THIS ISSUE’S TOPIC: MENTAL HEALTH

ORIGINAL RESEARCH

Association of Blood Alcohol and Alcohol Use Disorders with Emergency Department Disposition of Trauma Patients

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WHAT HAS CALIFORNIA ACEP DONE FOR MENTAL HEALTH LATELY?

Because this issue of Lifeline is about Mental Health, I would like to focus in on some of the work California ACEP has done in that space during my time on the Board of Directors.

We know all too well the challenges that patients with a mental health condition face and, likewise, our challenges as emergency physicians in getting these patients a higher level of care than we can offer. Compelled to address these challenges, California ACEP has made improving mental health care in our state a priority since 2015.

Recently, our mental health “wins” included a $20 million budget allocation to support substance-use counselors in the ED and AB 451, which became law in January of 2022, and requires free-standing psychiatric hospitals to accept patients in transfer under the same rules as other EMTALA-bound facilities, without regard to ability to pay.

In 2018, California ACEP sponsored two pieces of legislation that were signed into law which helped remove barriers to transferring patients to the care they are awaiting.

First, AB 2983 was signed into law. It prohibits hospitals and stand-alone psychiatric facilities from requiring patients be placed on a 5150 hold as a condition of transfer. We successfully argued that patients who are seeking mental health services voluntarily should not be...
required to be placed on a hold, simply for administrative purposes. Requiring a 5150 hold on patients before accepting a transfer places an unnecessary barrier to care, does not exist for any other health care condition, removes a person’s autonomy, and it stigmatizes people with mental health disabilities who are voluntarily seeking treatment.

Second, AB 2099 was enacted to require 5150 forms that do not have wet signatures to be accepted as valid, modernizing a process that had been slowing down transfers. Previously, hospitals and EMS transfer agencies refused to accept copies or electronic signatures, even though you could buy a home with an electronic signature in 2018.

Yes, our state’s mental health delivery system is broken and fragmented and, while these California ACEP wins could be perceived as small pieces, they are all important patient-centered improvements which collectively get us to a better place. And there is much more to be done!

California ACEP continues to build upon our past work on mental health. This year we lobbied State Legislators to support SB 1154 (Eggman) that would create a real-time bed registry for psychiatric capacity and SB 1097 (Pan) to support improved labeling of legal cannabis products with key health warnings, including warnings about mental health conditions.

Our members continue to be asked to do more with less, while facing hostility from patients due to misinformation about COVID. I have dealt with it myself and we know the impact it has on our work climate and mental health. California ACEP supports AB 2098 (Low) to designate the dissemination or promotion of misinformation or disinformation related to COVID-19 as unprofessional conduct with potential disciplinary action by the Medical Board. We must continue to speak up on behalf of science to help our patients be healthy and to defend our profession.

Nationally, ACEP supported and helped secure the passage of the Dr. Lorna Breen Health Care Provider Protection Act. This bill establishes grants and requires other activities to improve mental and behavioral health among health care providers. It is an important step toward destigmatizing mental health conditions among healthcare workers.

Every human wants the same things: Care, Value, and Respect. This applies not only to our patients, but to us as their doctors, and California ACEP will continue working to meet those needs in every way it can.
CALIFORNIA ACEP’S ANNUAL CONFERENCE 2022

Education is targeted to Medical Students and Residents, but all are welcome to attend.

Friday, September 2, 2022
Westin San Diego Gaslamp Quarter
The second year of the 2021-22 Legislative Session is in full swing. With the Mental Health issue of Lifeline, we want to update you on a few key pieces of mental health related legislation the Chapter is working on this year.

**SB 1154 (Eggman) – Support**

SB 1154 establishes an electronic, real-time database for inpatient psychiatric facilities, crisis stabilization units, residential community mental health facilities, and licensed residential alcoholism or drug abuse recovery or treatment facilities. It also requires health facilities to report the number of beds available. Currently there is no way of accurately knowing how many psychiatric beds are available at any given time in any given region of California.

You know firsthand the difficulties facing your patients in need of psychiatric care. You also know how difficult it is to place them with the next level of care they need. A study published in 2012 in the Annals of Emergency Medicine found that patients having psychiatric emergencies wait approximately 42% longer in the ED than other emergency patients. Imagine what that number is today.

SB 1154 will improve transparency and help uncover available beds in real-time. This transparency will also help demonstrate where capacity is sufficient and where more is needed.

**SB 929 (Eggman) – Support**

SB 929 would require the State Department of Health Care Services to collect and publish, annually, quantitative information relating to clinical outcomes for individuals placed on a mental health hold, services provided, waiting periods, and needs for treatment beds.

Thanks to our advocacy efforts, the bill was amended and now also requires reporting of psychiatric boarding times in the emergency department. A 2016 nationwide survey of emergency department physicians reported that psychiatric boarding occurs at least weekly in 84% of facilities, and daily in 48% of facilities. It is our hope that shining a light on this problem and quantifying its scope in California can lead to possible solutions.

**AB 1859 (Levine) – Support**

AB 1859 will require health plans and insurers to schedule a follow-up appointment for their enrollee within 48 hours of the release of detention from a 72-hour mental health hold.

As you know, there is currently no standard of care for health plans and insurers after a 5150 hold, yet patients benefit from prompt follow-up with outpatient mental health providers after being discharged from the emergency department or psychiatric hospital.

According to the California Health Benefits Review Program, only 24% of enrollees who are placed on a 72-hour hold have a follow-up visit within 48 hours of discharge.

Continuity of treatment is critical to patient outcomes and sustained wellness. This bill is an important piece toward achieving that.

**AB 2317 (Ramos) – Support**

AB 2317 establishes standards for psychiatric residential treatment serving patients under the age of 21. As you know, it is exceedingly difficult to find mental health services for children and adolescents.

According to the CDC, mental health–related emergency department visits increased 24% for children ages 5 to 11 and 31% for those ages 12 to 17 from March to October of 2020. Even before the pandemic, the CDC found that 1 in 5 children had a mental disorder, but only about 20% of those children received care from a mental health provider.

This broken system is failing children who are not getting the care they need when they need it. We support AB 2317 because it will create more residential treatment capacity to serve our pediatric patients in need of mental health services.

As Dr. Winston outlined in her President’s Message, there is no one piece of legislation that can fix our broken mental health system, but it is our hope that by supporting legislation, like the ones outlined above, we can chip away at its failures and make progress toward creating a more functional mental health system.

If you are interested in any of CalACEP’s advocacy efforts, please contact us at info@californiaacep.org.
All of the doors in the Psychiatric Emergency Department lock automatically when they are closed. They have to. I pressed the buzzer at the entrance of the Psych ED, drowsily stated, “Hi, this is the Emergency Medicine intern that’s been rotating this month. Good Morning” and took a deep breath, waiting for the nurse and his ring of keys to open the door so that I could start my day.

As the nurse opened the door, my eyes opened widely as I stepped through. Directly in front of the entrance was a man seated in handcuffs, although I smelled him before I saw him. I gave a weary smile to the nurse and entered the Psych ED, immediately immersed in the pungent aroma of wet urine. As I stepped forward, I heard the heavy door slam shut behind me. The seated man darted a glance at me, then darted a glance at the guards, then the resident speaking to him, to me, the door, the guard, and all the while rapidly explaining to the resident interviewing him why he had been living at the airport for the past month and why she had no right to keep him here.

A loud, slow, persistent thud echoed in the hallway. I walked past the handcuffed man, past the wall of locked doors, towards the doctor’s workroom. Each of the locked doors contained a rectangular window, which contained within it a small room with a padded bed, a patient, and nothing else. The thuds were coming from one of the locked doors. As I passed the thuds, I looked to see a young woman staring out the window of her door. Despite the slow, hard pounding of her fist against her locked door, her face was intense but expressionless, and she stared blankly without blinking. Her hair pointed in every direction, and she had pulled her hospital gown down to expose her right breast. She said nothing, only continued her blank stare outward and her rhythmic thuds against her locked door. She had been my patient the day before, and her mother told me that stress and marijuana use caused her symptoms to reappear. Before coming in she hadn’t slept in several days, had started to talk about wide ranging religious conspiracies, and had at one point thrown the family television down the stairs while screaming at her family. When the EMTs had brought her in she had still been screaming. She was in her twenties, and had been studying for her finals. As I walked past, her unblinking eyes followed me, and the thuds continued.

In the workroom, my senior resident was on the phone with a board and care facility. In my short time in the Psych ED I had learned that these facilities were housing units for the chronically mentally ill, developmentally disabled, and substance abusers. The facilities provided lodging, food, and from what I had come to realize was a broad, vague spectrum of something like supervised care. The senior resident was firmly, yet politely, stating that a patient had been cleared by the psychiatrist, and was no longer aggressive, a danger to themselves or others, or actively psychotic. My senior was politely explaining to the facility that they were responsible for the patient, and that they were also responsible for picking the patient up now that the workup was done. I had no doubt that the person on the other side of the line thoroughly knew this, because during the past week I had already rationalized, discussed, and pleaded through the same arguments a dozen times with the voice on the other side.

“I don’t think you understand, there is something wrong. Shouldn’t you keep them longer?”

“Have you increased their medication enough?”

“What happens if it happens again?”

While the senior spoke into the phone, the attending doctor gave me a good morning head nod, a warm smile, and a salutation with his coffee cup. I flipped on the computer and booted up the electronic medical record, waiting as it loaded to see who my patients for the day would be. I thought about her. When the EMTs had brought her in shouting yesterday, I had known before I spoke with her that we
would sedate her. Yet when I had conducted my interview and history, I had glanced away from the nurse’s expectant eyes. Even when her voice rose to the level of a near scream while telling her disorganized story with tears that didn’t match her voice streaming down her face, I hadn’t given the order. I had spoken with her softly, as patiently as I could. The interview went longer than it should have. Long enough that I suddenly became aware of the Attending doctor at my side. He had whispered warmly, “Well hello, may I trouble you for a moment” and nodded to the nurse. The nurse promptly went to get a dose of Haldol, a sedating medication that would put her to sleep. His voice was patient and he sandwiched his critique between compliments about my work ethic and bedside manner.

“You need to give the sedatives earlier.”

Even as I had bristled a bit at the instruction, I had understood his reasoning. The risk of an acutely psychotic or aggressive patient is that they aren’t in control of themselves, and until sedated put the doctors, the nurses, and the patient themselves at risk of harm. I don’t know whether my hesitancy was out of a naïve hubris that I could calm the patient down myself, a hope for the humanity trapped within the madness to reassert itself, or a fear of having to accept how easy stripping a way a person’s liberty and locking them in a room could be. The truth was that this was not the first time I had delayed sedating a patient, but it wasn’t that I had an argument against the standard of care in the Psych ED necessarily. Even in my most cynical moments I appreciated the necessity of a place that could offer the brief respite of a deep chemical sleep to return a tenuous equanimity to the broken. My true resentment was against the lack of systemic support that could have helped these people before they needed chemical sedation. That, and as a teenager I had spent the night with my grandfather in the hospital. He had become altered in the middle of the night, and I wrestled with him as he tried to pull out his IVs. The nursing staff sedated him, and he was never fully awake again. Regardless of the reason, I don’t like sedating people.

I realized the workroom had emptied while I stared at the computer screen. The day had started. I glanced quickly at the note about my new patient and headed to the holding room. Besides the hallway of locked doors in the Psych ED, there are two large open rooms without doors filled with recliners, a couch, and a television. One room for each gender, each generally filled with around five of the more stable psych patients. The patients in these rooms were generally easier to talk to despite the lack of privacy, and the interviews went more quickly than with the patients in the individual rooms since I didn’t need to grab the nurse and his ring of keys to open the locked door.

I entered the still, dark female holding room and tiptoed past a woman sleeping in the recliner, whose face tattoos I could see just above the blanket she had curled herself in. I found my patient in the corner of the room. She was awake and sitting on the edge of the couch, hands folded, as far as she could be from the tattooed woman snoring loudly in the recliner. The patient was a sweet, elderly Vietnamese grandma who answered all my questions politely and reasonably. Having scanned the triage note describing a patient with a fixed delusion I began to worry I had spoken to the wrong patient. When the sweet, elderly grandmother began to tell me how her landlord had been murdering and eating her neighbors for the past five years I felt reassured that I was in the right place. The note had mentioned that the patient’s family hadn’t understood what was going on, and were afraid that she might hurt herself. I smiled at the sweet, elderly grandmother as my mind processed the fact that she had a fixed, paranoid delusion and would need to be connected to care. Cynical or not, I was also happy to realize that this patient had a clear disposition, and would be gone from my workload soon. To be continued…
Every morning, emergency physicians throughout the state are responsible for reassessing psychiatric patients who are awaiting placement in an acute psychiatric hospital (APH). We’re often greeted by familiar faces, people we’ve met with for three, four, maybe five days in a row. Although these patients have been evaluated and are medically stable for transport, they remain in a persistent state of psychiatric crisis and are stuck in treatment limbo until they receive intensive psychiatric care. As emergency physicians, we are proud to provide an essential service to this highly stigmatized and often marginalized segment of our population, but many of us can’t help but feel an ongoing sense of futility and hopelessness for them. While we were trained in providing the care needed for initial stabilization, we don’t have the skills to meaningfully treat their underlying psychiatric illness. Unfortunately, these patients are trapped in an underresourced mental healthcare system that is rife with barriers to the intensive treatment they need and deserve.

In an effort to improve access to mental health care, emergency physician and California State Assembly Member Joaquin Arambula, in collaboration with Assembly Member Miguel Santiago, introduced Assembly Bill (AB) 451 in February 2019. The bill would expand the Emergency Medical Treatment and Active Labor Act (EMTALA) to apply to APHs across California, thus subjecting psychiatric care to the same rules and regulations as all other medical specialties that provide coverage for patients in EDs. The hope is that patients with psychiatric disease would be afforded the same access to care as patients with any other disease and we would effectively close “the EMTALA loophole” in psychiatric care. AB 451 seems like a simple, straightforward solution; however, a glance at history and a dive into the current system of care will instill a healthy dose of caution and skepticism.

Mental healthcare in the United States is a patchwork of well-intentioned policies with often wayward results. In 1980, President Jimmy Carter signed into law the Mental Health Systems Act, which aimed to restructure psychiatric care from large, institutionalized asylums with hundreds of beds to a smaller-scale community model. The goal was to make psychiatric care more humane and to safely facilitate reintegration of patients into their communities. In the 1980s,
President Ronald Regan ushered through legislation including the Omnibus Budget Reconciliation Act that repealed large portions of the Mental Health Systems Act and slashed federal funding for mental health. These two waves of legislation resulted in the closure of large asylums throughout the country, and then defunded the outpatient mental health treatment network and social safety net that was designed to facilitate a safe and healthy transition for these patients.

There are a few other key regulatory vestiges that shape mental healthcare today. 1988 amendments to the Institution for Mental Diseases (IMD) Exclusion Act barred Medicare from paying for treatment in mental health facilities with more than 16 beds. Put another way, APHs get reimbursed for only 16 patients under their care at any given time and take a financial loss when treating any additional patients. APHs are therefore financially disincentivized to expand the supply of psychiatric care despite our communities’ evergrowing need. An additional rule caps Medicare coverage at 190 total lifetime days of treatment. This is meant to prevent patients from interminably being placed in inpatient psychiatric facilities; however, it serves to arbitrarily limit the potential treatment for patients with the most debilitating psychiatric illnesses. After the 190-day cap is reached, patients are functionally uninsured for the rest of their lives. This is particularly onerous for patients with severe, persistent psychiatric disease who exhaust this paucity of coverage early in life. The IMD exclusion act disincentivizes and stunts expansion of mental healthcare despite immense need.

In 1986, EMTALA was enacted and EDs became the de facto safety net for many patients with mental illness. EMTALA was designed to counteract the growing problem of “patient dumping,” the practice of hospitals refusing to treat people with medical emergencies because of their inability to pay. EMTALA ensured that psychiatric patients had access to physicians; however, it did not ensure timely access to the specialists optimally trained to provide the definitive care needed to treat their illness. While emergency physicians are well versed in preventing self-harm and managing acute psychosis, we are not trained in the behavioral therapy and medication management that can help patients recover from their underlying psychiatric illness.

In 1989, EMTALA was amended to require that hospitals with the specialists needed to stabilize emergency medical conditions accept patients from hospitals without the required specialists. For example, if a patient presents to a small rural critical access hospital with a subdural hematoma, the nearest hospital with an on-call neurosurgeon and open bed is required to accept the patient in transfer. While EMTALA is enforceable by potentially large financial penalties, it is sparingly applied to mental health transfers. In 2012 the California Department of Public Health issued an all-facilities notice that “APHs must provide the care and treatment necessary to relieve or eliminate a psychiatric emergency medical condition within the capability of the facility, including, as necessary, admission or transfer to a psychiatric unit.” Moreover, the July 2019 Centers for Medicare and Medicaid Services (CMS) State Operations Manual for EMTALA, which contains the regulations and interpretive guidelines states “In the case of psychiatric emergencies, if an individual expressing suicidal or homicidal thoughts or gestures, if determined dangerous to self or others, would be considered to have an emergency medical condition (EMC). Psychiatric patients are considered stable when they are protected and prevented from injuring or harming him/herself or others.” Unfortunately, public statements from regulatory agencies have largely been ignored. While EMTALA violations related to psychiatric care are vastly under-reported, nearly 20% of all EMTALA fines involve mistreatment of patients with psychiatric emergencies.

The Great Recession of the late 2000s led to additional defunding of mental health systems on the county and state level. In Sacramento, the number of beds at the county mental health facility were halved from approximately 100 to 50 in 2009. This resulted in placement times increasing and patients languishing in local EDs awaiting access to psychiatric care. Health conglomerates such as Sutter, Mercy, and Kaiser responded by reserving beds at APHs in order to move patients with psychiatric needs out of their EDs and free up ED beds for financially profitable medical patients. A tragedy of the commons scenario was created as APHs are paid to reserve beds, but the beds often go unoccupied. The APHs didn't expand their capacity beyond 16 beds due to the IMD exclusion act, and an already insufficient number of beds became further reduced to protect the monetary interest of large health systems. The bed shortage particularly affects our uninsured and underinsured patients.
NOMINATIONS OPEN ONLINE
MAY 1ST - JUNE 30TH

CalACEP Awards 2022

Nominate a deserving colleague online by June 30th.

www.californiaacep.org
The practice of preferentially holding beds for large, private payer groups rather than the patients in most need is morally bankrupt yet ubiquitous. The mechanism APHs use to screen patients before accepting them in transfer is a clear violation of EMTALA standards – every patient being considered for transfer undergoes a “wallet biopsy” as Sacramento APHs require the referring hospital to transmit a face sheet that includes the patient’s insurance status. APHs often deny uninsured, underinsured Medi-Cal patients, or Medicare patients who have exhausted their 190 reimbursement limit based off this information. Patients treated in an ED for an acute mental health condition are particularly vulnerable as 45% of are enrolled in Medi-Cal, 19% have Medicare, 7% are uninsured, and only 25% have private insurance. This leads to a two-tiered system in which patients with acute, complex psychiatric needs typically board in EDs for days or weeks, while better-funded and less debilitated patients are often placed within hours.

ED boarding is a health risk that disproportionately affects patients with mental health needs. There is a 2.5% mortality rate for patients admitted in less than two hours compared to a rate of 4.5% for patients boarding more than 12 hours. Prolonged boarding is also associated with delays to pain medication and diagnostic studies, and lower patient satisfaction. In our ED, the vast majority of patients boarding for more than 12 hours, and nearly all of the patients waiting more than 24 hours, are in psychiatric crisis. This is not an isolated trend. A 2012 study found that psychiatric patients remain in EDs 3.2 times longer than non-psychiatric patients.

Decreased access to psychiatric care is not just an inconvenience. It harms all of our patients, and we applaud Assembly Members Arambula and Santiago for their efforts. Moreover, we would be remiss not to mention the hard work by the California Chapter of the American College of Emergency Physicians for their outstanding advocacy work on this important issue.

We believe that AB 451 will make real change for our patients, but it will take more work to cure our broken system. AB 451 will eliminate the ability of large payer groups to monopolize beds, expand and hasten access to mental healthcare, reduce preferential placement based off payer status, and help ensure that patients in psychiatric crisis get the care they need when they need it. That said, generations of myopic legislation have created a system in which the supply of mental health beds will continue to be outriveted by demand unless we increase funding and build capacity. EDs are the release valve for a mental health system that can’t treat all its patients and the patients boarding in our EDs can be conceptualized as overflow for a system that doesn’t have the capacity to handle the volume of need that exists. We will continue to see patients like Julia flowing into EDs throughout the state until there are more psychiatric providers and psychiatric beds. Patients like Julia need and deserve a well-funded mental healthcare system that can serve every patient with psychiatric needs. It is our responsibility to our patients to continue undoing decades of self-sabotaging policy by increasing funding for mental healthcare, and collaborating with our psychiatry colleagues to grow the capacity of the mental healthcare system so that our patients can get access to the care that they need and deserve.

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REFERENCES

In emergency medicine, we manage patients who have survived violence on a regular basis. In my case, staffing the night shifts at a community hospital in Antioch, California it seems like every shift involves caring for a survivor of interpersonal violence who is suffering from acute trauma or the secondary mental health and/or downstream psychosocial results of interpersonal violence. From my perspective, separating acute care emergency medicine from prevention is impossible. We are in a unique position to care for patients experiencing the worst day of their life and transforming those experiences into optimized healthcare delivery and prevention programs. In 2008, I began working with our county’s domestic violence social services provider, STAND!, as a liaison to our emergency department. At that time, my goal was to optimize collaboration between STAND! and our emergency department. However, this collaboration led to an entirely new healthcare delivery system in our County.

Meeting with key stakeholders revealed that healthcare delivery in the domestic violence space was complicated by barriers in all directions. The problem was not solved by optimizing existing systems, the solution required completely rebuilding how healthcare was delivered. Through surveys, in-person interviews, and multiple meetings, it became clear that most shelter residents did not have access to healthcare at all. This was true regardless of health insurance status or existing primary care access. Security concerns, access to critical documents, confidentiality, and the unique psychosocial conditions made roadblocks to the healthcare system insurmountable. The demographics of these cases crossed all ethnic, age, and socioeconomic backgrounds. From children without their medications, to pregnant mothers with no prenatal care, all have a desire to access healthcare.

Looking at domestic violence specifically, the best way I can describe these barriers is through comparison with something akin to a house fire. Imagine waking up one morning to find/learn that your home and vehicle are destroyed, all your documents are gone, you do not have access to your cell phone, and, suddenly, you are left to find a way forward with your children by your side. This is exactly like the situation that is experienced by high-risk survivors of domestic violence, except they often have the additional stress of a perpetrator waiting in the shadows silently threatening every aspect of their life.

Interpersonal violence cases require a comprehensive solution and multiple wraparound services. Traditionally the services included domestic violence social service centers (resource centers, shelters), law enforcement /district attorney offices, and legal support services. Resources vary between counties; however, they can be extensive and include housing, employment assistance, mental health services, support services for families of children, outreach classes, and 52-week batter’s programs. However, healthcare is typically limited to emergency departments. Each of the above agencies, all of whom must collaborate and work together, have their own unique barriers and challenges.

In emergency medicine, this is our wheelhouse. We are a ‘no judgment zone,’ the safety net for patients who fall through existing established systems. However, in this case patients that require our services are not reaching the door of our department.
To begin, we confirmed that accessing the healthcare system from our County’s domestic violence center is fraught with challenges. Typical barriers to access exist such as finances, payor status, patient familiarity with resources, and time. Also, given that at-risk patients have security concerns with transport and waiting in the ED, many members at the shelter refused to seek services. In addition, the ED is not an ideal environment for this population.

From both interviews and surveys, we determined that the most needed services are as follows:

- Acute care visits
- Emergency prescription refills until patients can be linked to new medical providers
- Referrals to ongoing medical care
- Specialist Referrals - dental, vision, physical therapy, etc.
- Assistance with medical supplies - over the counter pain management, bandages, thermometers, allergy medicine, children’s medicine
- Mental health and psychiatric services
- TB Tests
- Pregnancy Tests
- STI Screenings
- Children’s Vaccinations
- Medication education
- Blood pressure checks
- Educational Workshops - some ideas included nutrition, childhood development/milestones

Pediatric services were particularly in need within Contra Costa County. The request for improved pediatric services was also echoed throughout the system from local pediatricians to the center residents and staff. In addition, there is a great need/interest for general education regarding management of acute and chronic medical conditions, pediatric wellness, developmental stages, childcare, education, and managing mental health conditions.

Regarding solutions, we have explored how to best implement/improve services and have considered onsite medical services. Other alternatives we have explored include improving access to the ED and partnering with clinics.

Telehealth is an excellent solution as it can reach well beyond specific sites and locations. Telehealth provides an access point to ensure families exposed to interpersonal violence remain on a successful road to wellness.

Our working research with STAND! led us to a partner organization they work closely with, the Family Justice Center. The Family Justice Center (FJC) is a hub organization that links together multiple different services to support victims of violence comprehensively. Our solution fit perfectly. Partnering with the FJC allowed healthcare services to be distributed throughout the survivor of violence network.

**DELIVERY MODELS**

To meet patients where they are, and throughout Contra Costa County, we began our implementation as a specialized telehealth service.

Specialized telehealth services are not a new concept, but rather an underdeveloped opportunity. The most longstanding and ubiquitous example of this service is the poison control center network, which provides telehealth services to patients, clinicians, and hospital systems. This is a fantastic service that has saved countless lives. Another example is Divers Alert Network, which provides telehealth services to patients, clinicians, and hospital systems for diving related injuries. This service was created by Duke University and has developed into a worldwide service.
Using a similar model, we created TeleCARE, a telehealth service for survivors of interpersonal violence. Each of these applications requires unique and specialized service to a patient population that would otherwise be inadequately served by the traditional healthcare system.

Better care, throughout the care continuum, is in the best interests of our patients, hospital systems, and our urgent care / emergency departments:

1. Specialized care can be rendered immediately anywhere.
2. Patients that do not require an emergency department visit can be treated remotely and referred as appropriate.
3. Patients that require emergency department evaluation will arrive as expected patients, having already been seen in the field by our team of clinicians, permitting arrival readiness.
4. Social and care coordination specific to the unique needs of the population can be addressed more appropriately.

**SOLUTION**

Our TeleCARE solution began with a team approach, centered around a partnership between the Family Justice Center, STAND!, and Vituity. Together we have the audacity to believe that all survivors of interpersonal violence should have access to zero cost, specialized, high-quality healthcare. Together we created TeleCARE for the residents of Contra Costa County which provides survivors of interpersonal violence access to medical, post trauma, and psychiatric care. This program is operational and is currently serving Contra Costa County with the support of CARESTAR, the Contra Costa Regional Health Foundation, and the California Victim Compensation Board.

In addition, we know that prevention is the best strategy for managing interpersonal violence. This begins with ensuring that children are raised in an environment of equality and safety. In partnership the Family Justice Center and Vituity have created the Emergency Services Prevention and Readiness Initiative. This program is a nimble strategic healthcare-community collaboration designed to level power and control dynamics, increase equality, and foster a safe environment for children and families.

Our 2022-2023 objectives include the following:

- Establish and partner with physician and nurse interpersonal violence champions at every emergency department.
- Pediatrics Emergency Care – Provide pediatric centered trauma and interpersonal violence education to emergency departments.
- Create standards that promote excellence in the clinical management of interpersonal violence survivors.
- Advocate for exceptional system wide communication.

Our mission is aligned with the Adverse Childhood Experiences (ACEs) Kaiser study and CDC initiative. We provide access to medical and mental health services, improve the healthcare experience for families, and establish strong partnerships.

**OPERATIONS**

**TeleCARE Service**

This telehealth service is staffed by local emergency physicians, physician assistants, and nurse practitioners. Visits include a triage intake, assessment, plan, and disposition. Patients are dispositioned to one of three services:

1. **Emergency Service** this service does not take the place of 911 or emergency services however it is now well-known that many survivors are deferring care. This service allows for remote triage in the setting of patient’s elective to delay emergency services and provides the opportunity for the clinician to remotely assess the need/acute and refer patients as needed. Patients referred to the emergency department are called into receiving emergency departments as an ‘expect’ They will arrive as patients who have been assessed in the field prior to arrival, the emergency department will be briefed on their case, and our service will follow up with the patient to ensure transition appropriately from the emergency care to outpatient follow-up clinics.

2. **Outpatient Follow-up** every disposition to outpatient clinic/primary care services occurs whenever possible as a warm handoff via phone call or secure messaging. In addition, our
service interfaces with wraparound services at both STAND! and Family Justice Center.

3. **Telehealth Follow-up**

Our clinicians have ample time to manage cases. The goal is not patients per hour, the goal is solving clinical problems.

We create comprehensive solutions. For example, we have also partnered with a local pharmacy enabling grant coverage of prescription costs and delivery to any location with our County.

**Ancillary benefits**

1. TeleCARE clinicians gain additional understanding and experience regarding caring for victims of violence in the local community. They will bring this experience to their local service sites and become de facto champions in their emergency department and other practice locations.

2. Staff at STAND! and the Family Justice Center acquire additional knowledge of emergency medical services via involvement with this program.

3. Our service has the potential for optimizing utilization of local emergency departments, improving patient access to local healthcare resources and decreasing the need for emergency department social work interventions. Care coordination between our service and local emergency departments provides a benefit to the patient and our emergency services centers.

**Future Expansion**

1. This service could be expanded in the future to include law enforcement / district attorney referrals,

2. Increasing collaboration with all county emergency departments,

3. Increasing awareness of our program in K-12 schools, colleges, and universities,

4. Creating an outpatient, in person clinic for safety net services.

**CONCLUSION**

Our experience with this program has been exceptional. We have received calls from patients escaping imprisonment and attempting to access emergency services safely, seeking refuge in our County requiring prescription refills for their family, requiring optimization of their psychiatric medications, and in the emergency department we have had the distinct privilege of discharging patients with an array of support services, including follow-up healthcare.

Some of our patients seeking services have never required social services help in the past. The energy barrier to make that first phone call is often very difficult. However, we assist and support patients connecting with services prior to discharge. They leave the emergency department with access to high-quality medical, post trauma, and psychiatric care that is effortless to access. Providing access to these services, on the worst day of their life, is truly a privilege. In one recent case, when I explained to the patient, they now have access to healthcare, they were overwhelmed with emotion and as I exited the room said, “thank you…”

We are aware of a problem and are creating radical solutions that directly improve the wellness of survivors. The Family Justice Center’s constellation of support services, which now includes healthcare, provides a safety net to support recovery. In addition, we transform lessons learned into prevention initiatives. Together we are doing the difficult work of building healthy, safe, and violence free communities.

William Francis, MD is an emergency physician with Vituity and practices at Sutter Delta Medical Center.
ASSOCIATION OF BLOOD ALCOHOL AND ALCOHOL USE DISORDERS WITH EMERGENCY DEPARTMENT DISPOSITION OF TRAUMA PATIENTS

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DOI: 10.5811/westjem.2021.9.51376
INTRODUCTION: Trauma patients who present to the emergency department (ED) intoxicated or with an alcohol use disorder (AUD) undergo more procedures and have an increased risk of developing complications. However, how AUD and blood alcohol concentration (BAC) impact a trauma patient’s disposition from the ED remains inconclusive. In this study we aimed to identify the associations between positive BAC or an AUD with admission to the hospital, including the intensive care unit (ICU).

METHODS: This was a retrospective study analyzing data from 2010–2018 at a university-based, Level I trauma ED. Included in the study were 4,699 adult trauma patients who completed the Alcohol Use Disorders Identification Test (AUDIT) and had blood alcohol content test results.

RESULTS: Positive BAC was associated with hospital admission and ICU admission after adjusting for injury severity score (ISS) (odds ratio 1.5 and 1.3, respectively). The AUDIT was only correlated with hospital and ICU admission in patients with ISS of 1 to 15. By increasing risk of AUD (low, moderate, high, and likely alcohol dependent) the proportion of ICU admissions rose from 29.3% to 37.3%, 40.0% and 42.0% (P <0.01). The results did not change significantly by adjustment for the age of patients.

CONCLUSION: BAC is associated with increasing ED disposition to the hospital or ICU. Furthermore, self-reported alcohol use was associated with an increased risk of hospital or ICU admission in patients with minor or moderate injuries. Further studies to determine viable options to decrease admission rates in these patients are warranted. [West J Emerg Med. 2022;22(X)X–X.]

Population Health Research Capsule

What do we already know about this issue?
Alcohol consumption has a significant impact on trauma patients’ care in the emergency department.

What was the research question?
What is the association between alcohol consumption and disposition of trauma patients from the ED?

What was the major finding of the study?
Self-reported alcohol use were associated with hospital and intensive care unit admission in trauma patients.

How does this improve population health?
Effective alcohol screening and intervention could help reduce the admission rate in trauma patients.
that Level I trauma centers provide alcohol screening to all trauma patients and interventions for those with high risk of AUD. The current standard alcohol screening tool is the Alcohol Use Disorders Identification Test (AUDIT). The AUDIT is a self-reported, 10-item questionnaire developed by the World Health Organization; it is designed to assess patients’ alcohol consumption habits over the prior year. Upon completion of the questionnaire, a score is generated, which ranges from 0-40 and categorizes the patient as either low risk for alcohol dependence (0-7) or high risk for alcohol dependence (8-19), or likely alcohol dependent (20-40). Patients with AUDIT scores of 8-19 are offered a personalized brief intervention aimed at reducing their alcohol consumption, which has proven effective. Despite the self-report bias present in AUDIT, the survey has been shown to be a reliable and well-validated measure to assess habitual alcohol intake in patients. Delivering the AUDIT test through a self-administered, computerized system has also been shown to be feasible and may reduce biases associated with alcohol reporting.

While many studies have found correlations between alcohol consumption and a myriad of other variables, the evidence for associations between AUDIT and disposition in trauma patients is limited. In this study, we aimed to identify the correlation between acute and chronic alcohol consumption, as defined by BAC and AUDIT, respectively, with disposition of trauma patients from the ED.

METHODS

STUDY SETTING AND DESIGN

We conducted a retrospective, chart review study on databases that were obtained at a Level I trauma center, university-based ED between 2010–2018. Patients were included if they were over 18 years of age and met trauma activation criteria (Supplemental Document). All these patients completed the AUDIT in either Spanish or English. The study was reviewed and approved by the university’s institutional review board as an exempt category. Patient informed consent was not applicable to this study.

STUDY PROTOCOL

We obtained our data from two databases: the hospital Trauma Registry and the Computerized Alcohol Screening and Intervention (CASI) program database. The Trauma Registry database compiles patient information from all trauma patients as part of quality assurance. Data analysts obtained patient demographics; nurse abstractors obtained information on patient injuries, treatments, BAC, and diagnoses/outcomes. We obtained ED disposition (death, intensive care unit [ICU] admission, hospital admission, and discharge from the ED), BAC, and ISS from this database. When patients were first admitted to the ED, and trauma surgeons deemed it appropriate, the patients received venous blood draws to measure BAC as part of evaluation protocols. We included only patients who had BAC measurement results.

The CASI database was compiled by trained research associates (RA) who administered the AUDIT to trauma patients. Implementation of AUDIT screening was standard of care for trauma patients from 8 am to midnight in the ED, and 8 am to noon in the inpatient units. All trauma patients were approached to complete the AUDIT when they were clinically stable during their stay in the ED or inpatient units. Patients completed the AUDIT on a CASI tablet privately, unless a patient specifically requested assistance from an RA. Responses to individual questions were kept confidential. The AUDIT score is shared with the patient, and a printout of the score is attached to the patient’s medical record. We excluded patients who were on a psychiatric hold, incarcerated, or pregnant. For those with cognitive impairments such as acute intoxication, altered mental status, and critical illness, the RAs approached the patients once their conditions were resolved. The AUDIT results and demographic information were electronically recorded and automatically stored in a secure hospital database. We extracted patient demographic data and AUDIT scores from this database.

The two databases were linked by a unique identifier for each patient using Python Language Reference version 2.7 (Python Software Foundation, Wilmington, DE).

STATISTICAL ANALYSIS

Frequencies are reported as N (%). We studied the distribution of categorical variables using the chi-square, or chi-square for trend,
statistical test. Associations of BAC and AUDIT with ICU admission and hospital admission were studied by calculating odds ratios (OR) in each level of ISS. We examined the homogeneity of estimated OR among levels of ISS using the Breslow-Day statistical test, and if the homogeneity was not rejected we reported a Mantel-Haenszel common OR. Statistical analyses were performed using SPSS Statistics 25 for Windows (IBM Corporation, Armonk, NY).

RESULTS

We identified a total of 4,699 adult trauma patients with known BAC who had completed the AUDIT questionnaire. Of these patients 3116 were male and 1583 were female (Table 1). The mean age of female patients was 51.4 years (±30.20) compared to 42.2 years (±19.86) in male patients (P <0.001). While male patients were younger, a higher percentage of them presented with an ISS score greater than 15 (P = 0.001). A total of 3551 (75.6%) patients had a BAC of zero upon arrival to the ED; 243 (5.2%) patients presented with a BAC greater than 250 milligrams per deciliter (mg/dL). A greater percentage of male patients presented with positive BAC (Table 1) as compared to female patients (P < 0.001). A similar pattern was observed with AUDIT scores.

ASSOCIATED FACTORS WITH HOSPITAL AND ICU ADMISSION:

All Patients Our results showed an association between positive blood alcohol with both hospital admission and ICU admission (among those who had been admitted to the hospital) after adjusting for ISS (Mantel-Haenszel OR: 1.5 [1.2 - 1.9] and 1.3 [1.1 - 1.5], respectively) (Table 2). The association was still significant after adjusting for age groups (18-30, 31-50, 51+) and ISS (Mantel-Haenszel OR: 1.7 [1.4-2.1] and 1.4 [1.2-1.7], respectively (Appendices 1 and 2). However, we did not find a statistically significant association between AUDIT score

<table>
<thead>
<tr>
<th>Table 1. Demographics of adult trauma patients included in the study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (Mean ± SD)</strong></td>
</tr>
<tr>
<td>ISS</td>
</tr>
<tr>
<td>1-15</td>
</tr>
<tr>
<td>16-24</td>
</tr>
<tr>
<td>=&gt;25</td>
</tr>
<tr>
<td><strong>Blood Alcohol Concentration (mg/dL)</strong></td>
</tr>
<tr>
<td>0.0</td>
</tr>
<tr>
<td>0.1 - 100.0</td>
</tr>
<tr>
<td>100.1 - 250.0</td>
</tr>
<tr>
<td>&gt;250.0</td>
</tr>
<tr>
<td><strong>AUDIT score</strong></td>
</tr>
<tr>
<td>0-7</td>
</tr>
<tr>
<td>8-15</td>
</tr>
<tr>
<td>16-19</td>
</tr>
<tr>
<td>=&gt;20</td>
</tr>
<tr>
<td><strong>ED disposition</strong></td>
</tr>
<tr>
<td>Discharged</td>
</tr>
<tr>
<td>In Hospital (non-ICU)</td>
</tr>
<tr>
<td>ICU</td>
</tr>
<tr>
<td>Dead</td>
</tr>
</tbody>
</table>

SD, standard deviation; ISS, Injury Severity Score; mg, milligram; dL, deciliter; AUDIT, Alcohol Use Disorders Identification Test; ED, emergency department; ICU, intensive care unit.
when considered as a score of zero (i.e., self-reported abstainer) vs "1 or more" scores, and hospital (P = 0.763) or ICU admission (P = 0.494) after adjustment for ISS.

**ASSOCIATED FACTORS WITH HOSPITAL ADMISSION IN PATIENTS WITH INJURY SEVERITY SCORE 1-15**

There was a statistically significant association between hospital admission and BAC among patients with ISS of 1-15 (Figure 1). By increasing BAC (from 0 mg/dL to 0.1-100 mg/dL, 100.1-250 mg/dL, and >250 mg/dL) the proportion of hospital admission rose from 78.1% to 84.5%, 86.8% and 80.1%, respectively (P = 0.001). The association remains statistically significant (P < 0.001) after adjustment for age (Appendix 3). A similar association was observed between hospital admission and AUDIT scores in patients with an ISS of 1-15 (Figure 2). By increasing AUDIT levels (from 0-7 to 8-15, 16-19, and ≥20) the proportion of hospital admissions rose from 79.1% to 82.2%, 79.4% and 88.9%, respectively (P = 0.016). The association remained statistically significant (P < 0.001) after adjustment for age (Appendix 4).

**ASSOCIATED FACTORS WITH ICU ADMISSION IN PATIENTS WITH ISS 1-15 WHO WERE ADMITTED TO THE HOSPITAL**

Among the patients who had been admitted into the hospital, we found a statistically significant association between ICU admission and BAC in patients with ISS of 1-15 (Figure 3). The proportion of ICU admissions in patients with BAC up to 100 mg/dL was 29.3%. The proportion of ICU admissions rose to 35.9% and 39.6% by increasing BAC to 100.1-250 mg/ dL and >250 mg/dL, respectively (P = 0.001). The association remained statistically significant (P <0.001) after adjustment for age (Appendix 5). We observed a similar association between ICU admission and AUDIT scores in the same group of patients (Figure 4). By increasing AUDIT levels (from 0-7 to 8-15, 16-19, and ≥ 20) the proportion of ICU admissions rose from 29.3% to 37.3%, 40.0% and 42.0%, respectively. (P <0.001). The association remained statistically significant (P <0.001) after adjustment for age (Appendix 6).

<table>
<thead>
<tr>
<th>ISS levels</th>
<th>Hospital admission</th>
<th>ICU admission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes*</td>
</tr>
<tr>
<td>1-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>614</td>
<td>2,194</td>
</tr>
<tr>
<td>Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>row %</td>
<td>21.9%</td>
<td>78.1%</td>
</tr>
<tr>
<td>Count</td>
<td>134</td>
<td>734</td>
</tr>
<tr>
<td>row %</td>
<td>15.4%</td>
<td>84.6%</td>
</tr>
<tr>
<td>Total</td>
<td>748</td>
<td>2,928</td>
</tr>
<tr>
<td>row %</td>
<td>20.3%</td>
<td>79.7%</td>
</tr>
<tr>
<td>16-24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>7</td>
<td>479</td>
</tr>
<tr>
<td>Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>row %</td>
<td>1.4%</td>
<td>98.6%</td>
</tr>
<tr>
<td>Count</td>
<td>3</td>
<td>146</td>
</tr>
<tr>
<td>row %</td>
<td>2.0%</td>
<td>98.0%</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>625</td>
</tr>
<tr>
<td>row %</td>
<td>1.6%</td>
<td>98.4%</td>
</tr>
<tr>
<td>=&gt;25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>2</td>
<td>255</td>
</tr>
<tr>
<td>Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>row %</td>
<td>0.8%</td>
<td>99.2%</td>
</tr>
<tr>
<td>Count</td>
<td>0</td>
<td>115</td>
</tr>
<tr>
<td>row %</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>370</td>
</tr>
<tr>
<td>row %</td>
<td>0.5%</td>
<td>99.5%</td>
</tr>
<tr>
<td>16-24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>623</td>
<td>2,928</td>
</tr>
<tr>
<td>Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>row %</td>
<td>17.5%</td>
<td>82.5%</td>
</tr>
<tr>
<td>Count</td>
<td>137</td>
<td>995</td>
</tr>
<tr>
<td>row %</td>
<td>12.1%</td>
<td>87.9%</td>
</tr>
<tr>
<td>Total</td>
<td>760</td>
<td>3,923</td>
</tr>
<tr>
<td>row %</td>
<td>16.2%</td>
<td>83.8%</td>
</tr>
</tbody>
</table>

* Including 2 dead. ISS, Injury Severity Score; CI, confidence interval; ICU, intensive care unit; BA, blood alcohol.
When we considered BAC as a dichotomous variable (BAC 0 mg/dL and BAC >0 mg/dL), we found that positive blood alcohol is associated with increased risk of hospital and ICU admission. Having a positive BAC may complicate the initial patient presentation and subsequent tests, especially in patients with lower ISS, whereas the effects of chronic alcohol use may not have yet manifested. Management and differentials of patients are also complicated by alcohol use, as intoxication may mask the effects of a stroke or head injury.\textsuperscript{26} Physicians may, therefore, opt to admit these patients until they are stable and can be properly assessed. Furthermore, patients who are undomiciled are more than twice as likely to present with positive BAC after a trauma than a comparative sample of domiciled patients.\textsuperscript{29} This may complicate the discharge process for lower ISS patients who do not have reliable transportation, a shelter to return to, or a follow-up plan. This population also has a higher rate of psychiatric-related admissions.\textsuperscript{29} Intoxicated trauma patients are less likely to sustain severe injuries.\textsuperscript{30,31} However, they are more likely to present with a depressed Glasgow

**DISCUSSION**

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Association of hospital admission with blood alcohol concentration, per Injury Severity Score category. ISS, Injury Severity Score.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure2.png}
\caption{Association of hospital admission with AUDIT* scores, per Injury Severity Score category. *AUDIT, Alcohol Use Disorders Identification Test; ISS, Injury Severity Score.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.png}
\caption{Association of ICU admission with blood alcohol concentration, per Injury Severity Score category. ISS, Injury Severity Score.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure4.png}
\caption{Association of intensive care unit admission with AUDIT* scores, per Injury Severity Score category. *AUDIT, Alcohol Use Disorder Identification test; ISS, Injury Severity Score.}
\end{figure}
Coma Scale score, which is usually associated with intracranial trauma, hypoxia, or shock from associated injuries. This may prompt physicians to admit these patients for further investigation and work-up. Furthermore, these patients may be cognitively impaired, even as their blood alcohol levels approach zero or may go on to develop complications from alcohol withdrawal syndrome that will eventually require hospital admission.

Trauma patients who are BAC positive are more likely to have a pre-existing condition of chronic alcohol use, cirrhosis, coagulopathy, chronic pulmonary condition, chronic obstructive pulmonary disease, or chronic drug use. Another study found that 66% of frequent binge drinkers and 10% of infrequent binge drinkers were found to be BAC positive upon admission. Binge drinking is known to dysregulate adipocyte and liver function, thereby contributing to metabolic derangement and alcoholic liver disease. A single binge-alcohol session can also modulate immune system functioning. The combination of pre-existing conditions and impaired immune function may, therefore, contribute to the increased risk of infections observed in patients with positive BAC. Other studies have indicated that patients with positive BAC also have a higher risk of developing pneumonia. These complications may encourage a physician to admit patients with positive BAC either due to incidental findings (not related to the trauma) or fear of patient deterioration.

When we categorized AUDIT into four levels (0-7, 8-15, 16-19, ≥20) we observed statistically significant associations between AUDIT levels and both ICU and hospital admission only in patients with ISS of 1-15. The AUDIT is a reflection of the patient's perceived long-term alcohol consumption habits. Chronic alcohol use has been found to contribute to a plethora of diseases and immune dysfunctions, as well as comorbidities with other psychological disorders. In severely injured patients (ISS greater than 15), the health consequences of chronic alcohol use was likely to have been masked or superseded by the traumatic injury. But when the injuries were minor (ISS 1-15), the effects of chronic alcohol use on the patient's health became more prominent and possibly contributed to hospital admission. Previous studies have identified that orthopedic trauma patients with a history of AUD are more likely to be admitted and have an increased length of stay. However, many of these studies were unable to discern a cause behind these statistics. Our results would indicate that the skew in data may have been primarily due to patients with minor injuries but higher risk of AUD. We therefore recommend that future studies designed to discern the effects of AUD on patient outcomes should further stratify this population by ISS.

**LIMITATIONS**

Patients with prolonged altered mental status due to various reasons, including intoxication and being intubated, completed the AUDIT at a later stage of their hospital stay or were excluded from our study. Although most patients completed the study within 48 hours while they were still in the ED, the accuracy of AUDIT responses might diminish if the patients completed the survey near the time of their discharge. Trauma patients with the inability to personally complete the survey due to their injuries completed the AUDIT with assistance from research personnel, which may have introduced social desirability response biases in these patients. Furthermore, ethanol tolerance may skew the symptoms of intoxication for patients with a history of AUD, thereby complicating the scale of BAC intoxication and clinical intoxication. Systemic biases have also been found in determining which patients are tested for BAC, which may have caused us to miss some patients on initial presentation.

Other patient care outcomes besides hospital admission, such as alcohol withdrawal symptoms and poor surgical outcomes, may impact patient management but were not available in our databases.

**CONCLUSION**

Blood alcohol concentration is a reflection of acute alcohol use, often correlated with binge drinking and adverse effects on human health. The presence of BAC was found to be associated with hospital and ICU admissions after adjustment for Injury Severity Score; therefore, screening BAC might expedite disposition of trauma patients in the ED. The Alcohol Use Disorder Identification Test is a self-reported reflection of perceived alcohol consumption habits and possible chronic alcohol use. Our study found that AUDIT is associated with an increased risk of hospital or ICU admission in minor or moderately injured trauma patients only.

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**Conflicts of Interest:** By the WestJEM article submission agreement, all authors are required to disclose all affiliations, funding sources and financial or management relationships that could be perceived as potential sources of bias. No author has professional or financial relationships with any companies that are relevant to this study. There are no conflicts of interest or sources of funding to declare.
REFERENCES


ASSOCIATION OF SUICIDE ATTEMPT WITH STIMULANT ABUSE IN CALIFORNIA EMERGENCY DEPARTMENTS IN 2011: A STUDY OF 10 MILLION ED VISITS

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INTRODUCTION: Our goal in this study was to identify stimulant abuser patients who are at specifically high risk of suicide attempt (SAT), in order to prioritize them in preventive and risk mitigation programs.

METHODS: We used the California State Emergency Department Database (SEDD) to obtain discharge information for 2011. The SEDD contains discharge information on all outpatient ED encounters, including uninsured patients and those covered by Medicare, Medicaid, and private insurance. We identified SAT and stimulant abuse by using the relevant International Classification of Diseases, Ninth Revision, codes.

RESULTS: The study included 10,124,598 outpatient ED visits. Stimulant abuse was observed in 0.97% of ED visits. Stimulant abuse was more common among young and middle-aged males and people with low median household income. Moreover, it was more common among Native American (1.8%) and Black (1.8%), followed by non-Hispanic White (1.1%) patients. The prevalence of SAT was 2.0% (N = 2000) for ED visits by patients with a history of stimulant abuse, and 0.3% (N = 28,606) for ED visits without a history of stimulant abuse (odds ratio 7.29, 95% confidence interval, 6.97-7.64). The SATs were directly associated with stimulant abuse, younger age (age groups >10), and non-Hispanic White and Native American race. Association of SAT with stimulant abuse was stronger in female patients.

CONCLUSION: Stimulant abuse was the only modifiable risk factor for suicide attempt in our study. Reaching out to populations with higher prevalence of stimulant abuse (young and middle-aged individuals who are Native American or Black, with lower household income) to control the stimulant abuse problem, may reduce the risk of SAT. In this regard, people who are at higher risk of SAT due to non-modifiable risk factors (younger age, and Native American or White race) should be prioritized. Moreover, controlling stimulant abuse among women may be specifically effective in SAT prevention.

INTRODUCTION

The use and abuse of stimulants has been increasing across the United States. This includes rates of recreational cocaine use along with medical and nonmedical amphetamine consumption. The risk, severity, and type of stimulant abuse have been shown to vary across different populations. Various trends have been established in regard to different population demographics. For example, it has been shown that methamphetamine is more prevalent in the western US, although this has been trending eastward.

Cocaine and amphetamines have different mechanisms of action but similarly affect monoamine transporters. Cocaine blocks the reuptake of neurotransmitters, while amphetamine releases more into the synapse. Therefore, when comparing the two drugs, methamphetamine affects dopamine balance in the brain for a longer period of time. This is one of the many factors that have led to the differential effects of these stimulants.

In recent years, there has been an increase in overall prescriptions to college students, especially to those in academically stressful situations. Misuse of stimulants has been shown to cause multiple issues including tissue ischemia and long-term neurological changes. An apparent correlation has been observed between the increase in overall stimulant prescription to patients of varying ages and demographics and misuse of these stimulants, resulting in both physiological and neurological changes that could be prevented. Particularly, the neurological changes that result from stimulant abuse may increase their risk of suicide. Globally, suicide is the third leading cause of death in the 15-44 age group. Although a strong correlation between stimulant abuseinduced neurological changes and suicide exists, various other factors contribute to the onset of

Population Health Research Capsule

What do we already know about this issue?
Different populations in the US are increasingly susceptible to the use of stimulants. A strong correlation exists between stimulant abuse and suicide attempt (SAT).

What was the research question?
We investigated which subgroups of stimulant abuse patients in California emergency departments had higher risk of SAT.

What was the major finding of the study?
A SAT was associated with stimulant abuse, younger age, and being non-Hispanic White or Native American. The association was stronger in females.

How does this improve population health?
Suicide prevention interventions in healthcare settings should actively target patients (especially females) who have stimulant abuse issues.
suicidal thoughts. The rising concern with regard to impulsive suicidal thoughts, and their potential to claim lives, has spurred public health intervention efforts to provide support to these most vulnerable and at-risk populations. Public health interventions in populations suffering from stimulant abuse can facilitate a reduction of suicide attempts (SAT) in this demographic. Specific, targeted preventive efforts may reduce SAT in at-risk populations and help maintain mental and physiological health.

An association between stimulant abuse and SAT has already been reported. We expanded on this work, accessing the 2011 State Emergency Department Database (SEDD) to determine which subgroups, if any, of stimulant-abuse populations are at increased risk of SAT. This subgroup analysis may inform targeted public health efforts focused on the most at-risk individuals.

METHODS

We used data from the California State Emergency Department Database (SEDD) 2011 for analysis. We considered emergency department (ED) visits identified by E95* International Classification of Diseases, Ninth Revision (ICD-9), code as a SAT case. The visit was classified as stimulant abuse-related, if at least one of the following ICD-9 codes was associated with the visit: 304.2* (Cocaine dependence); 304.3* (Cannabis dependence); 304.4* (Amphetamine type and other psychostimulants dependence); 305.2* (Nondependent abuse of drugs: cannabis); 305.6* (Nondependent abuse of drugs: cocaine type); 305.7* (Nondependent abuse of drugs: amphetamine type); 969.7* (Poisoning by psychostimulants); 970.0 (Poisoning by analeptics); 970.8* (Poisoning by other central nervous system stimulants); 970.9 Poisoning by unspecified central nervous system stimulants); E854.2 (Accidental poisoning by other psychotropic agents: psychostimulants); E854.3 (Accidental poisoning by other psychotropic agents: central nervous system stimulants); E939.7 (Drugs, medicaments, and biological substances causing adverse effects in therapeutic use: psychotropic agents, psychostimulants); E940.0 (Drugs, medicaments, and biological substances causing adverse effects in therapeutic use: central nervous system stimulants, analeptics); E940.8 (Other specified central nervous system stimulants causing adverse effects in therapeutic use); and E940.9 (Unspecified central nervous system stimulant causing adverse effects in therapeutic use).

We used Stata 14.2 SE statistical software (StataCorp LLC, College Station, TX) for data analysis. Prevalence proportions are reported as percentage and 95% confidence intervals (CI). Logistic regression analysis was used to examine the association of SAT with age groups,
gender, stimulant abuse, and race. Some patients had been referred more than once to the ED; therefore, the dataset was considered as clustered at the level of the patient, and the standard errors were estimated by clustered robust method.

**RESULTS**

The study included 10,124,598 ED visits in California in 2011. Stimulant abuse was associated with 97,834 (0.97%; 0.96% - 0.97%) ED visits. Table 1 shows the prevalence of stimulant abuse in different patient groups. Stimulant abuse was more common among patients of young and middle age, male (1.40%), Black (1.8%), and Native American (1.8%), followed by non-Hispanic White (1.1%) patients. Stimulant abuse was more common in patients with lower household income. The prevalence of SAT was 2.0% (N = 2000) for ED visits with a history of stimulant abuse, and 0.3% (N = 28,606) for ED visits without a history of stimulant abuse (odds ratio [OR] 7.29, 95% CI, 6.97-7.64). In the state of California, 30,606 (0.30%) ED visits were associated with SAT.

**Univariable Analysis**

The association of SAT with stimulant abuse was stronger in women (OR 9.18, 95% CI, 8.60-9.80) compared to men (OR 6.45, 95% CI, 6.04-6.88). This pattern was seen in all age groups >10. The association of SAT with stimulant abuse was stronger in ages above 60 (OR 12.55, 95% CI, 8.68-18.16) compared to younger age groups (OR 6.43, 95% CI, 6.14-6.74). The pattern was similar in both genders (Figure 1). The association of SAT with stimulant abuse in Asian/Pacific (OR 12.01, 8.88 - 16.26) and Hispanic patients (OR 9.41, 8.59 - 10.32) was stronger than White (OR 6.66, 6.26 - 7.09) and Black (OR 5.61, 4.93 - 6.39) patients (Figure 2).

**Table 1. Prevalence of stimulant abuse per emergency department visits, according to patients’ characteristics.**

<table>
<thead>
<tr>
<th>Demographics</th>
<th>No</th>
<th>Row %</th>
<th>Yes</th>
<th>Row %</th>
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<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-10</td>
<td>1,768,307</td>
<td>100.0%</td>
<td>237</td>
<td>0.0%</td>
</tr>
<tr>
<td>10-20</td>
<td>1,112,735</td>
<td>98.7%</td>
<td>14,267</td>
<td>1.3%</td>
</tr>
<tr>
<td>20-30</td>
<td>1,637,599</td>
<td>98.2%</td>
<td>29,655</td>
<td>1.8%</td>
</tr>
<tr>
<td>30-40</td>
<td>1,300,234</td>
<td>98.5%</td>
<td>19,899</td>
<td>1.5%</td>
</tr>
<tr>
<td>40-50</td>
<td>1,289,198</td>
<td>98.6%</td>
<td>18,469</td>
<td>1.4%</td>
</tr>
<tr>
<td>50-60</td>
<td>1,141,177</td>
<td>99.0%</td>
<td>11,613</td>
<td>1.0%</td>
</tr>
<tr>
<td>60-70</td>
<td>712,538</td>
<td>99.6%</td>
<td>2,925</td>
<td>0.4%</td>
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<tr>
<td>70-80</td>
<td>491,645</td>
<td>99.9%</td>
<td>403</td>
<td>0.1%</td>
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<tr>
<td>80-90</td>
<td>515,341</td>
<td>100.0%</td>
<td>90</td>
<td>0.0%</td>
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<tr>
<td><strong>Gender</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>4,465,778</td>
<td>98.6%</td>
<td>61,998</td>
<td>1.4%</td>
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<tr>
<td>Female</td>
<td>5,426,236</td>
<td>99.4%</td>
<td>35,214</td>
<td>0.6%</td>
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<tr>
<td><strong>Race</strong></td>
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<tr>
<td>White</td>
<td>4,119,855</td>
<td>98.9%</td>
<td>44,413</td>
<td>1.1%</td>
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<tr>
<td>Black</td>
<td>1,079,244</td>
<td>98.2%</td>
<td>19,593</td>
<td>1.8%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3,515,411</td>
<td>99.3%</td>
<td>25,526</td>
<td>0.7%</td>
</tr>
<tr>
<td>Asian/Pacific</td>
<td>453,282</td>
<td>99.6%</td>
<td>1,799</td>
<td>0.4%</td>
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<tr>
<td>Native American</td>
<td>18,253</td>
<td>98.2%</td>
<td>335</td>
<td>1.8%</td>
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<tr>
<td>Other</td>
<td>321,250</td>
<td>99.1%</td>
<td>2,782</td>
<td>0.9%</td>
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<td><strong>Median household income state quartile for patient ZIP Code</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td>3,087,808</td>
<td>98.8%</td>
<td>38,239</td>
<td>1.2%</td>
</tr>
<tr>
<td>2</td>
<td>2,684,738</td>
<td>99.1%</td>
<td>24,087</td>
<td>0.9%</td>
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<tr>
<td>3</td>
<td>2,289,600</td>
<td>99.2%</td>
<td>18,698</td>
<td>0.8%</td>
</tr>
<tr>
<td>4</td>
<td>1,702,577</td>
<td>99.3%</td>
<td>11,243</td>
<td>0.7%</td>
</tr>
</tbody>
</table>
Multivariable Analysis

In a multivariable analysis (Table 2), SAT was directly associated with stimulant abuse (OR 4.18), young age (>10), and female gender. Suicide attempts were more frequent among White and Native American patients, compared to Black. The association of SAT with stimulant abuse was stronger in female patients in multivariable analysis.

DISCUSSION

Analysis of over 10 million ED visits in California gave us insight into the relation between SAT and stimulant abuse in different patient populations. Our findings cohere with previous findings and indicate that depressed or suicidal individuals are more likely to abuse stimulants and are increasingly susceptible to SAT. As the only modifiable risk factor in our study, stimulant abuse was more common in young and middle-aged, male, Native American, and Black patients with lower household income. We also found that stimulant abuse puts females at higher risk of SAT.

The risk of SAT is prevalent across patient populations and increases with factors such as stimulant abuse. Not only does a SAT endanger the life of a vulnerable individual, it also psychologically affects the individual, families, communities, and society as a whole. The substantial impact that suicide has on the community necessitates public health intervention efforts to target high-risk populations. Young populations have been deemed increasingly at risk of suicide due to a variety of psychosocial stressors. Research stipulates that within these diverse, young populations, females have proven to be the most vulnerable group. Suicide remains the second leading cause of death in individuals between the ages of 10-34.6 Stimulant abuse contributes to the numerous stressors that young populations face. Public health prevention efforts within this demographic group may reduce the economic and human cost of suicide.

The rising national trend in nonmedical prescription stimulant abuse has allowed experts to discern the psychological factors that contribute to the start of recreational substance consumption. This work indicates that the initiation of abuse often follows discrete traumatic events. Therefore, the inefficiency of prescription medication as a coping mechanism may be attributed to these higher suicidal rates. A prominent correlation between lower median household income state quartile (MHIQ) and increased stimulant abuse (MHIQ = 1.2%) exists (Table 1). Poor access to healthcare and high rates of depression in individuals of lower socioeconomic status contribute to psychological effects prompting nonmedical stimulant abuse. Non-medical stimulant use has also been associated with other harmful
habits including tobacco, alcohol, and other illicit drug use. Each of these habits has also been correlated to increased suicide risk, all of which may be contributing factors.

Multivariable analysis showed SAT is associated with stimulant abuse and younger age. One potential reason for this result may involve the absence of impulse control correlated with drug abuse. Meanwhile, the proportion of ED visits with associated stimulant abuse was higher in younger age groups. This pattern corroborates past research indicating increased non-medical stimulant use among college populations. Association of SAT with stimulant abuse (besides younger age), and higher prevalence of stimulant abuse in those who are younger in age indicates that young people should be targeted for active stimulant-abuse prevention and treatment interventions.

We found a stronger association between SAT and stimulant abuse in females, in all age groups. Previous literature coheres with this finding. Gender differences in stimulants have been established both behaviorally and pharmacologically. Women have been known to undergo the telescoping effect, which stipulates that in the long term, females escalate from low-dose use to addiction faster than men. The quicker increase in consumption rates has been attributed to hormonal fluctuations inherent with the menstrual cycle. This hormonal fluctuation has been shown to subject women to differential drug effects dependent on their menstrual phase. Women have been shown to be significantly more susceptible to physiological dependence, which is the most extreme classification of drug use in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. This is associated with an increase in extreme lifestyle changes attributable to drug administration and consumption.

We were not able to differentiate the exact type of the stimulant in this study.

### Table 2. Association of suicide attempt with stimulant abuse and different demographic characteristics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds ratio</th>
<th>Standard error</th>
<th>Z</th>
<th>P</th>
<th>95% Confidence interval</th>
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</thead>
<tbody>
<tr>
<td><strong>Stimulant abuse</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes (vs No)</td>
<td>4.18</td>
<td>.017</td>
<td>37.67</td>
<td>&lt;0.001</td>
<td>3.88 – 4.51</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (vs male)</td>
<td>1.07</td>
<td>.017</td>
<td>4.59</td>
<td>&lt;0.001</td>
<td>1.04 – 1.11</td>
</tr>
<tr>
<td><strong>Age groups</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10-20 (vs 0-10)</td>
<td>92.30</td>
<td>14.160</td>
<td>29.50</td>
<td>&lt;0.001</td>
<td>68.33 – 124.68</td>
</tr>
<tr>
<td>20-30 (vs 0-10)</td>
<td>59.45</td>
<td>9.11</td>
<td>26.67</td>
<td>&lt;0.001</td>
<td>44.04 – 80.27</td>
</tr>
<tr>
<td>30-40 (vs 0-10)</td>
<td>46.36</td>
<td>7.12</td>
<td>24.99</td>
<td>&lt;0.001</td>
<td>34.31 – 62.64</td>
</tr>
<tr>
<td>40-50 (vs 0-10)</td>
<td>41.46</td>
<td>6.37</td>
<td>24.25</td>
<td>&lt;0.001</td>
<td>30.68 – 56.02</td>
</tr>
<tr>
<td>50-60 (vs 0-10)</td>
<td>29.70</td>
<td>4.57</td>
<td>22.02</td>
<td>&lt;0.001</td>
<td>21.96 – 40.16</td>
</tr>
<tr>
<td>60+ (vs 0-10)</td>
<td>7.89</td>
<td>1.23</td>
<td>13.25</td>
<td>&lt;0.001</td>
<td>5.82 – 10.72</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White (vs Black)</td>
<td>1.89</td>
<td>.049</td>
<td>24.77</td>
<td>&lt;0.001</td>
<td>1.80 – 1.99</td>
</tr>
<tr>
<td>Hispanic (vs Black)</td>
<td>1.07</td>
<td>.030</td>
<td>2.43</td>
<td>0.015</td>
<td>1.01 – 1.13</td>
</tr>
<tr>
<td>Asian/Pacific (vs Black)</td>
<td>1.18</td>
<td>.054</td>
<td>3.55</td>
<td>&lt;0.001</td>
<td>1.08 – 1.29</td>
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<tr>
<td>Native American (vs Black)</td>
<td>1.61</td>
<td>.228</td>
<td>3.35</td>
<td>0.001</td>
<td>1.22 – 2.12</td>
</tr>
<tr>
<td>Others (vs Black)</td>
<td>1.58</td>
<td>.068</td>
<td>10.60</td>
<td>&lt;0.001</td>
<td>1.45 – 1.72</td>
</tr>
<tr>
<td><strong>Interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stimulant by Female</td>
<td>1.49</td>
<td>.080</td>
<td>7.36</td>
<td>&lt;0.001</td>
<td>1.34 – 1.65</td>
</tr>
<tr>
<td><strong>Model Constant</strong></td>
<td>.0001</td>
<td>0.00001</td>
<td>-63.79</td>
<td>&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

Pseudo R² = 0.05 (Standard error adjusted for 4,528,235 clusters).
LIMITATIONS

It should be noted that this study does have its limitations. First, a substantial number of patients diagnosed in the ED could have had suicidal thoughts without SAT. Additionally, patients who have intended self-harm without SAT could have been mischaracterized as SAT. This categorizes individuals who had suicidal intentions but no SAT in the same category as those who were suicidal with SAT.

CONCLUSION

Suicide attempts were associated with stimulant abuse, younger age, and White or Native American race. Stimulant abuse was the only modifiable risk factor for SAT in our study. Therefore, we recommend that groups with higher prevalence of stimulant abuse (young and middle aged, Native American and Black race, with lower household income) be targeted for stimulant-abuse prevention and treatment to reduce SAT. In this regard, people who are at higher risk of SAT due to non-modifiable risk factors (younger age, Native American or White race) should be prioritized. Moreover, controlling stimulant abuse among women would be specifically effective in SAT prevention. The findings presented could be of value when developing screening tools to implement in a patient care setting that stratifies patients into risk categories for SAT.

REFERENCES

Prognosis: Hospice

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• VITAS admissions nurses independently process referrals, reducing door-to-discharge time
• Intensive symptom management improves patient/family satisfaction

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Installed September 1, 2022

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At-Large Director - TBD
David Martin, MD, and his team at Ondas de Latinoamérica performed the first transesophageal echocardiogram in the emergency department at Hospital Nacional Dosde Mayo in Peru.

Kara Toles, MD, presented on racial equity at the National Overdose Prevention Summit, representing CA Bridge.

Dan Imler, MD, received the ACEP Now Rookie Speaker of the Year award.


Naomi Marks, MD, FACEP; Neal Aaron, DO, FACEP; David Vinson, MD, FACEP; Scott Yu, MD, FACEP; Jason An, MD, FACEP; Andrew Eads, MD, FACEP; Kamara Graham, MD, FACEP; Sage Wexner, MD, FACEP; Adam Michael Sadowski, DO, FACEP; Katherine Staats, MD, FACEP; Courtney Clamp, MD, FACEP; Keith Wilson, MD, FACEP; Catherine Weaver, MD, FACEP; and Kristen Hornbeak, MD, FACEP are all now Fellows of the American College of Emergency Physicians.

Alisa Wray, MD, FACEP; Shannon Toohey, MD, FACEP; Warren Wiechmann, MD; and Megan Osborn, MD, FACEP published their research report “Frequency of Social Media and Digital Scholarship Keywords in U.S. Medical Schools’ Promotion and Tenure Guidelines” in the Academic Medicine Journal of the Association of American Medical Colleges.
The California Emergency Medicine Advocacy Fund (CEMAF) has transformed California ACEP’s advocacy efforts from primarily legislative to robust efforts in the legislative, regulatory, legal, and through the Emergency Medical Political Action Committee, political arenas. Few, if any, organization of our size can boast of an advocacy program like California ACEP’s; a program that has helped block Medi-Cal provider rate cuts, lock in $500 million for the Maddy EMS Fund over the next 10 years, and fight for ED overcrowding solutions! The efforts could not be sustained without the generous support from the groups listed below, some of whom have donated as much as $0.25 per chart to ensure that California ACEP can fight on your behalf. Thank you to our 2019-20 contributors (in alphabetical order):

- Antelope Valley Emergency Medical Associates
- Culver Emergency Medical Group
- Emergent Medical Associates
- Mills Peninsula Emergency Medical Associates
- Napa Valley Emergency Medical Group
- Pacific Emergency Providers, APC
- Riverside EP
- Temecula Valley Emergency Physicians
- Torrance Emergency Physicians
- US Acute Care Solutions
- Vituity

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The Westin San Diego Gaslamp

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If you would like more information or would like to submit a guest article, email info@californiaacep.org.

UPCOMING LIFELINE TOPICS
Summer
MedEd

Fall
Narrative Medicine

Winter
TBD

CALIFORNIA ACEP BOARD ELECTION
The Board of Directors election will be held online from May 15-31, 2022. All eligible voters will be sent a personalized ballot by email on May 15, 2022. The link to the ballot will also be posted on www.californiaacep.org.
For more information on upcoming meetings, please e-mail us at info@californiaacep.org; unless otherwise noted, all meetings are held via conference call.

## JUNE 2022

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<thead>
<tr>
<th>Date</th>
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<tr>
<td>1st</td>
<td>Councilor Interest Form Closes</td>
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<tr>
<td></td>
<td>Online</td>
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<tr>
<td>30th</td>
<td>Chapter Award Nominations Close</td>
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## JULY 2022

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<tr>
<td>5th at 9am</td>
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<td>7th at 10am</td>
<td>Board of Directors Meeting Conference Call</td>
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## AUGUST 2022

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</thead>
<tbody>
<tr>
<td>2nd – 3rd</td>
<td>Board of Directors Retreat Sacramento</td>
</tr>
<tr>
<td>11th at 10am</td>
<td>Government Affairs Committee (GAC) Conference Call</td>
</tr>
</tbody>
</table>
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Brian Green, EMT-P  
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Phone: (925) 708-5377  
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Website: www.accreditedemsfiretraining.com

**LIFEwest Ambulance**
Ken Bradford, Course Coordinator  
5460 Skyline Blvd, Ste A, Santa Rosa, CA 95403  
Phone: (800) 222-8669  
Email: Ken_brador@comcast.net  
Website: www.Lifewestambulance.com

**Medic Ambulance**
James Pierson, EMT-P & Helen Pierson  
506 Couch Street, Vallejo, CA 94590-2408  
Phone: (707) 644-1766  
Fax: (707) 644-1784  
Email: jpierson@medicambulance.net  
Website: www.medicambulance.net

**Napa Valley Fire**
Gregory Rose, EMS Co-Director  
2277 Napa Highway, Napa CA 94558  
Phone: (707) 256-4596  
Email: grose@napavalley.edu  
Website: www.winecountrycpr.com

**NCTI – National College of Technical Instruction**  
Lena Rohrabaugh, Course Manager  
2995 Foothills Blvd Suite 100, Roseville, CA 95747  
Phone: (916) 960-6284 x 105  
Fax: (916) 960-6296  
Email: jlcasa@caltel.com  
Website: www.ncti-online.com

**NorCal MedTac**  
Brian Green, EMT-P  
3107 Scotts Valley Dr, Scotts Valley, CA 95066  
Phone: (831) 970-0440  
Email: jschel9@hotmail.com  
Website: www.norcalmedtac.com

**PHI Air Medical, California**  
Eric Lewis, Course Coordinator  
801 D Airport Way, Modesto, CA 95354  
Phone: (209) 550-0884  
Fax: (209) 550-0885  
Email: elewis@philhelico.com  
Website: http://www.phiarmmedical.com

**Riggs Ambulance Service**  
Greg Petersen, EMT-P, Clinical Care Coordinator  
100 Riggs Ave, Merced, CA 95340  
Phone: (209) 725-7010  
Fax: (209) 725-7044  
Email: Gregp@riggsambulance.com  
Website: www.riggsambulance.com

**Rocklin Fire Department**  
Chris Wade, Firefighter/Paramedic  
3401 Crest Drive, Rocklin, CA 95765  
Phone: (916) 625-5311  
Fax: (209) 725-7044  
Email: Chris.Wade@rocklin.ca.us  
Website: www.rocklin.ca.us

**Rural Metro Ambulance**  
Adrian Ayllon EMT-P  
1345 Vander Way, San Jose, CA 95112  
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Fax: (408) 275-6744  
Email: adrianayllon@yahoo.com  
Website: www.metro.com

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