (female, male, nonbinary), age, training level, and medical specialty. Parenting status was assessed by asking if participants had children and their ages. For this study, physician-parents were defined as those with children under the age of 18. COVID-19 exposure was assessed by asking how often participants cared for patients with COVID-19 or patients under investigation (PUIs) for COVID-19. Work changes were assessed by asking about the need to take time off, hours per week at different stages of the pandemic, evening work, days of work, work from home, backup call, and feelings about work. Participants were also asked about feeling lonely in the past week, burnout, and work-life balance.

For the purposes of this study, we were specifically interested in parents of children younger than 18 years-old (hereafter referred to as “physician-parents”). Because there were no participants who identified as nonbinary, the primary analyses examined differences between self-identified male and female attending physician-parents. Secondary analyses included comparisons of attending physician-parents and attending physicians who are not parents, as well as trainee physicians compared to attending physicians.

Descriptive statistics were performed for each survey item comparing the above groups. T-tests (for continuous variables) and chi square test (for categorical variables) were performed to compare the two groups for each of the survey items. For those that appeared to be different between the groups, logistic regression analysis was performed with the survey response as the dependent variable, group as the independent variable, adjusting for age. We also adjusted for gender when comparing attending physician-parents with non-parents and when comparing attending and trainee physicians.

The study was evaluated by the Institutional Review Board at Lifespan and determined to be exempt.

RESULTS

We received 245 completed surveys (an estimated 10% overall response rate; 58.8% attendings, 10.6% fellows, 30.6% residents). The three most common specialty responses were internal medicine (28.4%), pediatrics (18.4%), and emergency medicine (10.6%), with each of the remaining specialties accounting for less than 10% of responses.

Attending physician-parent experiences by gender

Our primary analysis was limited to attending physicians, which included 145 individuals (8.1% survey response rate for attendings). Demographics and survey responses for attending physician-parents who identify as female were compared to physician-parents who identify as male (Table 1); in our small study there were no participants who identified as nonbinary. In logistic regression models adjusted for age, significantly more self-identified female physician-parents

Table 1. Demographics and survey responses for attending physician-parents who identify as female (n=33) compared to physician-parents who identify as male (n=34).

	Female	Male	p
Age, mean (sd)	43 (5.5)	45 (8.0)	NS
Taken time off, percent (n)			
For childcare	21.2% (7)	32.4% (11)	NS
For illness	30.3% (10)	17.6% (6)	NS
Hours per week, mean (sd)			
Before COVID	45 (13)	51 (11)	NS
Spring 2020	44 (17)	49 (19)	NS
Fall 2020	48 (16)	51 (11)	NS
Changes in work requirements, percent (n)			
More evening work	39.4% (13)	29.4% (10)	NS
More days of work	24.2% (8)	23.5% (8)	NS
Increased percentage of work from home	72.7% (24)	64.7% (22)	NS
COVID exposure at work			
Weekly or daily	39.4% (13)	50.0% (17)	NS
More than 10 COVID patients total	24.2% (8)	42.4% (14)	NS
Work-life changes			
Feeling lonely in past week (3 or more days)	24.2% (8)	11.8% (4)	NS
Burned out	66.7% (22)	35.3% (12)	0.03
Work-life balance	51.5% (17)	47.1% (16)	NS
Fear of going to work increased	69.7% (23)	29.4% (10)	<0.001
Increase sense of purpose	45.5% (15)	23.5% (8)	0.09
Changes in relationship with child			
Increased connection with child's learning	51.5% (17)	32.4% (11)	NS
More time with children	84.8% (28)	58.8% (20)	0.03
Increased conflict with children	36.3% (12)	17.6% (6)	NS

NS = not significant. p values reported are for t tests or chi square tests comparing the two groups. Only p values < 0.1 were reported.

reported increased burnout (OR 3.6, 95% CI: 1.3–10.8, $p = 0.016$), increased time with kids (OR 4.0, 95% CI: 1.3–14.2, $p = 0.021$) and increased fear of going to work (OR 5.5, 95% CI: 2.0–17.0, $p = 0.002$) compared to self-identified male physician-parents (Table 2).

Attending physician-parents vs. attendings who are not parents

Demographics and survey responses for attending physician-parents were compared to attending physicians who are not parents (Table 3). Notably, after adjusting for age and gender, attending physician-parents were more likely to report increased work from home (including telemedicine) (OR 2.4, 95% CI: 1.1–5.5, $p = 0.027$) as compared to attending

Table 2. Logistic regression demonstrating significant differences by gender and work-life balance concerns.

Burnout		
Predictor	OR (95% CI)	p
Female gender	3.63 (1.30–10.83)	0.016
Age	1.03 (0.96–1.12)	0.39
Increased time with kids		
Predictor	OR (95% CI)	p
Female gender	4.01 (1.30–14.20)	0.021
Age	1.02 (0.94–1.10)	0.66
Increased fear of going to work		
Predictor	OR (95% CI)	p
Female gender	5.54 (1.96–17.00)	0.0018
Age	0.93 (0.86–1.01)	0.11

Table 3. Demographics and survey responses for attending physician-parents compared to attending physicians who are not parents

	Parent of child	Not parent of child	p
Gender (n)			
Female	33 (47%)	36 (49%)	NS
Male	34 (49%)	37 (50%)	
Prefer not to answer	3 (4%)	1 (1%)	
Age, mean (sd)	44 (7.0)	55 (12)	<0.001
Taken time off, percent (n)			
For childcare	28.6% (20)	0% (0)	<0.001
For illness	22.9% (16)	10.8% (8)	NS
Hours per week, mean (sd)			
Before COVID	48 (14)	50 (12)	NS
Spring 2020	46 (18)	48 (19)	NS
Fall 2020	49 (13)	49 (16)	NS
Changes in work requirements, percent (n)			
More evening work	32.9% (23)	20.3% (15)	NS
More days of work	22.9% (16)	20.3% (15)	NS
Increased percentage of work from home	67.1% (47)	51.4% (38)	0.08
COVID exposure at work			
Weekly or daily	45.7% (32)	28.4% (21)	0.05
More than 10 COVID patients total	31.4% (22)	21.6% (16)	NS
Work-life changes			
Feeling lonely in past week (3 or more days)	18.6% (13)	14.9% (11)	NS
Burned out	51.4% (36)	44.6% (33)	NS
Work-life balance	48.6% (34)	55.4% (41)	NS
Fear of going to work increased	51.4% (36)	35.1% (26)	0.07
Increased sense of purpose	35.7% (25)	31.1% (23)	NS

NS = not significant. p values reported are for t tests or chi square tests comparing the two groups. Only p values < 0.1 were reported.

physicians who were not parents. There was no significant difference in burnout between attending physician-parents (51.4%) and attendings who were not parents (44.6%).

Attending physicians vs. trainee physicians

Demographics and survey responses for trainee physicians were compared to attending physicians (Table 4). Notably, after adjusting for age and gender, attending physicians were

Table 4. Demographics and survey responses for trainee physicians compared to attending physicians

	Trainees	Attendings	p
Children < 18			
Yes	11	80	<0.001
No	70	74	
Gender (n)			
Female	73	69	<0.001
Male	28	71	
Prefer not to answer	0	4	
Age, mean (sd)	30 (4.3)	50 (6.9)	<0.001
Taken time off, percent (n)			
For childcare	5.0% (5)	13.9% (20)	0.04
For illness	18.8% (19)	16.7% (24)	NS
Hours per week, mean (sd)			
Before COVID	55 (21)	48 (13)	0.008
Spring 2020	55 (20)	47 (18)	0.006
Fall 2020	61 (15)	49 (15)	<0.001
Changes in work requirements, percent (n)			
More evening work	13.9% (14)	26.3% (38)	0.03
More days of work	7.9% (8)	21.5% (31)	0.007
Increased percentage of work from home	39.6% (40)	59.0% (85)	0.004
COVID exposure at work			
Weekly or daily	65.3% (66)	36.8% (53)	<0.001
More than 10 COVID patients total	45.5% (46)	27.0% (38)	0.003
Work-life changes			
Feeling lonely in past week (3 or more days)	16.8% (17)	16.7% (24)	NS
Burned out	40.6% (41)	47.9% (69)	NS
Work-life balance	65.3% (66)	52.1% (75)	0.1
Fear of going to work increased	53.4% (54)	43.1% (62)	NS
Increased sense of purpose	30.7% (31)	33.3% (48)	NS

NS = not significant. p values reported are for t tests or chi square tests comparing the two groups. Only p values < 0.1 were reported.

more likely to report increased evening work (OR 4.0, 95% CI: 1.6–10.3, $p = 0.004$), more days of work (OR 3.0, 95% CI: 1.0–9.2, $p = 0.049$), and increased work from home (including telemedicine) (OR 2.4, 95% CI: 1.1–5.3, $p = 0.032$). Although trainee physicians were noted to be more likely to be exposed to COVID-19 patients at least weekly (chi-square test – $p < 0.001$) and more likely to have seen more than 10 patients diagnosed with COVID-19 (chi-square test – $p = 0.003$) compared to attending physicians, these results were not significant after adjusting for age and gender.

DISCUSSION

While high rates of burnout were found across all groups in this study of physicians at an academic medical center in the early stages of the COVID-19 pandemic, differences in the experience and impact of the pandemic were found by self-identified gender and parenting status. Importantly, in all groups, around 1 in 2 physicians reported burnout: both attendings who were parents (51.4%) and attendings who were not parents (44.6%) reported high rates of burnout. Burnout was high regardless of training level (40.6% of trainees, 47.9% of attendings). Notably, despite reporting similar work hours to male physician-parents during the COVID-19 pandemic, female physician-parents were more likely to report increased burnout, increased time with their children, and increased fear of going to work. This adds to the literature from other studies of women physicians that show increased burnout, anxiety, distress, and depression,^{19,20} and a higher likelihood of screening positive for PTSD among women physicians.²¹ It also adds to existing literature highlighting women-physician burnout, as a recent study of 215 U.S. parents found that women experienced greater work-to-family conflict, anxiety, and depression during the pandemic compared to men.⁶

Our study adds to other work examining employment changes by gender in many professions during the beginning of the COVID-19 pandemic. These findings are consistent with studies showing work-life changes during the pandemic among mothers in other professions, including in academia, single mothers, and other health care professionals.^{22–25} One study found that mothers of young children reduced hours more than men, the overall work-hour gender gap increased by 20–50%, and that mothers were more likely to reduce work hours than men in dual-earner couples.²⁶ Another study showed that state-mandated closures of childcare facilities were associated with a greater reduction in employment in women compared to men in the United States.²⁷ A large study in Italy showed that almost 20% of the sample experienced significant parenting-related exhaustion, affecting mothers more severely.²⁸ In contrast, another study demonstrated that there was an increase in father involvement in many household and childcare tasks at the beginning of the pandemic.²⁹

In addition to differences among attending physician-parents by gender, our study also showed differences in the experience of attending physicians who are parents of children, compared to those who are not, as well as attendings compared to trainees at the beginning of the COVID-19 pandemic. In particular, attending physician-parents of children were more likely to report increased work from home than attending physicians who were not parents of children. Attending physicians overall were more likely than trainee physicians to report an increase in evening work, days of work, and work from home. We did not study the baseline work schedules of different groups, but it is probable that changes in schedule were greater for physicians with more flexibility, which likely depends on both level of training and specialty.

Our study raises many questions for future research and should be interpreted within its limitations. First, the study represents findings from a single institution with a response rate of only 10%, so the results may be specific to our institution and/or reflect responder bias. Second, the number of responding trainees with children was too low to be analyzed, but studying this subset of physician-parents is also important. Furthermore, while we analyzed data based on self-identified gender and included both same- and opposite-gender couples in our recruitment, we did not further break down our analyses into same-sex and opposite-gender couples due to small sample size. While we included nonbinary options for gender, no one in our sample identified as such, further limiting our study. Additionally, physicians in different specialties may have different experiences during the pandemic, but we did not have enough respondents to study these differences in detail. Although we identified work-life changes during the pandemic, we do not know about the experiences of these physicians prior to the pandemic. In particular, we do not know the pre-pandemic burnout rates, which vary by specialty and gender. Finally, our survey was performed during the first 6 months of the COVID-19 pandemic, and work-life changes continue to evolve over the course of the pandemic. Larger studies are needed to further characterize the relationship between work-life changes, gender, and training level during the COVID-19 pandemic.

In conclusion, our study found higher burnout, increased time with children, and increased fear of going to work among female physician-parents compared to male physician-parents during the first six months of the COVID-19 pandemic. Our work can help inform larger studies that can further shape institutional policies which support physician-parents in order to help prevent burnout, including initiatives such as those targeted towards child-care support, burnout prevention and mitigation, and leave-of-absence policies and protections.

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Become a COVID-19 VACCINE PROVIDER!

Rhode Island State-supported vaccination sites will only be operating for a limited time, but COVID-19 vaccines and boosters are expected to become a part of annual care. To help ensure that COVID-19 vaccines continue to be widely available across the state, the Rhode Island Department of Health is asking primary care providers to enroll in the State-Supplied COVID-19 vaccine program.

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Alcohol-related Liver Disease Among Adults in Rhode Island 2005–2021

TRACY L. JACKSON, PhD, MPH

INTRODUCTION

Alcohol-related liver diseases (ARLD) are a major component of liver disease worldwide and have recently replaced hepatitis C as the leading cause of the need for liver transplant in the United States.¹ There have been substantial increases in the incidence of ARLD in recent years. National estimates indicate the rate of hospitalizations due to alcohol-related cirrhosis nearly doubled between 2012 and 2016 alone, from 19.4 per 100,000 hospitalizations to 37.7.² The number of deaths attributed to cirrhosis among United States (US) adults has also increased over time from an estimated 20,661 deaths in 1999 to 35,174 in 2016, with the greatest average annual increase (10.5%) occurring among those ages 25–34 years, an outcome driven entirely by ARLD.³ Preliminary data also indicate there may be added concern related to increased alcohol consumption during the COVID-19 pandemic.⁴ Some hospitals have reported admissions due to ARLD during the pandemic have increased 30–50% compared to 2019⁵ and others have reported alarming increases in rates of ARLD among young women.⁶

Less is known, however, regarding whether Rhode Island is on a similar trajectory as these national trends. The purpose of the current study was to describe changes in ARLD hospitalizations over time among adults in Rhode Island.

METHODS

Data on inpatient hospital admissions were obtained from the 2005–2021 Rhode Island Hospital Discharge Database (HDD). The RI HDD includes inpatient admissions to all acute care and psychiatric hospitals in the state. Hospitalizations due to ARLD were defined utilizing the *International Statistical Classification of Diseases and Related Health Problems* Ninth Revision (ICD-9-CM; for January 2005–September 2015) and Tenth Revision (ICD-10-CM; for October 2015–December 2021) diagnostic codes on patient records. Each patient may have up to 25 diagnostic codes for a single visit. Patients were defined as having an alcohol-related liver disease if any of the 25 diagnostic codes included: alcoholic fatty liver (ICD-9-CM: 571.0; ICD-10-CM: K70.0), acute alcoholic hepatitis (ICD-9-CM: 571.1, ICD-10-CM: K70.1), alcoholic cirrhosis of liver (ICD-9-CM: 571.2; ICD-10-CM: K70.3), alcoholic liver damage-unspecified (ICD-9-CM:

571.3, ICD-10-CM: K70.9), alcoholic fibrosis and sclerosis of liver (ICD-10-CM: K70.2), and alcoholic hepatic failure (ICD-10-CM: K70.4).

Descriptive analyses were conducted to examine the total number of hospitalizations with an ARLD diagnosis by age group, each year from 2005–2021. Individuals under age 20 and those who were not residents of Rhode Island were excluded from analyses. The rate of ARLD admissions per 100,000 people was calculated utilizing population estimates from the American Community Survey.⁷ Additional analyses were conducted among those 20–39 years old to examine the number of admissions by sex and specific ARLD diagnostic code.

RESULTS

Over the course of the 17-year study period from 2005–2021 there were 29,436 inpatient admissions to Rhode Island hospitals with a diagnostic code indicating alcohol-related liver disease. The number of admissions increased most years and ranged from 1,227 admissions (160 admissions per 100,000 people) in 2005 to 2,461 admissions (300 admissions per 100,000 people) in 2021 (**Table 1**). Across age groups, those aged 40–59 years accounted for the largest proportion (58%) of ARLD admissions. However, the number of admissions with ARLD increased most drastically among the youngest (20–39 years old) age group, from 92 admissions in 2005 to 450 admissions in 2021, a 389% increase. Among the 20–39 years old age group, the number of ARLD admissions was fairly consistent from 2005–2013, but substantial increases were seen in 2014, 2015, 2016, 2019, 2020, and 2021. The age distribution of ARLD hospitalizations changed over time with the proportion of cases occurring among the 20–39 years old age group, increasing from 6–8% in the early years of the study period to around 16–18% over the last three years of the study period.

Further analysis of the 20–39 years old age group found that males accounted for a majority of ARLD hospitalizations each year, but frequency of hospitalizations increased among both males and females over the course of the study period (**Table 2**). Analyses of specific types of ARLD diagnoses found the most substantial increases in hospitalizations due to acute alcoholic hepatitis and alcoholic cirrhosis.

Table 1. Number and Percentage of Hospitalizations due to Alcohol-related Liver Disease, by Age Group and Year

Year	20–39 years		40–59 years		60–79 years		80+ years		Total	
	N	%	N	%	N	%	N	%	N	Rate per 100,000
2005	92	7.5%	801	65.3%	301	24.5%	33	2.7%	1,227	160
2006	111	8.3%	861	64.2%	341	25.4%	29	2.2%	1,342	169
2007	106	7.6%	830	59.8%	413	29.8%	38	2.7%	1,387	177
2008	121	8.3%	917	63.2%	366	25.2%	48	3.3%	1,452	183
2009	91	6.2%	945	64.8%	374	25.7%	48	3.3%	1,458	185
2010	105	6.5%	1,036	64.2%	423	26.2%	50	3.1%	1,614	204
2011	102	5.9%	1,100	63.9%	483	28.0%	37	2.1%	1,722	217
2012	109	6.6%	1,047	63.6%	443	26.9%	48	2.9%	1,647	207
2013	105	6.7%	961	61.0%	478	30.3%	31	2.0%	1,575	196
2014	169	9.6%	1,013	57.4%	535	30.3%	47	2.7%	1,764	218
2015	204	11.1%	1,082	58.9%	516	28.1%	34	1.9%	1,836	226
2016	230	13.0%	1,069	60.5%	433	24.5%	34	1.9%	1,766	217
2017	239	12.9%	1,016	54.9%	548	29.6%	47	2.5%	1,850	227
2018	239	12.0%	1,079	54.1%	635	31.9%	40	2.0%	1,993	244
2019	319	15.5%	1,033	50.3%	654	31.9%	46	2.2%	2,052	250
2020	405	17.7%	1,081	47.2%	734	32.1%	70	3.1%	2,290	279
2021	450	18.3%	1,265	51.4%	710	28.9%	36	1.5%	2,461	300

Note: percentage calculated as (# of ARLD visits within age group/# ARLD visits among all ages) *100

Table 2. Alcohol-related Liver Disease Diagnosis by Year Among Those Ages 20–39 Years

	Sex		Diagnosis ^a				
	Male	Female	Fatty liver	Acute alcoholic hepatitis	Alcoholic cirrhosis of liver	Alcoholic hepatic failure ^b	Alcoholic liver damage unspecified ^c
2005	56	36	10	64	29	n/a	<5
2006	78	33	6	49	60	n/a	7
2007	78	28	10	52	56	n/a	5
2008	88	33	17	79	44	n/a	<5
2009	62	29	15	60	25	n/a	<5
2010	76	29	19	60	46	n/a	6
2011	65	37	11	60	38	n/a	10
2012	73	36	13	76	29	n/a	9
2013	73	32	6	80	35	n/a	<5
2014	116	53	12	130	44	n/a	12
2015	134	70	16	139	69	7	6
2016	152	78	9	163	77	18	16
2017	148	91	13	161	97	19	12
2018	146	93	12	176	90	24	8
2019	201	118	19	230	114	19	14
2020	259	146	21	297	145	33	24
2021	275	175	21	317	167	26	25

Note: diagnostic codes are not mutually exclusive

^a There were no diagnoses of alcoholic fibrosis and sclerosis of liver among 20–39 age group.

^b Alcoholic hepatic failure was new diagnostic code added in October 2015.

^c Data are suppressed where counts are less than five to protect privacy and confidentiality. Any future use of counts to construct proportions, rates, and other statistics is subject to reliability and confidentiality verifications. Please do not attempt to ascertain small numbers not displayed.

DISCUSSION

This analysis shows that hospitalizations related to ARLD have increased significantly in Rhode Island over the course of the last 17 years. The largest rates of increase have been found among adults ages 20–39 years of age – with a nearly 400% increase in number of admission due to ARLD in 2021 compared to 2005.

These findings from Rhode Island on the overall increase in ARLD and the specific increase among younger adults are similar to studies and reports from other regions.^{2,3,5,8} Increasing rates of ARLD diagnoses and hospitalizations are particularly problematic as the more severe forms of ARLD such as severe cirrhosis are often fatal without a liver transplant.^{6,9} ARLD typically takes years to develop, but the metabolism of alcohol varies across individuals and in some cases even a few months of heavy drinking can lead to disease.⁵ Though males are more likely to develop ARLD due to higher rates of alcohol use, it can become a threat to females more quickly because of differences in how males and females process alcohol.^{6,8,10} Higher body mass index, Hispanic ethnicity, and cigarette smoking have also been found to put individuals at increased risk of ARLD, particularly among younger adults.^{12,11}

While incidence of ARLD has been increasing for more than a decade, rates have more sharply increased in 2020 and 2021, which health experts have attributed to increased alcohol use due to the stress and isolation associated with the COVID-19 pandemic.^{4,6} A recent modeling study projected that without intervention, the increased rates of alcohol consumption during year one of the COVID-19 pandemic would lead to an additional 3,100 cases, 100 deaths, and 531,200 disability-adjusted life years lost to alcohol-related cirrhosis by 2023 and an additional 19,800 cases, 8,000 deaths, and 8.9 million disability-adjusted life years lost by 2040.¹²

This study has several limitations. First, the *International Classification of Disease* system of diagnostic codes was updated from the ninth revision to the tenth revision in October 2015, and this change in codes – including the creation of two new ARLD codes – could have led to differences in classifications over the study period. However, the most drastic changes in rates of ARLD were seen in the last several years, well after the update was implemented, so the effects of this change on observed increase is likely minimal. Second, ARLD diagnosis is reliant on patient self-report of alcohol use as well as patients seeking out healthcare, so reporting and selection bias could result in underreporting of ARLD.

Previously thought to be a disease of older adult males, ARLD is a growing concern among adults of all ages and sexes. Late-stage diseases of cirrhosis and liver failure are irreversible; however, if caught at earlier stages, ARLD is reversible if the patient stops drinking alcohol.⁹ Health providers must be aware of these issues and should offer alcohol screening to all patients. Research from the Centers for Disease Control and Prevention indicates that alcohol

screening and brief interventions by healthcare providers can reduce drinking on occasion by 25% among those who drink too much, but that only one in six adults report having ever been asked about alcohol use by a healthcare provider.¹³ Investigators should continue to study these changes in ARLD and further examine the potential impacts of the COVID-19 pandemic on alcohol use and liver disease as additional data become available.

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Author

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Rhode Island Monthly Vital Statistics Report

Provisional Occurrence Data from the Division of Vital Records

VITAL EVENTS	REPORTING PERIOD		
	NOVEMBER 2021	12 MONTHS ENDING WITH NOVEMBER 2021	
	Number	Number	Rates
Live Births	909	11,342	10.7*
Deaths	932	11,716	11.1*
Infant Deaths	3	50	4.4#
Neonatal Deaths	1	40	3.5#
Marriages	386	6,260	5.9*
Divorces	184	2,825	2.7*

* Rates per 1,000 estimated population

Rates per 1,000 live births

Underlying Cause of Death Category	REPORTING PERIOD			
	JANUARY 2021	12 MONTHS ENDING WITH JANUARY 2021		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	197	2,358	214.9	3,669.0
Malignant Neoplasms	197	2,169	197.7	4,395.0
Cerebrovascular Disease	25	420	38.3	430.0
Injuries (Accident/Suicide/Homicide)	110	1,021	93.0	15,013.5
COPD	39	372	33.9	375.0

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

(b) Rates per 100,000 estimated population of 1,097,379 for 2020 (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.

[Vital Statistics March 2021](#)

[Vital Statistics April 2021](#)



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Declaration of a Rhode Island State of Emergency in Child and Adolescent Mental Health

THE AMERICAN ACADEMY OF PEDIATRICS, RHODE ISLAND CHAPTER (RIAAP);
THE RHODE ISLAND COUNCIL OF CHILD AND ADOLESCENT PSYCHIATRY (RICCAP);
HASBRO CHILDREN'S HOSPITAL; BRADLEY HOSPITAL

As health professionals dedicated to the care of children and adolescents in Rhode Island, we have witnessed soaring rates of mental health challenges among children, adolescents, and their families over the course of the COVID-19 pandemic, exacerbating the situation that existed prior to the pandemic. Children and families across our state have experienced enormous adversity and disruption. The inequities that result from structural racism have contributed to disproportionate impacts on children from communities of color at the same time as racial and ethnic diversity has increased in Rhode Island and is projected to rise in the future.

This worsening crisis in child and adolescent mental health is inextricably tied to the stress brought on by COVID-19 and the ongoing struggle for racial justice and represents an acceleration of trends observed prior to 2020. Rates of childhood mental health concerns and suicide rose steadily between 2010 and 2020 and by 2018 suicide was the second leading cause of death for youth ages 10–24. According to the 2019 Rhode Island Youth Risk Behavior Survey, 15% of Rhode Island high school students reported attempting suicide one or more times in the 12 months before the survey was administered. The pandemic has intensified this crisis: we have witnessed dramatic increases in Emergency Department visits for all mental health emergencies including suspected suicide attempts.

The pandemic has struck at the safety and stability of families. More than 140,000 children in the United States lost a primary and/or secondary caregiver, with youth of color disproportionately impacted. We are caring for young people

with skyrocketing rates of depression, anxiety, trauma, and suicidality that will have lasting impacts on them, their families, and their communities. We must identify strategies to meet these challenges through innovation and action, focusing on state and local interventions designed to improve equitable access to care including mental health promotion, prevention, and treatment. Taking into account Rhode Island's specific existing resources and our state's unique strengths, we urge a particular focus and investment in community-based and community-responsive outpatient care designed to identify and treat youth earlier in their course of illness. This would reduce the burden on individual children and their families as well as the impact on our higher levels of care and schools by decreasing escalation to full-blown mental health crises.

The challenges facing children and adolescents are so widespread that we call on policymakers at all levels of state government, advocates for children and adolescents, and community stakeholders to join us in this declaration and advocate for the following:

- Increase state funding, including Medicaid rates, dedicated to ensuring that all families and children, from infancy through adolescence, can access evidence-based mental health screening, diagnosis, and treatment to appropriately address their mental health needs, with particular emphasis on meeting the needs of under-resourced populations.
- Fully fund and prioritize comprehensive, community-based systems of care that connect families in need of

outpatient behavioral health services and supports for their children with evidence-based interventions in their home, community or school as well as follow-up with families to overcome any barriers to engagement in care.

- Accelerate strategies to address longstanding workforce challenges in child mental health, including innovative training programs developed collaboratively by Rhode Island's existing healthcare professional programs, loan repayment and reduced/free tuition consistent with RI Promise grants, and intensified efforts to recruit and retain underrepresented populations into mental health professions as well as attention to the impact that the public health crisis has had on the well-being of health professionals.
- Increase implementation and sustainable funding of effective models of school-based mental health care with clinical strategies, including a mental health "warmline" for school staff to access care comparable to the existing PediPRN model for pediatricians, and models for payment.
- Accelerate and incentivize adoption of effective and financially sustainable models of integrated mental health care in primary care pediatrics, including clinical strategies and models for payment.
- Address the ongoing challenges of the acute care needs of children and adolescents, including shortage of beds and emergency room boarding, by expanding access to short-stay stabilization units and community-based response teams. ❖

Statement from The Memory and Aging Program at Butler Hospital on CMS National Coverage Determination for Monoclonal Antibodies Directed Against Amyloid for the Treatment of Alzheimer's Disease

PROVIDENCE – The Memory and Aging Program at Butler Hospital is disappointed by the Centers for Medicare & Medicaid Services (CMS) National Coverage Determination limiting coverage for monoclonal antibodies directed against amyloid to patients enrolled in a randomized controlled trial. This decision restricts access to this medication to patients with the means to cover the cost of treatment.

Alzheimer's disease is a progressive neurological disorder leading to disability and death and is the disease most feared by older people. Aducanumab (Aduhelm), and medicines like it, lower the build-up of amyloid plaques in the brain and may slow down the disease process, allowing patients the opportunity to remain independent longer with better quality of life. With this decision, many patients with early Alzheimer's disease will not have access to treatment. Further, other amyloid lowering drugs that may receive full approval from the FDA in the future will also be required to participate in a Coverage with Evidence Development trial, despite showing clear clinical benefit on testing, an unprecedented position that CMS has not taken with medications for other diseases.

“Clearly there needs to be improved collaboration between the FDA and CMS so that we can bring new treatments and diagnostic tests to patients who need them. The Memory and Aging Program (MAP) remains dedicated to making advances in the fight against Alzheimer's disease and to offering patients and families the very best treatment options. We are working closely with the FDA and other Alzheimer's disease experts to ensure that physicians have the information and guidance they need to safely offer these new treatments. MAP is working closely with the Alzheimer's Association, The American College of Radiology, the American College of Neuroradiology and the Brown Center for Biostatistics to create the Alzheimer's National Registry for Treatment and Diagnostics to serve as a national registry for studying the safety and efficacy of new treatments for Alzheimer's disease, aligned with CMS guidelines. Our ultimate goal is to offer patients and families the hope of greater dignity, and continue the gold standard of care they come to expect from our program,” said **STEPHEN SALLOWAY, MD, MS**, Director of Neurology and the Memory and Aging Program, Butler Hospital. ❖

Emma Pendleton Bradley Hospital opens in 1931

First hospital in U.S. to treat children with mental health, neurological disorders

MARY KORR
RIMJ MANAGING EDITOR

The Emma Pendleton Bradley Home, now hospital, opened in 1931, the first facility to treat children with mental health and neurological disorders in the United States. Its unique history is woven into the medical/business tapestry of the late 19th and early 20th centuries, and the story of a seven-year-old girl stricken with encephalitis. **Emma Pendleton Bradley** (1879–1907)



The Bradley family estate on Eaton Street, home to an earlier treatment facility for children in Providence, was purchased by Providence College in 1926.

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was the daughter of Providence business executive and financier **George Lothrop Bradley**, who worked with Alexander Graham Bell to market the telephone, and his wife, **Helen McHenry Chambers Bradley**, the daughter of a Virginia physician.

Prior to the advent of conventional therapies used today, the diagnosis of encephalitis left Emma with multiple disabilities, including epilepsy, cerebral palsy and severe developmental delays. Her parents traveled the world seeking treatment for their only child, who had round-the-clock aides caring for Emma at



Portrait of Emma Pendleton Bradley.
George Lothrop Bradley (at right)



their summer home in Pomfret, CT. The fields of psychiatry and neurology as they pertained to children were in their infancy, and the couple sought in vain. From their futile quest, a legacy was born.

When George Lothrop Bradley died in 1906, his will contained a bequest that the Bradley family estate in Providence, upon the death of his daughter and wife, become the Emma Pendleton Bradley Home for the treatment of children. Emma died in 1907 and Helen Bradley passed away in 1919. The terms of the will stated it would give preference to poor and needy children from Rhode Island, and families were only billed if they could afford it.

In 1927, the Rhode Island Hospital Trust, which managed the family estate on Eaton Street, sold it and purchased 35 acres of woodland along the Barrington Parkway in East Providence. The Emma Pendleton Bradley Home was officially dedicated on April 8, 1931 during a ceremony in the hospital's Pine Room.

Today, the Bradley family rests in peace in the family plot in Swan Point Cemetery – and 91 years later, their legacy continues to evolve in the children's hospital by the riverside. ❖



Archival photo from the 1930s of the East Providence hospital.

[PHOTOGRAPHS COURTESY OF EMMA P. BRADLEY HOSPITAL, LEVY LIBRARY ARCHIVES AND BRADLEY HOSPITAL.]



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Working for You: RIMS advocacy activities

April 4, Monday

RIMS Council meeting:
Elizabeth Lange, MD, President

April 5, Tuesday

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

American Medical Association (AMA)
Advocacy Resource Center conference call
regarding value-based payment systems
Legislative Committee hearings

April 6, Wednesday

RIMS Foundation Physician Health
Program Governance Committee:
Jerald (Jerry) Fingerut, MD, Chair
CMS Region 1 Introductory meeting:
Stacy Paterno, RIMS staff
Legislative Committee hearings

April 7, Thursday

Meeting with Blue Cross & Blue Shield of
Rhode Island (BCBSRI): **Elizabeth Lange,
MD**, President; **Thomas A. Bledsoe, MD**,
President-elect
Legislative Committee hearings
RI Department of Health (RIDOH)
Diabetes Prevention Program Stakeholder
Network meeting
Political Fundraiser

April 8, Friday

RIMS NOTES: Biweekly newsletter
preparation

April 12, Tuesday

Alpert Medical School Student Health
Council: **Kathleen Boyd, MSW**, Advisor;
Joanna Vaz MacLean, MD, Advisor
Meeting with Neighborhood Health Plan
of Rhode Island: **Elizabeth Lange, MD**,
President
Political Fundraiser
Legislative Committee hearings:
Michael Migliori, MD, Public Laws
Committee Chair

April 13, Wednesday

Governor's Overdose Intervention and
Prevention Task Force: **Sarah Fessler, MD**,
RIMS Past President
RIDOH Board of Medical Licensure
and Discipline (BMLD)
Legislative Committee hearings

April 14, Thursday

Meeting with Rhode Island Food Bank:
Stacy Paterno, RIMS staff
Political Fundraiser
RIMS Climate Change Committee
meeting

April 18, Monday

Recovery Television Taping:
Senator Joshua Miller and RIMS Staff
State House Update: **Michael Migliori,
MD**, Public Laws Committee, Chair;
Peter Karczmar, MD, RI Medical Political
Action Committee (RIMPAC), Chair
Legislative Committee hearings

April 19, Tuesday

Office of the Health Insurance
Commissioner (OHIC) Health Insurance
Advisory Committee (HIAC): **Catherine
A. Cummings, MD**, Past President

April 20, Wednesday

RIDOH Primary Care Physicians
Advisory Committee (PCPAC):
Elizabeth Lange, MD, President
CMS Region 1/New England Medical
Societies Quarterly Meeting: Stacy
Paterno, RIMS staff

April 21, Thursday

Health Information Technology (HIT)
Steering Committee

April 27, Wednesday

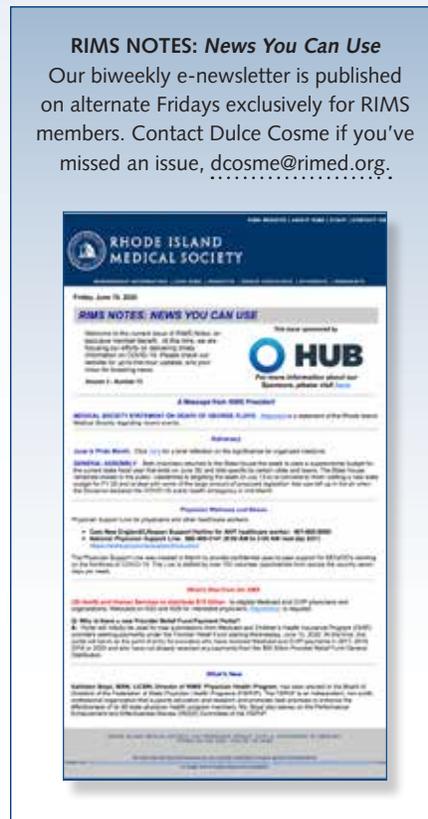
RIDOH Health Professional Loan
Repayment Program (HPLRP) Board:
Steve DeToy, RIMS Staff, Board member
Legislative Committee hearings

April 28, Thursday

Political Fundraiser
Governor's Overdose Task Force (GOTF):
Racial Equity Work Group
Legislative Committee hearings

April 29, Friday

Legislative Committee hearings





RIMS CORPORATE AFFILIATES

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

Contact Ali Walz for more information: 401-331-3207 or awalz@rimed.org



www.nhpri.org

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



www.ripccpc.com

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



RIMS gratefully acknowledges the practices who participate in our discounted Group Membership Program



Orthopaedic Associates, Inc.



Ortho Rhode Island



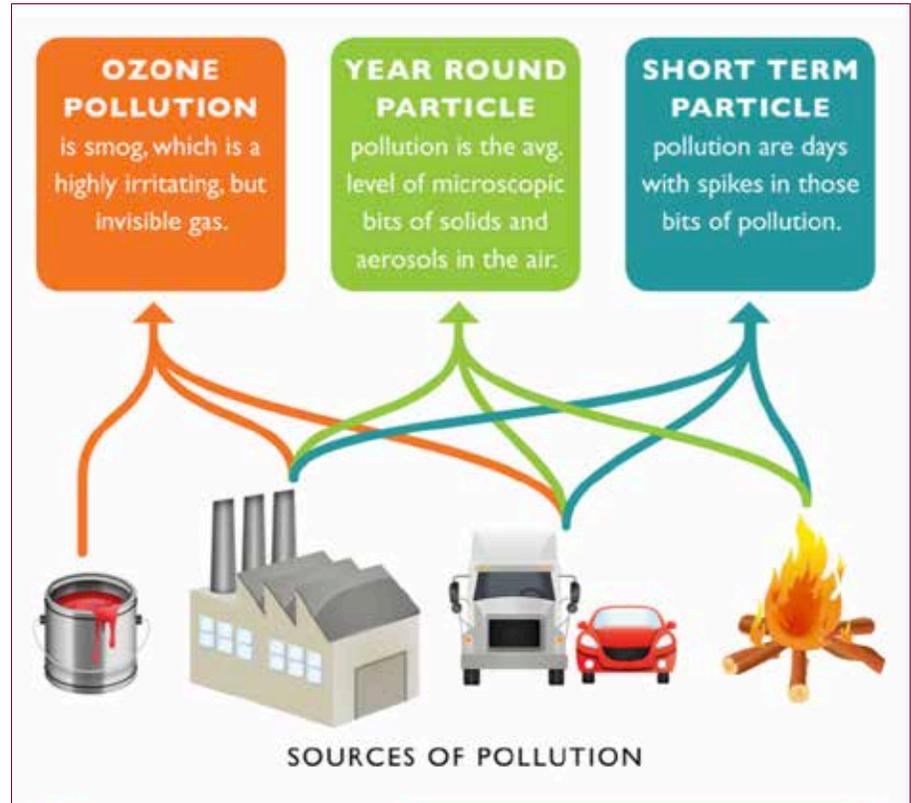
'State of the Air' report finds RI air quality improvement for particle pollution, ozone

PROVIDENCE – The 2022 “State of the Air” report, released recently by the American Lung Association, finds that Rhode Island’s counties improved their grades for some of the most harmful and widespread types of air pollution: particle pollution and ozone. The Boston-Worcester-Providence metro area, which includes Rhode Island’s five counties improved for ozone for the second year in a row, and ranked as one of the cleanest cities for short-term particle pollution for the third year in a row.

The “State of the Air” report is the Lung Association’s annual air quality “report card” that tracks and grades Americans’ exposure to unhealthy levels of ground-level ozone air pollution (also known as smog), annual particle pollution (also known as soot), and short-term spikes in particle pollution, over a three-year period. This year’s report covers 2018–2020. See the full report at Lung.org/sota.

“On unhealthy air days, ozone and particle pollution can harm the health of all of our residents, but particularly at risk are children, older adults, pregnant people and those living with chronic disease. Both ozone and particle pollution can cause premature death and other serious health effects such as asthma attacks, cardiovascular damage, and developmental and reproductive harm. Particle pollution can also cause lung cancer,” said Daniel Fitzgerald, director of advocacy for the Lung Association in Rhode Island. “Fortunately,

Sources of Air Pollution



the area did see an improvement in the levels of both pollutants this year.”

Ground-level ozone pollution in Providence

Compared to the 2021 report, the Boston-Worcester-Providence metro area experienced fewer unhealthy days of high ozone in this year’s report. “State of the

Air” ranked the metro area as the 47th most polluted city for ozone pollution, which is better compared to their ranking of 40 in last year’s report.

Notable county grades on ozone

- Two of the three reporting counties, Kent and Washington, improved their

Groups at Risk

County	Total Pop	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty Estimate	People of Color
Bristol	48,350	8,824	10,026	836	4,794	2,952	30	3,449	422	3,747	4,445
Kent	164,646	30,311	32,853	2,872	16,302	9,887	102	11,500	1,427	12,295	21,823
Newport	81,836	13,418	19,370	1,272	8,264	5,242	51	6,204	669	7,413	11,923
Providence	636,547	129,300	102,173	12,253	61,549	33,577	394	37,987	6,319	75,510	257,091
Washington	125,746	19,996	28,055	1,895	12,795	7,920	78	9,299	1,106	9,341	11,750
TOTAL:	1,057,125	201,849	192,477	19,128	103,704	59,578	655	68,439	9,943	108,306	307,032

[GRAPHICS: NATIONAL LUNG ASSOCIATION, STATE OF THE AIR 2022 REPORT CARD FOR RI.]

grades from F to D, while Providence maintained the failing grades from last year's report.

- Each county reported decreased levels of ozone pollution.
- All other counties did not collect this data.

Particle Pollution in Providence

The report also tracked short-term spikes in particle pollution, which can be extremely dangerous and even lethal. Providence's short-term particle pollution maintained an A grade in this year's report, which means there were zero unhealthy days. However, Providence continued to rank as the most polluted county in the Boston-Worcester-Providence metro area for year round particle pollution. The area is ranked 86th most polluted for year-round particle pollution, slightly better than the ranking of 84 last year).

Notable county grades on particle pollution:

- All three reporting counties maintained A grades for short-term particle pollution.
- All counties continued to meet the national standard for year-round particle pollution.
- Washington County ranked as one of three of the cleanest counties in the nation for year-round particle pollution.
- Providence County ranked as the most polluted for year-round particle pollution in the Boston-Worcester-Providence metro area.

Nationwide

The report found that nationwide, nearly 9 million more people were impacted by deadly particle pollution than reported last year. It also shows more days with

“very unhealthy” and “hazardous” air quality than ever before in the two-decade history of this report. Overall, more than 137 million Americans live in counties that had unhealthy levels of ozone or particle pollution. Communities of color are disproportionately exposed to unhealthy air. The report found that people of color were 61% more likely than White people to live in a county with a failing grade for at least one pollutant, and 3.6 times as likely to live in a county with a failing grade for all three pollutants.

The addition of 2020 data to the 2022 “State of the Air” report gives a first look at air quality trends during the COVID-19 pandemic. Regardless of the shutdowns in early 2020, there was no obvious improvement. ❖

Did you know? Nearly 70% of smokers want to Quit.¹

QUITWORKSSM-RI

We can provide your patients with FREE evidence-based tobacco cessation and nicotine addiction treatment services:

- FREE phone-based counseling and virtual support tools
- FREE FDA-approved nicotine replacement therapy (NRT) (for medically eligible patients age 18+)
- Simple and quick patient referrals, made online or by fax
- Providers receive HIPAA-compliant follow-up reports

QuitWorks-RI tobacco cessation services are provided free of charge for all Rhode Island residents, regardless of insurance status. All provider types and specialties may refer patients ages 13 and older.

Connect your practice and patients today.

Visit: ri.quitlogix.org

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





Timothy J. Babineau, MD, stepping down as Lifespan President, CEO

PROVIDENCE – The Lifespan Board of Directors announced on April 14th that it had accepted the resignation of President and CEO **TIMOTHY J. BABINEAU, MD**, effective May 31, 2022. At the request of the board, he will stay on as a consultant to the system through the end of September.

The Board will appoint an interim leader in the coming weeks and will conduct a national search to identify his successor.

“We are very grateful to Dr. Tim Babineau for his extraordinary leadership and exceptional service to Lifespan and the people of Rhode Island. Over the past decade, Dr. Babineau led the way transforming Lifespan into a world-class academic health system. We wish him and his family the very best in their next chapter,” said **DR. ZIYA L. GOKASLAN**, a Lifespan board member and Chief of Neurosurgery at Rhode Island and The Miriam hospitals and Director of the Comprehensive Spine Center at Rhode Island Hospital, and Clinical Director of the Norman Prince Neurosciences Institute.

Dr. Babineau first took the helm at Lifespan in August of 2012, following his tenure as President of Rhode Island Hospital, Hasbro Children’s Hospital and The Miriam Hospital.

His long-held vision, and what attracted him to Rhode Island, was the promise and opportunity to bring Lifespan, Care New England, and Brown University together to create a Rhode Island-based, integrated academic health system that would improve quality, access, and affordability of healthcare for all Rhode Islanders, a vision that unfortunately did not come to fruition.

“I joined Lifespan because I thought I could make a difference and I was impressed with the compassion, intelligence, and experience of those who work here and the quality of care provided to our patients. My initial impressions of Lifespan and our workforce have been not only validated but exceeded repeatedly over the years. It’s been nearly 10 years since I took this role, and while it has been difficult at times, it has been an extremely rewarding experience,” said Dr. Babineau.

“It is hard for me to put into words the incredible honor and privilege I have been given over these past several years to lead such an incredible organization. Working with my teams and all of the employees and caregivers at Lifespan, along with the board of directors, has been incredibly gratifying. Despite some recent challenges brought on by the pandemic, Lifespan is well positioned for continued future success on its journey to achieve the vision set forth in Lifespan 2025, our organization’s strategic plan. I am incredibly optimistic about Lifespan’s future and feel gratified to be leaving it on sound footing.” ❖

Whitehouse secures \$450K to connect electronic health records

Funding will support launch of new electronic records initiative through the Rhode Island Quality Institute

PROVIDENCE – U.S. Senator **SHELDON WHITEHOUSE** announced recently that he has secured \$450,000 to help the Rhode Island Quality Institute launch a new program aimed at improving patient care by expanding the availability of data from electronic health records in more health care settings. The Congressionally Directed Spending request was included in the omnibus bill that President Biden signed into law last month.

“Everyone wins when electronic health records are easily accessible to different providers. Patients get better, more efficient care and there is less waste in the system,” said Whitehouse, who founded the Rhode Island Quality Institute while serving as Rhode Island’s attorney general. “The Rhode Island Quality Institute has made a real difference in health care over the past two decades, and I’m pleased to deliver federal funds so that its services can reach more patients.”

The Rhode Island Quality Institute operates CurrentCare, Rhode Island’s health information exchange. The exchange supports access to medical data that enables better care coordination, reduces medical errors and waste, advances quality measurement, and engages patients and families in care decisions. CurrentCare was the first health information exchange in the nation to develop an independent patient portal. The exchange won the National Council for Community Behavioral Health’s Impact Award for Excellence for enabling substance abuse and alcohol treatment health data to flow into the health information exchange.

The federal funds will be used to develop, deploy, and evaluate a digital system to improve the quality of care for residents of skilled nursing facilities, home health agencies, and hospice and palliative care facilities across the state. The system will connect with existing

electronic health record systems used in different health care settings. In addition, the Rhode Island Quality Institute will help facilities that do not currently use CurrentCare to adopt it, and provide one-time support to upgrade existing electronic health record systems at Rhode Island hospitals and support information sharing across transfers.

“We are pleased to have the opportunity to lead this project that will benefit the many Rhode Islanders with high-need conditions who reside either in skilled nursing facilities, home health agencies, or hospice/palliative care facilities. This project will improve quality of care for these patients and will serve as a model for how public health infrastructure can significantly improve quality of care, improve patient satisfaction, and reduce healthcare expenditures,” said **NEIL SARKAR, PhD**, President and CEO of the Rhode Island Quality Institute. ❖

Lifespan hospitals join National Age-Friendly Health Systems Initiative

PROVIDENCE – Lifespan affiliates Rhode Island Hospital, The Miriam Hospital and Newport Hospital have formally begun participating in the Age-Friendly Health Systems initiative, a nationwide movement to advance health care for older adults.

Age-Friendly Health Systems, launched in 2017, is an initiative of The John A. Hartford Foundation and the Institute for Healthcare Improvement, in partnership with the American Hospital Association and the Catholic Health Association of the United States. They are helping hospitals and other care settings implement a set of evidence-based interventions specifically designed to improve care for older adults.

The initiative is based on a series of practices focused on addressing four essential elements of care for older patients:

- **What Matters:** Align care with each older adult's specific health goals and preferences, including end-of-life care.
- **Mentation:** Prevent, identify, treat, and manage dementia and depression.
- **Mobility:** Ensure that older adults move safely every day to maintain function
- **Medication:** If necessary, use medications that do not interfere with mobility, mentation or what matters to the older adult.

Lifespan's Age-Friendly interventions will initially focus on mobility, volunteer support, doll therapy, geriatric resource nurse training, and medication alerts. ❖

VA Providence Healthcare System holds ribbon cutting for advanced hemodialysis facility

PROVIDENCE – The VA Providence Healthcare System (VAPHS) held a ribbon cutting for its state-of-the-art hemodialysis facility on April 18th at the VAPHS Providence campus on Chalkstone Avenue.

The new hemodialysis wing comprises more than 12,000 square feet of newly constructed clinical space and can service 14 dialysis patients simultaneously, including two private rooms with one negative pressure room that can be used for high-risk patients such as those with COVID-19. ❖

Integra Community Care Network, Flourish Fund announce maternal wellness program

PROVIDENCE – Integra Community Care Network and the Flourish Fund announce an innovative community-based program for parents-to-be to improve health outcomes and equity for pregnant patients. The maternal wellness program will connect eligible families to a range of resources, including community-based providers, online education, and a “wellness essentials” care package to support them during pregnancy, birth, and early parenthood.

This pilot program will be offered to patients of the Obstetrics and Gynecology Care Center (OGCC) at Women & Infants Hospital who are also members of Integra's Medicaid Accountable Entity program.

“Integra is committed to finding innovative ways to help our members meet their healthcare needs,” said **JOHN MINICHIELLO**, president of Integra Community Care Network. “We're excited to partner on this initiative and to provide a new level of maternity care in the community.”

The goal of this wellness program is to improve maternal and infant health outcomes such as C-section rates, breastfeeding rates, pre-term birth rates, NICU and emergency department utilization, mental health, patient satisfaction, and self-efficacy.

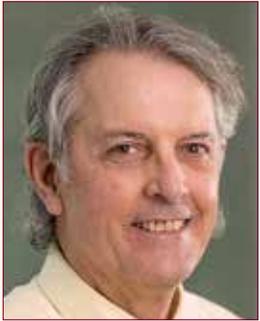
The Flourish Fund will help match eligible patients to a choice of appropriate community-based doulas based on patient preferences including preferred language. Enrolled members can receive doula support during their pregnancy, birth and up to six months postpartum. In addition, patients will receive access to monthly education in the form of live webinars as well as videos and articles by national and local experts, in both English and Spanish. All enrolled patients will also receive a parent and baby “wellness essentials” care package.

Integra Community Care Network has partnered with the Flourish Fund to help refer patients to culturally and linguistically appropriate birth and postpartum independent community-based doulas participating in the program.

“The Flourish Fund is excited to partner on this innovative model of maternity care that extends support beyond the clinic and into the community. Partnerships like this provide families access to a unique combination of education, tools, and the right support system from pregnancy through post-partum,” said **MELISSA BOWLEY**, CEO & Founder of Flourish Fund.

The program is directly funded by Integra as part of its Medicaid AE program. The program will be available at no cost to members who enroll. ❖

Appointments



Joseph P. Turner, DO, joins South County Primary Care practice

EAST GREENWICH – **JOSEPH P. TURNER, DO**, has joined the South County Health Medical Group Primary Care practice

in East Greenwich.

Dr. Turner attended The University of Health Sciences College of Osteopathic Medicine in Kansas City, MO, where he earned a Doctorate on Osteopathic Medicine before completing an internship and residency in internal medicine at Roger Williams Medical Center in Providence.

Prior to joining South County Health's Primary Care practice, Dr. Turner practiced primary care medicine in skilled nursing facilities and office-based practices.

Dr. Turner is past medical director of South County Health Express Care in East Greenwich, and practiced per diem as house officer/hospitalist and Fast Track emergency medicine at South County Hospital. ❖



Paari Gopalakrishnan, MD, named Kent Hospital President and COO

WARWICK – **PAARI GOPALAKRISHNAN, MD, MBA**, has been appointed Kent Hospital President and COO.

Prior to assuming his position at Kent Hospital, Dr. Gopalakrishnan served as Chief of the Division of Hospitalist Medicine at Greenville Health System in Greenville, South Carolina. He was also appointed a clinical assistant professor at the University of South Carolina's School of Medicine. As a senior leader in a

diverse, multi-hospital system he championed a rapidly growing division of roughly 100 physicians encompassing acute-care hospitalist medicine, post-acute care medicine, and inpatient psychiatry.

He received his undergraduate degree from Texas A&M University, a medical degree from the University of Texas Health Science Center at San Antonio, and completed his internal medicine residency at Brown University. He received his MBA with honors from Bryant University. ❖



Ashley A. Hughes, MSPAS, PA-C, named PA Program Director at Bryant

SMITHFIELD – **ASHLEY A. HUGHES, MSPAS, PA-C**, has been appointed as Program Director for Bryant University's Master of Science in Physician Assistant Studies (MPAS) program following a national search. Hughes is an experienced program director, academic coordinator, PA faculty member and practicing clinical physician assistant.

She joins Bryant from Johnson and Wales University, where she has served as Interim PA Program Director, PA Academic Coordinator, and Associate Professor. She previously served on the PA faculty of Northeastern University and the Community College of Rhode Island.

Hughes currently serves as Clinical Physician Assistant at Kent County Hospital, where she has been since 2014, and Physician Assistant II at Brigham & Women's Hospital. She received her Master of Science in Physician Assistant Studies from Northeastern University and holds a Bachelor of Science degree in Forensic Science from the University of New Haven. ❖

Recognition

RI Organ Donor Awareness event held at State House

PROVIDENCE – An Organ Donor Awareness event was held at the State House on April 4th, organized by New England Donor Services (NEDS), Rhode Island's local organ procurement organization.

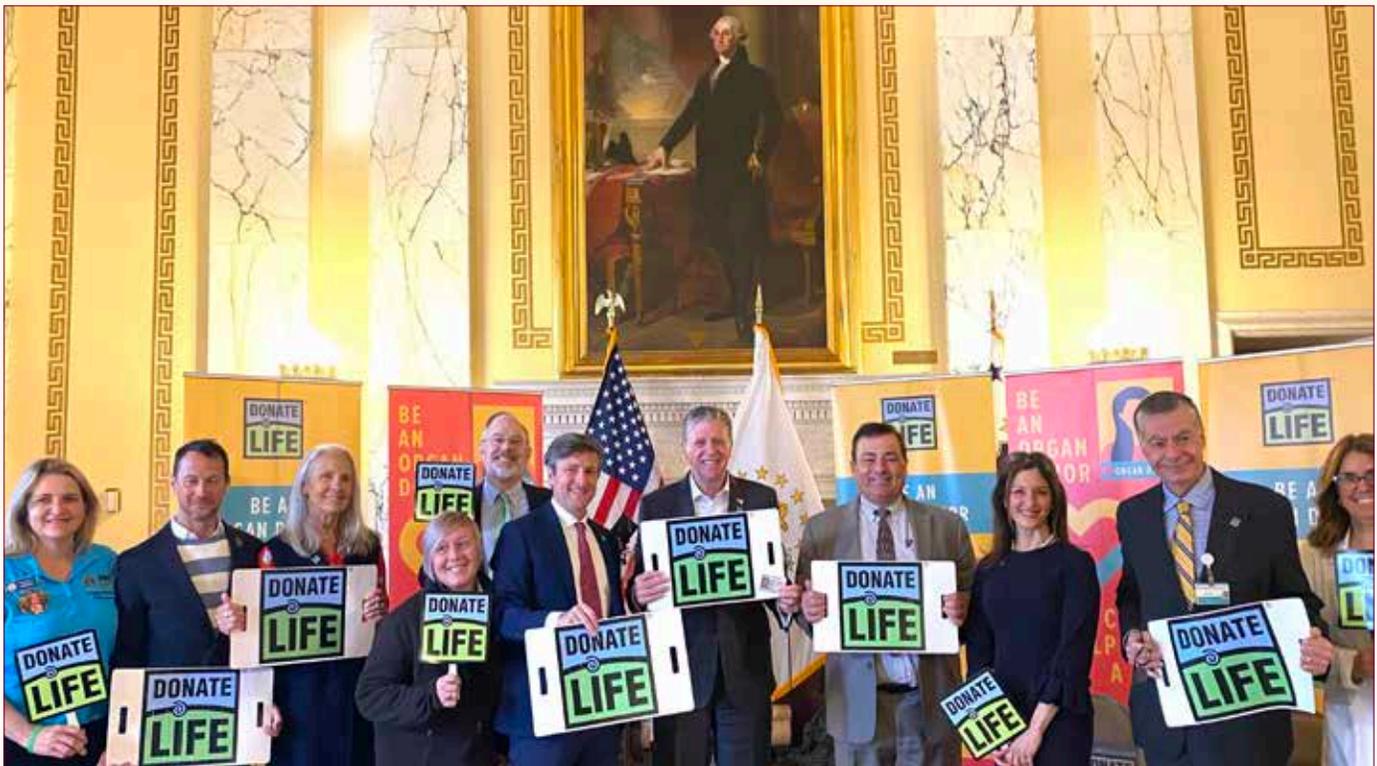
PAUL E. MORRISSEY, MD, FACS, Professor of Surgery, Warren Alpert Medical School at Brown University and Director, Division of Organ Transplantation, Rhode Island Hospital, spoke about

the need for the citizens of Rhode Island to donate their organs when eligible upon their death. The organ allocation system is partly based on geography and local donors increase the likelihood that a Rhode Island resident will benefit from their gift.

He noted the recent 25th anniversary of the first renal transplants at Rhode Island Hospital. "Since then, we have transplanted over 1,400 people from Rhode

Island and Southeastern, MA. Many of those people would not have the means or the ability to travel to Boston or to other distant transplant centers to be evaluated for the wait list. Our work depends on the generosity of our fellow citizens."

Registrations as an organ donor can be made through the DMV (driver's license) or on-line at www.donatelifenewengland.org. ❖



Pictured are donor family members, **Kim Dolan** (heart recipient), **Tamara Sexton** (NEDS), **Matt Boger** (NEDS), **Gov. Dan McKee**, Speaker of the House **K. Joseph Shekarchi**, **Alex Glazier** (NEDS), **Paul Morrissey, MD**, (RIH), and **Melissa Kirton** (RIH).

Hasbro Children's Hospital's Trauma, Burn Centers reverified

PROVIDENCE – The Pediatric Trauma Center at Hasbro Children's Hospital has been reverified as a Level 1 Trauma Center by the American College of Surgeons (ACS) and the Pediatric Burn Center at Hasbro Children's has been reverified as a center by the American Burn Association (ABA).

The verification as a Level I pediatric trauma center extends through January 2024 and burn verification extends through January 2025.

"Reverifying our hospital as a Level 1 pediatric trauma and burn center recognizes the delivery of extraordinary critical care for Rhode Island's children and also children throughout southern New England," said **SAUL N. WEINGART, MD**, president, Rhode Island Hospital and Hasbro Children's Hospital. "These reverifications acknowledge the work of our exceptional staff. I am delighted to see their efforts formally recognized and thank them for their continued dedication and service." ❖