

JUCM[®]

THE JOURNAL OF URGENT CARE MEDICINE[®]

SEPTEMBER 2022
VOLUME 16, NUMBER 11

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CLINICAL **cme**

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Antibiotic Prescribing in ‘Gotham City’



I don't know about you, but I'm tired of being talked at about antibiotic stewardship. We all realize it's a problem. And though it's common practice to blame urgent care providers for the situation, we aren't uniquely culpable for antibiotic overuse.

To anyone paying attention, it's clear that antibiotic overprescribing in urgent care remains as rampant as crime in Gotham City. And the topic has become exhausting for UC providers, not because we believe it to be unimportant, but because we are spoken to about antibiotic stewardship like we are Bruce Wayne when, in reality, we're much closer to Batman. Allow me to elaborate.

Batman, Bruce Wayne's secret alter ego, is concerned more than anyone for the safety of the people of Gotham City. He works tirelessly, generally to the detriment of his own well-being, to subdue the pervasive criminal elements threatening his fellow citizens. He does this because of an abiding sense of duty to protect them, despite being shown far more disdain than appreciation for his efforts.

When by day embodying the persona of the seemingly aloof billionaire Bruce Wayne, he places his ego aside and humbly conceals his heroic identity. Consequently, Mr. Wayne endures the ire of the citizenry as he seemingly sits back idly and allows Gotham to remain in a state of chaos. Meanwhile, he suits up each night and steadfastly fights epidemic violence to protect the thankless many whose safety he regards as his personal responsibility.

We care for our patients in the same way and likewise unfairly face the brunt of the blame for the disastrous situation of antibiotic overprescribing we are facing. In all my years as an urgent care doctor and director, I can count on one hand the number of providers I've seen prescribing antimicrobials with wonton disregard for their lack of clinical indication. Instead, I see providers who show up daily, taking the Hippocratic Oath to heart, and try to do right by their patients. But like Gotham, our clinics are often in chaos. There's always more work to be done than humanly possible, so we do the best we can. And like Batman, we always have to pick our battles.

One of the greatest sources of burden for Batman, however, is not the physical threat of his enemies, which is significant, but rather the moral injury of being held out as the scapegoat

for the problems facing Gotham instead of the well-intentioned vigilante he is. The simplicity of having a single target of blame is tempting, but dangerous. Administrators, policy researchers, and others who might speak on antibiotic stewardship without serving in the trenches risk invoking the same moral injury when they point the finger at UC clinicians as being solely responsible for antibiotic prescribing practices.

This is an important phenomenon to be sensitive to as the pandemic and corresponding “great resignation” unfold and we face frequent staffing shortages. Working in UC is already a tough job. And the truth is there are always going to be some patients who vehemently demand a nonindicated antibiotic regardless of how adeptly we communicate and attempt to educate or how much extra time we spend with them. However, a visit that results in a questionable prescription for azithromycin after a week of cough and runny nose doesn't mean that the clinician didn't put forth a valiant effort towards a different outcome. Quite the opposite actually. Most often, the provider did the best they could within the confines of the time and energy they could devote to that patient in the moment.

Nobody is more aware of the issue of unnecessary antibiotic prescribing than the UC clinicians who face the unreasonable demands for these antibiotics from countless patients every shift. What is defeating, though, is to be held repeatedly and singly responsible for its existence simply because we are the ones writing the prescriptions at the point-of-care. Provider-blaming thinly disguised as “education” is an unfortunately common and ineffective technique aimed at solving this issue. The allure of this strategy lies in its simplicity. However, antibiotic overprescribing, like crime in Gotham is a complex, systemic problem that will require solutions at every level to solve.

Motivating clinicians, whether it be with a carrot or, more commonly and misguidedly, with a stick, will not solve this crisis. Batman's quest for peace and justice in Gotham was facilitated not by those who sought to tell him how to do his job but rather by those like his butler Alfred and Commissioner Gordon, who supported him and worked to remove the barriers to his mission. Similarly, UC providers already are fighting hard to protect our patients and do the right thing. Success in achieving our shared mission of better antibiotic stewardship doesn't lie in finding innovative ways to motivate us or inform us of the problem. Rather, it lies in support from administration

EDITOR-IN-CHIEF

and systematic efforts to educate and redirect antibiotic-seeking patients.

This support and empowerment may come in many forms. Clinics can create policies clearly outlining to patients when antibiotics will not be prescribed, dismiss patient surveys when disgruntlement is based on not getting an antibiotic, and reduce expectations for the rate at which providers need to see patients so they can spend more time with each (which, in fact, is a more reliable predictor of satisfaction than antibiotic prescribing). The form of “support,” that has the lowest probable return on investment, however, is lecturing at providers or forcing them to complete yet another LMS module on stewardship. Moreover, such a strategy is more likely to be counterproductive by furthering burnout, learned helplessness, and disillusionment.

The more fruitful strategy involves nurturing UC providers, who generally hold themselves to high standards of performance. This form of nurture and professional development can come in many forms like mentorship programs, recognition for any and all achievements in performance metrics, and allowing discretion over providers’ choices for CME. In such an environment, I’ve found clinicians routinely will strive to improve their

practice without need for much nudging whatsoever.

One compelling facet of the character of Batman is his unflinching endurance through perpetual martyrdom. But while he may offer a compelling role model (and metaphor), he’s only a comic book character. My fellow UC clinicians, while certainly heroic “Bat-people” on many levels, are only human and have a limited tolerance for moral injury before breaking. Frontline providers require real support in this mission rather than lip-service about “prioritizing antibiotic stewardship” if we are going to collectively protect the usually well-meaning, but occasionally misinformed, people of Gotham. ■



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New 2022-2023 Officers

The UCA Board of Directors held a re-election following President Dr. Armando Samaniego’s passing this spring.



Max Lebow, MD
President



Payman Arabzadeh, MD
President-Elect



Scott Prys, MD
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Gerald Cvitanovich, MD
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In addition to President-Elect Dr. Max Lebow stepping in to fill the role of President, Dr. Payman Arabzadeh was elected new UCA President-Elect and Dr. Gerry Cvitanovich was elected new UCA Treasurer.

Thank you to the entire UCA Board of Directors for your continued leadership and passion for Urgent Care.



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Psychiatric Manifestations of Medical Disease

Visual hallucinations, a sense of being followed, “shadow people” who aren’t really there.... Clearly a psychiatric workup is warranted. But what’s the next step when you learn the otherwise seemingly healthy patient’s symptoms are not psychiatric in nature?

Elizabeth Yeager-Cordial, MD; Janell Ison, DO; Robert Becker, MD; Courtney Boyd, MD; and Michael Weinstock, MD

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Alan A. Ayers, MBA, MAcc

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SARS-CoV-2 and Influenza Type A/B Infection Rates: A Report of a Federal Qualified Healthcare Center Urgent Care Department During an Omicron Wave In Rhode Island



Influenza types A and B have become predictable that we now feel confident to confine their peaks to a season. Is there any evidence that could be the case with COVID-19?

Cesar Mora Jaramillo, MD, FAAFP, FCUCM

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A Rare Case of Sequential Simultaneous Bilateral Mandibular Fractures



Bilateral mandibular angle fractures are both rare and traumatic. The prospects of a positive outcome drop if you fail to recognize that one fracture may have preceded the other.

Chad E. Richmond, DO, DAOBFP; Leonard Powell, DO, MS, FACOFP, CMD; Keith S. Richmond, DMD, MDS

IN THE OCTOBER ISSUE OF JUCM

You can tell from the nature of the wound that your new patient is going to wind up with an infection. You just don’t know which prophylactic antibiotics to prescribe because the pathogen is unknown. It all leaves you in a clinical quandary—but also, potentially, in legal jeopardy if the patient eventually has a bad outcome. Read the cover article in the October issue of *JUCM* to for a perspective on the best course of action to protect your patient and your practice.

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Mission Statement

JUCM The Journal of Urgent Care Medicine (ISSN 19380011) supports the evolution of urgent care medicine by creating content that addresses both the clinical practice of urgent care medicine and the practice management challenges of keeping pace with an ever-changing healthcare marketplace. As the Official Publication of the Urgent Care Association and the College of Urgent Care Medicine, *JUCM* seeks to provide a forum for the exchange of ideas regarding the clinical and business best-practices for running an urgent care center.

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Address Changes

JUCM printed edition is published monthly except for August for \$50.00 by Braveheart Group LLC, 11 E Sundial Circle, Carefree, AZ 85377-5156. Standard postage paid, permit no. 372, at Lancaster, PA, and at additional mailing offices. POSTMASTER: Send address changes to Braveheart Group LLC, 11 E Sundial Circle, Carefree, AZ 85377-5156. Email: address.change@jucm.com



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It's not unusual for a patient's presenting complaint to be somewhat misleading when you look at it in retrospect, after arriving at the eventual diagnosis. Sometimes, however, what the patient relays to you leads you in a very different direction. The trick is to get a sense of which cases those would be as early as possible.

The case at the center of this issue's cover article is a good example. It involves a healthy-appearing young man who says he feels like someone's been following him around for the past few days. He's seen "shadow people" when he knows he's really alone.

If your initial thought was "psych eval," you're not alone. And by all means feel free to view the title of the article, Psychiatric Manifestations of Medical Disease as a major spoiler. It's interesting to see what can be learned from such a case, and you'll have the opportunity to do that once you turn to page 11. The authors, **Elizabeth Yeager-Cordial, MD**; **Janell Ison, DO**; **Robert Becker, MD**; **Courtney Boyd, MD**; and **Michael Weinstock, MD**, are all colleagues at Adena Medical Center. Dr. Weinstock is also affiliated with the Wexner Medical Center, The Ohio State University and serves as senior editor, clinical content, for *JUCM*.

A somewhat deceiving presentation of a different sort is at the center of this month's case report, A Rare Case of Sequential Simultaneous Bilateral Mandibular Fractures. The curveball here is the word "bilateral." The challenge was compounded by the fact that the two fractures did not occur in the same event. Turn to page 35 and you'll see what we mean. Thanks to authors **Chad E. Richmond, DO, DAOBFP**, an urgent care physician with Inspira Health; **Leonard Powell, DO, MS, FACFP, CMD** from the Departments of Geriatrics and Gerontology/OMM, Rowan University School of Osteopathic Medicine; and **Keith S. Richmond, DMD, MDS**, who is in private practice.

JUCM has had the privilege of publishing numerous original research articles involving COVID-19. We're equally proud to bring you another one this month. SARS-CoV-2 and Influenza Type A/B Infection Rates: A Report of a Federal Qualified Healthcare Center Urgent Care Department During an Omicron Wave in Rhode Island (page 29) looks at the disparities between one virus with a distinct season and another that has yet to abate to seasonality. We appreciate the work by **Cesar Mora Jaramillo, MD, FAAFP, FCUCM** from Providence Community Health Centers; Warren Alpert Medical School, Brown University; the College of Urgent Care Medicine; and the Editorial Board of Evidence-Based Urgent Care that made publication possible.

The authors listed above are all great examples of the type of individual who have made it possible for urgent care to have achieved its rightful place as an essential part of the U.S.

healthcare system. They, and their predecessors, have been responsible for exponential growth that continues today—which brings about its own challenges. Namely, to where exactly are urgent care operators supposed to expand? **Alan Ayers, MBA, MAcc** offers some sound methodologies that may help you identify the most prosperous spots in Find Prime Locations for Rapid Urgent Care Growth (page 19). Mr. Ayers is president of Experity Networks and senior editor, practice management for *JUCM*.

The subject of growth *within* an urgent care's clinical practice is central to **Monte Sandler's** new Revenue Cycle Management column (page 45). In Primed for Growth: Why It's Time to Consider Adding Primary Care Services to Your Urgent Care Center, Mr. Sandler, chief operating officer for Experity explains how urgent care may be the perfect solution for patients of a certain age who, frankly, are "over" the notion of visiting a primary care practice regularly.

Finally in this issue, **Ivan Koay MBChB, FRNZCUC, MD** presents reviews of urgent care-relevant articles on vapocoolant and digital nerve blocks, dosing dexamethasone in pediatric asthma, clean-catch urine collection when working with infants, antibiotic-associated diarrhea in children, acute diverticulitis, torus wrist fractures in children, and the relative efficacy of antiviral treatment of COVID-19. Abstracts in Urgent Care begins on page 23. Dr. Koay is an urgent care physician as well as an examiner with the Royal New Zealand College of Urgent Care; education faculty for the RCSI Fellowship of Urgent Care Medicine; and head of faculty na hÉireann RNZCUC.

Thanks to Our Peer Reviewers

In every issue of *JUCM*, there are select articles on which we ask members of our peer review panel to comment. It's one step we take to ensure that all the content we publish is relevant, clearly communicated, and free of bias. For their contributions in reviewing content for the May, June, July/August, and September issues, we thank:

Charlotte Albinson, MD
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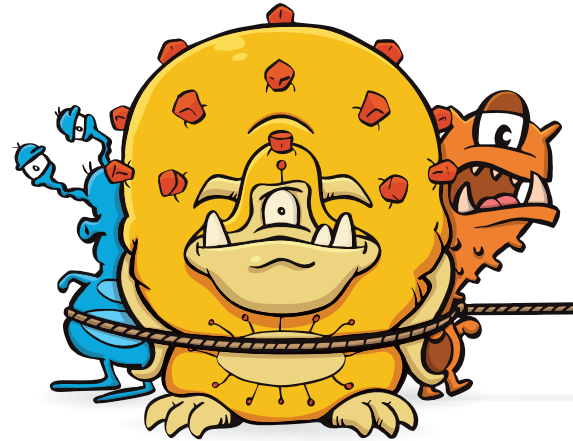
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There Are No Elephants

■ LOU ELLEN HORWITZ, MA

It's hard to tell a long story in a short email. At the end of July, Dr. Max Lebow and Dr. Payman Arabzadeh—UCA's President and President-Elect, respectively—announced that we were beginning the search for UCA's next CEO. Since then, I've gotten all kinds of questions, so I want to use a bit of this column to tell the longer story.

First, I love UCA, and I will always love UCA. I was here at the (almost) beginning and have loved being back on staff again. The job of CEO here is the best job I've ever had (both times) and serving through this latest challenge has been a true privilege. There is no bigger fan of UCA than me.

So why am I eventually leaving? It's not for greener pastures or something new and exciting—and there are no elephants in the room we are keeping secret. I am leaving because it will be the right time in UCA's evolution for me to depart, and this has *always* been the plan. I am a startup girl and a turnaround-type, and our need for that is winding down, which is a great and gratifying thing. We've turned the organization upside down and inside out and we are getting into excellent shape for wherever the future will take us. It's the right time to start looking for UCA's long-term leader who will take what we've done, planned, and envisioned to date—and run with it.

I'm also asked why we are announcing this so far in advance and so publicly vs a confidential search. That's an easy answer: it's just who we are. This is a member association, *your* association, and we are a *Community* so you deserve to be informed.

We also want to give ourselves time to do this properly and to hold out for the right person if we must. This succession plan is vitally important to all of us, and together we are going to find that person with the particular skills vital to our next chapter.

Executing the succession like this is fairest to the staff, too. They are accomplishing great things every day as we complete the remaining transitional work and launch new benefits, resources, and long-term initiatives. There's a lot underway. It

ensures their perspectives can be included in the search and eliminates a shockwave that could have derailed our momentum in the months to come.

We have put a lot of thought and planning into how we are going about this succession, so I hope this longer story has helped explain the transition more deeply and cements your confidence in what we are doing and why!

Speaking of what we are doing and why, the Board of Directors at UCA has been reviewing the way we talk about UCA.

Traditionally, we have had a mission statement like many organizations do, but with our transformations over the past two years the Board wanted to revisit the entire idea of why UCA exists. What are we here for? Who are we? So they did.

The result is a core purpose statement that is guiding our strategy today and for the future: **UCA exists to ensure the advancement and long-term success of Urgent Care.** Let's unpack that a little.

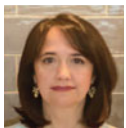
They chose the word "ensure" because we understand that as your association, we have an *active responsibility*. Not just to "be here" for you when you need us, but to proactively work for your benefit.

They chose the word "advancement" because we know that Urgent Care must always get a little better every day, and we have an important role to play in realizing that happens. We do that by **fostering togetherness** and **empowering best practices**.

They chose "long-term success" rather than just "success" because we understand that it's our job to do the long, slow, national, and global-level work to make things better for all of Urgent Care *into the future*. We think of it as **championing excellence**.

And finally, we chose to capitalize Urgent Care because we want it to stand out every time it shows up, and you will see us do that in our communications going forward. Urgent Care is worth capitalizing, don't you think?

Check out the About UCA page on the website (<https://www.ucaoa.org/About-UCA>) to see more, and thank you, as always, for being part of our **community**. ■



Lou Ellen Horwitz, MA is the chief executive officer of the Urgent Care Association.



CONTINUING MEDICAL EDUCATION

Release Date: September 1, 2022
Expiration Date: August 31, 2023

Target Audience

This continuing medical education (CME) program is intended for urgent care physicians, primary-care physicians, resident physicians, nurse-practitioners, and physician assistants currently practicing, or seeking proficiency in, urgent care medicine.

Learning Objectives

1. To provide best practice recommendations for the diagnosis and treatment of common conditions seen in urgent care
2. To review clinical guidelines wherever applicable and discuss their relevancy and utility in the urgent care setting
3. To provide unbiased, expert advice regarding the management and operational success of urgent care practices
4. To support content and recommendations with evidence and literature references rather than personal opinion

Accreditation Statement



This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Institute for Medical and Nursing Education (IMNE) and the Institute of Urgent Care Medicine. IMNE is accredited by the ACCME to provide continuing medical education for physicians. The IMNE designates this journal-based CME activity for a maximum of 3 *AMA PRA Category 1 Credits™*.

Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Planning Committee

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Member reported no financial interest relevant to this activity.

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This activity is expected to take 3 hours to complete.

Fee

There is an annual subscription fee of \$145.00 for this program, which includes up to 33 *AMA PRA Category 1 Credits™*.

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CONTINUING MEDICAL EDUCATION

JUCM CME subscribers can submit responses for CME credit at www.jucm.com/cme/. Quiz questions are featured below for your convenience. This issue is approved for up to 3 AMA PRA Category 1 Credits™. Credits may be claimed for 1 year from the date of this issue.

Psychiatric Manifestations of Medical Disease (page 11)

1. “Diagnosis momentum” occurs when:

- a. New data are interpreted through the “lens” of a prior diagnosis
- b. A provider arrives at a conclusion regarding a patient’s diagnosis before sufficient information is obtained
- c. A patient triggers an emotional response in the physician, obscuring their judgment
- d. A provider accepts that symptoms are due to a previous diagnosis as relayed by the patient

2. The proportion of patients who develop anxiety following acute coronary syndrome is approximately:

- a. 15%
- b. 20%
- c. 50%
- d. 63%

3. Symptoms of hypoglycemia that overlap with psychiatric disorders include:

- a. Somnolence
- b. Irritability
- c. Altered mental status
- d. All of the above

Find Prime Locations for Rapid Urgent Care Growth (page 19)

1. Essential factors to consider in site selection include:

- a. Trade area density
- b. The impact of the physical location on traffic and visibility
- c. The population and demographics of the surrounding area
- d. All of the above

2. A build-to-suit (BTS) agreement is:

- a. When an urgent care operator gains approval from the landlord to alter a space to suit the operation’s needs, at the operator’s expense

- b. When a commercial property tenant partners with a developer to build a custom facility they will then occupy and lease
- c. Struck between the urgent care operator and a contractor to renovate a leased space
- d. Struck between the landlord and a contractor to renovate a leased space to the urgent care operator’s specifications

3. A tenant improvement allowance:

- a. Stipulates that the landlord pays for the interior construction of the urgent care space
- b. Establishes a “ceiling” on the amount of money a tenant urgent care operator can spend on renovation
- c. Requires the tenant urgent care operator to improve their financial performance within an agreed-upon period of time
- d. All of the above

A Rare Case of Sequential Simultaneous Bilateral Mandibular Fractures (page 35)

1. The consequences of delay in treating mandible fractures include which of the following?

- a. Malocclusion
- b. Chronic pain
- c. Aesthetic changes
- d. All of the above

2. Mandible fractures are found to be bilateral in what percentage of cases?

- a. 1.2%
- b. 2.1%
- c. 4.8%
- d. 8.2%

3. “Flail mandible” is defined as:

- a. Destabilization of the bony network of the mandible
- b. Dislocation of the condyle
- c. The unbalancing of regional muscles
- d. Fracture of the coronoid process



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Psychiatric Manifestations of Medical Disease

Urgent message: Mistaking medical symptoms for psychiatric disease can delay care and lead to adverse outcomes.

ELIZABETH YEAGER-CORDIAL, MD; JANELL ISON, DO; ROBERT BECKER, MD; COURTNEY BOYD, MD; and MICHAEL WEINSTOCK, MD

Citation: Yeager-Cordial E, Ison J, Becker R, Boyd C, Weinstock M. Psychiatric manifestations of medical disease. *J Urgent Care Med.* 2022;16(11):11-15.

Case Presentation

A 23-year-old man presented with a strange complaint: visual hallucinations. He had no psychiatric history and was otherwise healthy, but felt for the last few weeks “someone” was following him around. He reported seeing shadows of others when he was home alone. He also had begun to have headaches. The urgent care provider performed a thorough history and an exam including a neurological exam which failed to show any focal deficit. The patient was referred for psychiatric evaluation. However, within a few hours of returning home, he began to seize unremittingly. A companion called 911 and he was transported to the emergency department where a CT scan of the brain showed previously undiagnosed neurocysticercosis.

Introduction

Medical etiologies of illness, such as infection, cancer, and polypharmacy can present with symptoms that mimic psychiatric illness, making diagnosis and treatment difficult. Errors leading to misdiagnosis and inappropriate referrals to Psychiatry can be more pronounced in early stages of care, when objective data are often ambiguous or incomplete.

A retrospective study of patients 18 to 65 years of age found 2.8% of patients admitted to psychiatric units had psychiatric symptoms attributable to a medical disorder.¹ More concerning, a comparable study of patients aged



65 and over indicated that 2.3% of patients admitted to psychiatric units had a disorder that required a medical intervention within 12 hours.² Jointly, the studies revealed that patients inappropriately admitted to psychiatric units had lower rates of adequate medical histories, physical examinations, cognitive assessments, laboratory studies, and treatment of abnormal vital signs when compared with patients admitted to medical units.¹

At the bedside in urgent care, we need to balance the risk of missing serious disease with the risk of overtesting, over-referring, and subsequent patient harm which can result from false positives.

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“Fear of hypoglycemia is a potential long-term sequela for patients who experience hypoglycemia and can cause severe anxiety that can significantly affect function and quality of life.”

Coupling a sound decision-making strategy with a broad differential that includes the numerous (and often serious) medical causes of apparently psychiatric presentations can help protect against a critical miss.

Common Pitfalls

The intersection of biologic and psychologic manifestations of disease can present a diagnostic dilemma. Being aware of the types of bias that can confound each step of patient evaluation and treatment is important in avoiding catastrophic errors.

This patient population is at risk for falling prey to several types of errors or bias.

- *Premature closure* describes arriving at conclusions regarding the patient’s diagnosis prior to obtaining sufficient information. This can occur when a psychiatric diagnosis is revealed, leading to symptoms being categorized before thorough evaluation. This can lead to missing an underlying medical diagnosis.³
- *Diagnosis momentum* occurs when a patient has previously been diagnosed with a medical condition. New data are then interpreted through the lens of the prior diagnosis. Even if the diagnosis is accurate, it is not always the cause of the presenting complaint. For example, if a patient attributes their own chest pain to previously diagnosed anxiety, it is tempting to assume that’s the case. However, an appropriate history and physical should be completed to assess the chest pain.³
- *Countertransference* occurs when a patient triggers an emotional response in the physician. Being aware of this possibility can mitigate the risk of this form of bias.³

Medical Diseases Which Can Present With Psychiatric Symptoms

Parkinson’s Disease

Parkinson’s disease (PD) is one of the most common neurodegenerative diseases. It is a progressive, chronic disease with both motor and nonmotor features. Motor symptoms are related to the loss of striatal dopaminergic neurons which can cause resting tremor, bradykinesia,

and muscular rigidity.⁴ Less commonly considered are the nonmotor features which also may present prior to onset of the motor symptoms; these can include depression, poor impulse control, anxiety and panic disorder, psychosis, cognitive changes, and sleep disorders. It is also important to be aware that treatment of motor symptoms with dopaminergic agents can produce increased symptoms of anxiety and panic.⁵

Coronary Artery Disease and Myocardial Infarction

There is a well-established correlation between heart disease and psychiatric symptoms. Acute coronary syndrome (ACS) commonly presents with anxiety among the chief complaints. Additionally, after the diagnosis of heart disease, 15% to 20% of patients develop a major depressive disorder (MDD). Approximately 50% have anxiety following ACS.⁶

Pulmonary Embolism

Pulmonary embolism (PE) is a common, life-threatening diagnosis with symptoms that overlap with psychiatric conditions (principally, anxiety disorders). Patients may present with a sense of impending doom with or without chest pain and shortness of breath. In recent decades, there has been an increase in survivorship of acute PE, but with patients subsequently developing prolonged psychiatric symptoms including depression and anxiety.⁷

Seizure Disorders

Complex partial seizures (CPS) result in impairment of consciousness during the episode with a focal onset localized to one area of the cerebral hemisphere. CPS that arise in the temporal region of the brain are often misdiagnosed as a primary psychiatric disorder secondary to the affective, behavioral, and cognitive symptoms that are commonly present. If left untreated, this can result in worsening seizure disorder, status epilepticus, and death.⁸

Hypoglycemia

Hypoglycemia can produce symptoms which overlap with many psychiatric disorders. Patients with hypoglycemia may present with anxiety, somnolence, confusion, irritability, or altered mental status. Often, patients presenting with symptoms concerning for stroke are revealed to have hypoglycemia by virtue of a finger-stick blood glucose test. Hypoglycemia is usually iatrogenic in nature and occurs in patients due to oral and/or injectable agents (eg, insulin) for diabetes. Fear of hypoglycemia is a potential long-term sequela for patients who experience hypoglycemia and can cause severe anxiety that can significantly affect function and quality of life.⁹

Adrenal Disorders

Pheochromocytoma

An adrenal tumor that releases catecholamines into the blood stream, pheochromocytomas mimic the stress response. Catecholamines released intermittently produce symptoms such as high blood pressure, heart palpitations, sweating, and anxiety which can last from seconds to hours, strongly mimicking panic attacks. New onset of anxiety symptoms that are treatment-resistant, associated with abnormal vital signs such as tachycardia and hypertension and that are intermittent and unpredictable, warrants consideration for pheochromocytoma. Definitive treatment involves surgical removal of the adrenal tumor and usually leads to significant reduction in symptoms.¹⁰

Cushing's syndrome

Characterized by elevated levels of cortisol, Cushing's syndrome can occur from tumor production or from exogenous steroid administration and is associated with a variety of psychiatric diagnoses including MDD, generalized anxiety disorder, and panic disorder.

Other symptoms which may be present in at least 50% of cases include cognitive and emotional changes such as decreased attention, memory disturbances, irritability, emotional lability, insomnia, and reduced libido. These symptoms are related to neuronal damage and brain atrophy from excess glucocorticoids.¹⁰ Anxiety and irritability may also be related to the hyperactivity of the hypothalamic-pituitary-adrenal axis and activation of the sympathetic nervous system.¹¹

Risk factors for more severe symptoms include female gender, older age, severity of clinical condition, and urine cortisol levels.¹⁰ Symptoms often resolve when cortisol returns to normal.

Encephalitis

Encephalitis, an inflammation of the brain parenchyma, may be due to infection, vascular disorders, metabolic disorders, toxins, or rheumatoid disease. Although the incidence of infectious encephalitis has remained relatively unchanged in recent years, diagnosis of autoimmune encephalitis has increased significantly with advances in detection and represents a growing proportion of encephalitis cases.¹²

Symptoms of encephalitis which may falsely be attributed to a psychiatric disease include disorientation, cognitive and memory dysfunction, catatonia, mood changes, anxiety, obsessive-compulsive behaviors, and sleep abnormalities.¹³ Of particular concern are rapidly progressive psychotic or mood symptoms that are not

mitigated with the use of psychotropic agents.

Despite advances in detection and treatment, encephalitis continues to represent a significant cause of neuropsychiatric morbidity and mortality.

Therapies for confirmed autoimmune encephalitis include corticosteroids, immunoglobulins, and plasmapheresis.¹⁴

Neurosyphilis

Neurosyphilis is a central nervous system infection that commonly results in psychiatric symptoms. Prior to the widespread availability of penicillin, neurosyphilis accounted for a large proportion of institutionalized psychiatric patients in the United States.

Unfortunately, syphilis has had a resurgence in recent years; the rate of syphilis in the United States increased over 70% during the most recent reporting period, rising from 23.2 cases per 100,000 population in 2015 to 39.7 cases per 100,000 in 2019.¹⁵

Frequently, the illness begins with symptoms that can occur within weeks after infection, including confusion, amnesia, and nonspecific personality changes.¹⁶ An estimated 2% of all late syphilis cases manifest psychiatric symptoms,¹⁷ including psychosis, mania, delusions, and personality changes.¹⁸ Standard treatment continues to be penicillin G. Psychiatric symptoms resolve unpredictably with treatment.

Huntington's Chorea

Huntington disease (HD) is an incurable autosomal dominant central nervous system disease characterized by purposeless choreatic movements, behavior changes, and dementia. Psychiatric symptoms are very frequently present in the early stage of the disease, with onset commonly occurring prior to the onset of motor symptoms.¹⁹ The Neurobiological Predictors of Huntington's Disease observation study (PREDICT-HD) evaluated 10 years of psychiatric symptoms demonstrating significant baseline and longitudinal differences between healthy controls and prodromal HD in depression, anxiety, hostility, and psychosis.²⁰ The most frequently occurring psychiatric symptom of HD is depression.¹⁹

Carcinoid Tumor

Carcinoid tumors are the most commonly occurring neuroendocrine tumors in the gastrointestinal tract.²¹ These tumors often produce high levels of serotonin.

Carcinoid syndrome commonly presents with recurrent diarrhea, flushing, and abdominal cramping. A retrospective cohort study of 1,269 patients with GI neuroendocrine tumors found that 40% of patients had at

“Whereas it is important to rule out medical causes of psychiatric symptoms, it is also important to ensure that chronic medical conditions are stable and that acute medical conditions are absent prior to admission to a psychiatric unit, where diagnostic resources and expertise may be less accessible.”

least a moderate anxiety score on a standardized measure for anxiety disorders.²² A National Institutes of Health survey of 663 neuroendocrine tumor patients (536 with carcinoid tumors) revealed that patients with recurrent carcinoid syndrome had much higher levels of anxiety compared with the general public.²³

While new therapies continue to emerge, surgery and somatostatin analogs remain the mainstays of treatment.

B12 Deficiency

Cobalamin, or vitamin B12, is a key element in the metabolism of homocysteine to methionine; elevated levels of homocysteine can directly affect levels of neurotransmitters and cause psychologic symptoms.²⁴ Vitamin B12 deficiency has been shown to be associated with increased likelihood of depression, irritability, delirium, psychosis, attention deficit-hyperactivity disorder, and obsessive-compulsive disorder. Adequate B12 usually will result in dramatic improvement in symptoms if related to B12 deficiency.²⁴

Thyroid Disorders

Largely due to the number of T3 receptors in the hippocampus, and the serotonergic activity of T3, both hypo- and hyperthyroid states generate significant psychiatric symptoms.

Hyperthyroidism

Excess thyroid activity stimulates a fight-or-flight response through the activation of the sympathetic axis, leading to aggression, anxiety, hypomania, psychosis, insomnia, restlessness, and attention deficits. As many as 60% of patients with hyperthyroidism have demonstrated anxiety.¹⁰ There is mixed evidence as to whether these symptoms resolve upon correction to euthyroid levels.¹⁰

Hypothyroidism

Historically, low thyroid activity has been one of the most often overlooked causes of organic psychosis.¹⁰ Severe cases are strongly associated with delusions and hallucinations and are cited in multiple sources as “myxedema madness.”¹¹ Even mild hypothyroidism is associated with slowing of cognitive functions and depressive symptoms. It is a leading cause of treatment-resistant depression.¹⁰

Correction of thyroid levels, including supplementation of T3, has mixed evidence in its efficacy for resolving all psychiatric symptoms. Dementia and memory impairment typically do not resolve with treatment, but depressive symptoms respond well.¹¹

Hypercalcemia

Hypercalcemia most commonly arises from either primary hyperparathyroidism or malignancy. The other 10% of cases come from a variety of other diagnoses often involving the renal and endocrine systems.²⁵ The range of psychiatric symptoms resulting from hypercalcemia is dependent on the cause, severity, and duration of the elevated calcium. Mild cases present with impaired concentration, fatigue, and confusion, whereas more severe cases can result in more profound obtundation and alterations in mental status.²⁶

Treatment is related to severity and underlying cause of hypercalcemia. Psychiatric symptoms typically resolve with restoration of normal serum calcium levels.

Substances

When looking for organic etiologies of psychiatric illnesses, it is important to consider recreational drugs patients may be using or withdrawing from as possible causes. Drugs of abuse can be prescription, over-the-counter, or illicit. Some of the most commonly used substances that can produce symptoms mimicking mental health disorders include:

- Alcohol
- Cocaine
- Methamphetamines
- Ecstasy (MDMA)
- Benzodiazepines
- Antihistamines
- Phencyclidine (PCP)
- Bath salts

Physical Exam Findings Suggestive of Organic Disease

It is important to consider additional symptoms when evaluating for possible psychiatric illness. Certain additional signs or symptoms warrant further investigation

and consideration for organic disease. Cognitive impairment, agitation, focal neurologic deficits, syncope, new or changed headache, shortness of breath, chest pain, and jaundice are unusual findings with a purely psychiatric diagnoses and require further investigation. Suspicion should be higher in elderly patients and patients with significant comorbidities, particularly diabetes and thyroid disorders.

In many cases, vital sign abnormalities can provide the earliest and most valuable clues that an underlying organic etiology is creating or contributing to apparently psychiatric symptoms. However, vital signs are unfortunately frequently neglected in “psych patients.” One chart review study showed only 50% of patients with schizophrenia had had a full set of vital signs collected in the emergency department.²⁷ This is why vital signs are included on the SMART Medical Clearance Form used by many EDs to determine whether further medical evaluation is needed prior to psychiatric admissions.

The Psychiatric Evaluation

The topic of what constitutes an adequate medical evaluation prior to psychiatric admission is one of some debate. In some cases, such as young patients with previous psychiatric admissions, there may be little diagnostic uncertainty. But for first-time psychiatric symptoms, especially in older patients, there is a higher risk of misdiagnosis.

Whereas it is important to rule out medical causes of psychiatric symptoms, it is also important to ensure that chronic medical conditions such as diabetes or hypertension are stable and that acute medical conditions, such as pulmonary embolism or significant infection, are absent prior to admission to a psychiatric unit, where diagnostic resources and expertise may be less accessible.²⁸

Regardless of demographics, all patients should have a thorough history and exam, with consideration of medical cause of psychiatric symptoms.

Summary

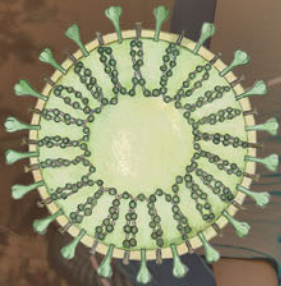
- Many different medical conditions and states of intoxication or withdrawal can mimic psychiatric disease.
- Patients presenting with apparent psychiatric complaints warrant consideration of organic causes prior to concluding psychiatric symptoms are related to primary psychiatric disorders. In many cases, a thorough history and physical will yield information to guide this consideration.
- Older age, abnormal vital signs, extensive medical

comorbidities, and absent history of prior psychiatric conditions should alert clinicians to the highest probability of organic disease masquerading as psychiatric illness. ■

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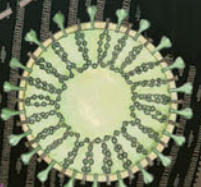
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Find Prime Locations for Rapid Urgent Care Growth

Urgent message: Using a data-driven approach to predict performance, taking advantage of openings in traditional retail spaces, or utilizing resources like BTS to develop a standalone center greatly improves a growing urgent care chain's potential profitability and long-term brand success.

ALAN A. AYERS, MBA, MAcc

A “stagnant business” is a “dead business” (or, in the words of former Notre Dame football coach Lou Holtz, “If you’re not growing, you’re dying”). This is especially true for urgent care operators.

With constant innovation and new competition vying for patients, growth is essential for operators that want to increase the value of their existing business. In a brick-and-mortar business like urgent care, revenue growth can be realized by adding services to existing facilities. However, long-term growth in “valuation” (ie, what a buyer would pay for the business) occurs by adding new locations.

But what should location growth look like in 2022?

As COVID-19 becomes endemic, urgent care operations are returning to a sense of normalcy. The pandemic lifted the “floor” in urgent care visits by adding a new, year-round respiratory condition as well as heightened awareness through increased use during the pandemic. This “normalcy” doesn't mean that demand for new centers has vanished, however

Per data from National UC Realty (**Figure 1**), approximately 17% of U.S. counties are still under-represented in urgent care, on a population basis.

Let's look at some key points to consider while searching for the ideal location of your next urgent care center.

Site Selection Is Key

With any retail site selection, analytics and real estate need to work in tandem. Once you have a targeted trade area in mind, you can start analyzing different locations,

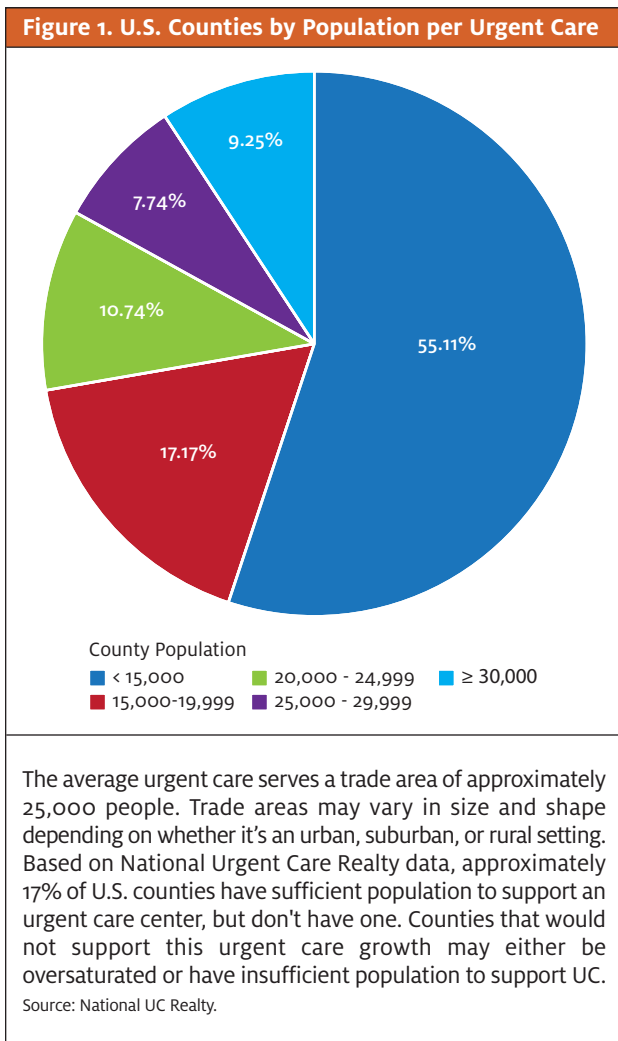


factoring in whether leasing or building a physical location makes the most economical sense.

Today's macroeconomic conditions, combined with the effects of high volatility in retail, make leasing retail space and building new locations very appealing options for operators. In the case of leasing, urgent care operators not only have more available space to choose from, but thanks to the pandemic are highly sought-after tenants for property owners.

This hasn't always been the case. In fact, the often-strained relationship between landlords and urgent care operators has been a challenge over the past 15 years. Many landlords denied tenancy based on preconceived

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notions that urgent care centers wouldn't drive traffic to adjacent businesses or would pose dangers with medical waste and x-ray radiation.

Fortunately, attitudes are changing. A recent report from *The New York Times* suggests that many landlords are actively courting doctors and dentists to fill their empty spaces.¹ Especially since landlords saw the “resiliency” of urgent care compared to consumer discretionary businesses like gyms and bars that were shut down during the pandemic.

With plenty of options out there, it's wise to be picky when selecting a location for your next urgent care center. Many operators choose to work with a company that specializes in urgent care predictive performance analytics.

Regardless, a data-driven approach is essential.

Consider factors like trade area density, the impact of the physical location on traffic and visibility, as well as the population and demographics of the surrounding area.

When conducting site visits, you should also seek answers to the following questions:

- What are my signage options and how visible can signs be?
- Is the building difficult to get to?
- Is the building highly visible?
- Are there parking limitations?
- Are there medical use exceptions?
- What are the ongoing maintenance costs?
- Is there good car and foot traffic during key times/days?
- Are there any accessibility issues for injured patients?
- Who are my adjacencies and how much foot traffic are they bringing?
- Is there any risk of poor-quality co-tenants in the future?

Use Market Changes to Your Favor

With real-estate investors eager to lease to growing, recession-proof, and pandemic-reliant businesses, urgent care is in a good spot. Operators can look to take advantage of this by negotiating favorable leases in existing spaces.

Property managers are often willing to offer concessions such as free or deferred rent, large tenant improvement allowances, and flexible leases with favorable terms for early outs.

One urgent care operator, who grew his practice from 17 locations in 2019 to nearly 30 in 2022, says he negotiates a lease every time he finds a great retail space—doing so for very specific reasons. By negotiating free rent with landlords, he can afford to sit on a new space for 6 to 12 months until market conditions and patient volumes at the new center are ready to take off.

Tenant improvement allowances, in which the landlord pays for the interior construction of the urgent care space, let him open these new locations using minimal capital and with little risk. If his new center fails to meet its objectives, he's able to terminate his lease early with minimal penalties. This helps reduce the overall risk of opening new locations—a major concern for many urgent care operators.

The 'Amazon Effect'

In some ways, current retail trends point back to the

“While the ‘Amazon effect’ of internet shopping has led to vacancies in mall-based and big box retail, grocery-anchored centers still continue to attract weekly shoppers with adjacencies that include banks, car washes, hardware stores, dollar stores, quick serve restaurants, and other “on-demand” services that are not efficient for online delivery.”

industry’s broader evolution over the past decade, albeit accelerated by the global pandemic. Even before COVID-19, the Amazon effect on the commerce industry forced business leaders to re-evaluate how their companies can best meet changing consumer expectations.

Over the past few years, more retailers have continued to downsize and close expensive brick-and-mortar locations as they shift focus to their online marketplaces and frictionless digital experiences.

CVS Health is one such retailer, recently announcing its new consumer-minded strategy amid plans to shutter 900 locations (approximately 10%) across the United States, beginning this year.

At face value, this increasing vacancy and retail availability might seem overwhelmingly positive. However, there are some things to be cautious about.

Businesses formerly occupying these locations have strong brand recognition throughout the community. When you move an urgent care center into one of these spaces, you’ll have an uphill battle to overcome any existing bias toward the previous tenet while establishing your own brand. Meaning—if a building architecturally looks like a First National Bank branch—everyone will continue to think “that’s where the bank closed” and there can be major headaches in completely refashioning an existing building.

Existing building configurations can present additional challenges since the location and design of your center directly impact patient volume. If people don’t recognize your center, have trouble finding it, or have limited space for parking, they likely won’t come back for future care.

Merger Woes

At face value, choosing to acquire or merge with an existing urgent care center may seem easier than starting a new clinic from scratch, despite the wealth of locations available. However, this typically isn’t the case. Mergers and acquisitions often consume far more time and money than operators assume.

This is partially due to the pandemic making valuations far more difficult. Traditionally, a business is purchased based on its earnings in the previous year. However, urgent care has experienced extreme, sometimes volatile, performance throughout the pandemic.

Provider and staff turnover presents another risk. As does the need to make additional investments and upgrades to your facility. Upon taking over a new center, you’ll likely need to implement new systems, workflows, policies, and procedures. You may also need to invest more capital into upgrading the physical features of your building or remodeling them to fit your business’s needs.

In other words, an acquisition takes not only all your money but your time as well. For small- to medium-sized operators, opening a new location is often easier and cheaper than acquiring someone else’s center.

Starting from scratch lets you get up and running more quickly and to start seeing a positive cash flow on your books.

Bottom line? For the cost of acquiring an urgent care center for \$1 million—which requires additional investment—you could use the same capital to build two, or even three, new centers.

The Benefits of Standalone Centers

While it’s clear that starting from scratch is the best course of action, you still need to be careful when selecting a location for your urgent care. With the abundance of former retail space available, you have many options to consider.

One of the biggest decisions is choosing between a location integrated with a shopping center or plaza vs a standalone building.

Freestanding buildings are key to business longevity. Ten to 15 years ago, you could put an urgent care center practically anywhere and attract patients. That’s no longer the case. Across the board, we’re seeing more established urgent care players lose market share to competitors opening branded standalone facilities.

A significant portion of today’s urgent care centers remain in multitenant buildings. It’s only a matter of time before these centers are outpositioned by those in standalone buildings.

Take-Home Points

- Trade area density, the impact of a location on traffic and visibility, and population and demographics of the surrounding area are all essential factors to consider in site selection.
- According to data from National UC Realty, approximately 17% of U.S. counties are still under-represented in urgent care, on a population basis.
- Historically, property owners have been skeptical of the advantages of leasing to healthcare tenants. Currently, however, urgent care centers are very appealing prospective occupants thanks to the resiliency they've demonstrated throughout the COVID-19 pandemic.
- Concessions property managers may be willing to consider in order to secure an urgent care tenant include free or deferred rent, large tenant improvement allowances, and flexible lease options with favorable terms for early outs.

Operators who have transitioned their real estate model from in-line spaces to standalone buildings found the latter enhanced brand awareness and consumer perceptions of quality, as well as uplifting overall patient satisfaction. Branded urgent care facilities also offer patients more visible locations with easier access and dedicated parking lots.

Mike Zelnik, president and founder of National UC Realty, estimates that freestanding buildings are worth between eight to 10 additional patients per day. That adds up quickly and translates to found money for owners. It also points to higher, long-term profitability.

Build-to-Suit Development is Booming

Well-run urgent care centers are sitting on a tremendous opportunity to expand their business. But, as an operator, it also pulls you away from your core mission of operating an urgent care business.

You need to not only determine the best locations to expand into, but also find a developer to build the physical buildings and determine how to finance the costs.

Here, small-to-mid-sized operators can explore cost-effective, hassle-free options such as build-to-suit (BTS) development programs or franchise models to bypass the amount of time, complexity, and upfront capital typically required for building standalone facilities.

A BTS agreement is when a commercial property tenant partners with a developer to build a custom facility they will then occupy and lease.

Smaller urgent care operators have historically been

“Now is the best time to create a better, more visible product than your competitors. This occurs through a stand-alone building. If you sit back and don’t move now, someone else will come in, establish their brand, and then you’ll end up marketing for them instead.”

— Michael Zelnik, president and founder,
National UC Realty

unable to work with BTS contractors due to financial constraints. Fortunately, that’s no longer the case. There are integrated developers that combine site analytics, financing, and construction, enabling an urgent care operator to build multiple turnkey centers without upfront capital.

According to Alan Lagunov, principle in UrgentCare Development.com, “Our site selection methodology utilizes propriety data and analytics to find operators the best markets, the best locations within those markets, and build and finance a custom-designed facility they can drop their operations into and hit the ground running.”

Rather than coming up with half a million dollars to build everything from the front desk to the exam rooms for just one center, UCD builds turnkey buildings with all costs and expenses financed into their leases. This not only decreases the required upfront capital but also saves you time that can be redirected back to operating your businesses.

Conclusion

Whether you’re opening your fifth urgent care center or your 50th, choosing an ideal location is crucial. By using a data-driven approach to performance prediction, taking advantage of openings in traditional retail spaces, or utilizing resources like BTS to develop a standalone center, you’ll greatly improve your profitability and long-term brand success. ■

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1. Margolies J. To fill empty retail space, landlords tap doctors and dentists. *The New York Times*. Available at: <https://www.nytimes.com/2022/02/22/business/real-estate-retail-space.html>. Accessed July 26, 2022.



ABSTRACTS IN URGENT CARE

- Vapocoolant and Digital Nerve Blocks
- Dosing Dexamethasone in Pediatric Asthma
- Infant Clean-Catch Urine Contamination
- Antibiotic-Associated Diarrhea in Children
- Treating Acute Diverticulitis
- Torus Wrist Fractures in Children
- Efficacy of Antiviral Treatment in COVID-19

■ IVAN KOAY, MBChB, FRNZCUC, MD

Vapocoolant for Pain Reduction in Digital Nerve Blocks

Take-home point: Application of vapocoolant prior to digital nerve blocking can reduce pain associated with skin puncture and local anesthetic infiltration.

Citation: Selvi F, Bedel C, Akçimen M. Evaluation of vapocoolant spray effect on pain reduction during digital nerve block: a randomized clinical trial. *Am J Emerg Med.* 2021;50: 260–263.

Relevance: Patients commonly experience significant pain with digital nerve blocks. Reducing the pain of this procedure is important for patient tolerance and satisfaction.

Study summary: This was a Turkish ED-based prospective, randomized clinical study designed to evaluate the effectiveness of a vapocoolant spray for reducing pain during digital block. One hundred fifty patients were randomized into 2 groups: vapocoolant spray treatment or placebo (non-spray treatment). Post procedure, patients rated their pain from the procedure using a 10 cm visual analogue scale (VAS).

The authors found VAS pain score during skin penetration and during anesthetic infiltration was significantly lower in the spray group compared to the placebo group ($p < 0.001$). The VAS pain score during infiltration was also significantly lower in spray groups than in the control group ($p < 0.001$).

Editor's comments: Because of the obvious sensation of cooling with vapocoolant use, subjects could not be blinded to the treatment arm they were randomized to. This study reinforces

the results of a study covered in the September 2021 abstracts in *JUCM*, showing lower pain when ice was applied to the injection site prior to digital nerve block. There's little downside or risk to employing a simple technique such as this to reduce the considerable and common pain experience many patients have with digital blocks. ■

One vs Two Doses of Dexamethasone in Mild-to-Moderate Pediatric Asthma Exacerbation

Take-home point: Single dose of dexamethasone was not inferior to two doses for the treatment of acute asthma exacerbations in children presenting to ED.

Citation: Martin M, Penque M, Wrotniak B, et al. Single-dose dexamethasone is not inferior to 2 doses in mild to moderate pediatric asthma exacerbations in the emergency department. *Pediatr Emerg Care.* 2022;38(6):e1285-e1290.

Relevance: Treatment of mild-to-moderate asthma with single-dose dexamethasone is convenient because adherence is guaranteed if the dose can be directly observed. The efficacy of this approach when compared with multiple doses of steroids has been a subject of debate.

Study summary: This was a single-site, prospective, parallel-group, unblinded randomized clinical trial of pediatric patients with known history of asthma presenting with mild-to-moderate exacerbations presenting to an ED in Buffalo, NY. Block randomization was used to assign patients with a 1:1 ratio of allocation to the single-dose group or the two-dose group. Each group was given 0.6 mg/kg (maximum of 16 mg) of dexamethasone orally in the ED and the second group also received a prescription for a similar second dose administered 24 hours later. An unblinded research assistant contacted all patients on the sixth day after their ED visit for follow-up.



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The study randomized 308 patients. The authors found no statistically significant difference for any of the postdischarge outcomes between the two groups, including days until symptom resolution, number of school days missed, adverse events, and vomiting after discharge. Results remained unchanged after adjusting for age. Patients with mild asthma had an average 2.7 days until symptom resolution while those with moderate asthma had an average 2.5 days to symptom resolution. ED return rates were 13.5% in the mild group and 7.7% in the moderate group.

Editor's comments: This study was unblinded with no placebo control used. Earlier studies comparing dexamethasone with prednisone in the treatment of asthma lacked consistent dosing of dexamethasone, which this study addresses. This study used higher maximum doses of dexamethasone (up to 16 mg) than what is common practice. Interestingly and surprisingly, there was a reverse correlation between asthma severity and ED return rates, which warrants further study. ■

Reducing Clean-Catch Urine Contamination in Infants

Take-home point: Using chlorhexidine as a skin cleaning agent prior to obtaining clean-catch urine (CCU) in infants is safe and feasible; however, this study design does not address its efficacy directly.

Citation: Gursansky J, Klim S, Krieser D, et al. Chlorhexidine skin cleaning to reduce clean-catch urine contamination in infants: a pilot study. *Emerg Med Australas.* 2022;34:282–284.

Relevance: Eliminating contamination when collecting urine for testing in infants improves our ability to identify urinary infections in young children, especially as many urgent care centers do not have the equipment or staff to collect catheterized specimens. Catheterization can also be traumatic for both parents and children, and worth avoiding if a less invasive method for obtaining a sterile specimen exists.

Study summary: This was a prospective pilot study using a convenience sample of precontinent children 1 to 24 months of age in whom a CCU was ordered. Patients had their perigenital skin area cleaned with 0.1% chlorhexidine gauze for 10 seconds by the treating nurse or doctor. Contaminated urine samples were defined as growth of two or more organisms at $\geq 10^6$ CFU/L. Positive cultures were defined as growth of a single organism at $> 10^8$ CFU/L. Secondary outcomes were parent and clinician satisfaction with the method used.

The authors collected 54 urine samples for analysis. They found 22% contamination within those samples and 24% positive cultures. Positive culture microbes included *E coli* and *Kleb-*

“Probiotics seem to be safe and well tolerated so coprescribing as a general practice seems like a reasonable strategy for most children, particularly if prescribing longer course and/or broad-spectrum antibiotics.”

siella sp. Satisfaction with the cleaning intervention was high among both parents and clinicians at 48%. No parents or clinicians were unsatisfied or very unsatisfied with the intervention.

Editor's comments: There was no placebo used as comparative measures to the study; therefore, it's unclear to what extent the chlorhexidine may have reduced the risk of a contaminated specimen. This study had a small sample size due to constraints of COVID-19; however, use of chlorhexidine wipes prior to CCU was well tolerated and appreciated by parents and clinicians. This technique warrants further study as it may be the simple and long sought-after solution to the perennial problem of getting a reliable urine specimen in young children. ■

Probiotics for Prevention of Antibiotic-Associated Diarrhea in Children

Take-home point: Multispecies probiotics reduced the overall risk of antibiotic-associated diarrhea (AAD) during antibiotic treatment and during the week after completion of antibiotics in pediatric patients.

Citation: Lukasik J, Dierikx T, Besseling-van der Vaart I, et al. Multispecies probiotic for the prevention of antibiotic-associated diarrhea in children: a randomized clinical trial. *JAMA Pediatr.* Epub ahead of print June 21, 2022.

Relevance: AAD is a common side effect related to virtually all antibiotics. Determining safe means to reduce the occurrence and severity of AAD is important for minimizing iatrogenesis and improving compliance.

Study summary: This was a parallel-group, randomized, quadruple-blind placebo-controlled RCT conducted in pediatric clinical and outpatient wards in three hospitals in the Netherlands and two in Poland. Patients were recruited within 24 hours following initiation of broad-spectrum oral and intravenous antibiotic treatment. Subjects were randomized in a 1:1 ratio to receive probiotics or placebo for the duration of antibiotic treatment and for 7 days after, up to a maximum of 17 days. Outcome measures were AAD, defined as three or more loose or watery stools in a 24-hour period caused either by *C difficile* or an otherwise unexplained etiology.

Three hundred fifty participants (202 Polish and 148 Dutch) were recruited. The authors found 83 patients who developed

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“Safe, widely available, and effective oral antiviral treatment options are important to identify in order to minimize the health impacts of the ongoing SARS-CoV-2 pandemic.”

diarrhea overall (23.7%). Patients in the probiotic group had a significantly lower risk for developing diarrhea than those in the placebo group when analyzed regardless of its etiology (20.9% vs 32.3%, respectively) with a relative risk of 0.65 (95% CI, 0.44-0.94). The number needed-to-treat (NNT) therefore was nine to prevent one case of AAD. Patients receiving probiotics were also significantly less likely to require intravenous rehydration owing to diarrhea (0% vs 3.2, NNT=32; P=0.03).

Editor’s comments: The authors changed the definition of AAD during the analysis stage of the study, which introduces statistical bias into the findings. A significant number of patients were lost to follow-up in both arms of the study. Overall, probiotics seem to be safe and well tolerated so coprescribing as a general practice seems like a reasonable strategy for most children, particularly if prescribing longer course and/or broad-spectrum antibiotics. ■

Nonantibiotic Treatment of Mild Acute Diverticulitis

Take-home point: Nonantibiotic outpatient treatment of mild diverticulitis was safe and noninferior to current standard treatment with antibiotics

Citation: Mora-Lopez L, Ruiz-Edo N, Estrada-Ferrer O, et al. Efficacy and safety of nonantibiotic outpatient treatment in mild acute diverticulitis (DINAMO-study): a multicentre, randomised, open-label, noninferiority trial. *Ann Surg.* 2021;274(5): e435-e442.

Relevance: Being judicious in the use of antibiotics is important for minimizing unnecessary side effects and bacterial resistance.

Study summary: This was a multicenter, prospective, open-label noninferiority, randomized controlled trial with an intention-to-treat approach and parallel assignment, performed in 15 colorectal surgery units at acute-care secondary and tertiary hospitals throughout Catalonia (Spain). Diverticulitis was diagnosed with abdominal CT scan. Patients were randomized in a 1:1 ratio to receiving either symptomatic treatment with 600 mg of ibuprofen every 8 hours alternating with 1 g of acetaminophen every 8 hours or amoxicillin/clavulanate 875/125 mg every 8 hours.

The authors randomized 480 patients (242 patients in the non-antibiotic group and 238 in the antibiotic group). They found a revisit and admission rate of 5.8% in the antibiotic

group and 3.3% in the non-antibiotic group. No patients in either group needed emergency surgery during the study period.

Editor’s comments: Diverticulitis was diagnosed via CT in the study protocol, which limits its generalizability to most urgent care centers. Half of patients presenting with AD in the study period were excluded due to the strict selection criteria, which also may limit the study’s generalizability. Nontreatment with antibiotics has been examined in prior research and has been found to be safe in mild cases of diverticulitis; however, it is not widely accepted as standard practice. Therefore, nontreatment with antibiotics, at present, should be reserved for cases in which both the patient and the follow-up clinician are in agreement with this approach. ■

Treatment of Torus Wrist Fractures in Children

Take-home point: Outcomes for pediatric torus fractures of the distal radius treated with a soft bandage wrap were equivalent to patients treated with rigid immobilization.

Citation: Perry D, Achten J, Knight R, et al. Immobilisation of torus fractures of the wrist in children (FORCE): a randomised controlled equivalence trial in the UK. *Lancet.* 2022;400(10345): 39-47.

Relevance: There is growing evidence that rigid immobilization may not be necessary for the treatment of a number of non-displaced fractures in children. Casting has a number of consequences for both patients and parents and should be reserved for cases where there is clear benefit to full immobilization.

Study summary: This was a multicenter, randomized control equivalence trial conducted in 23 emergency departments within the United Kingdom. Investigators enrolled children between 4 and 15 years of age who had a radiologically confirmed torus fracture of the distal radius and randomly assigned them in a 1:1 ratio to a bandage (ie, gauze roll) group or rigid splint and cast immobilization group.

Nine hundred sixty-five patients were enrolled. The primary outcome was pain at 3 days postinjury. The authors found equivalence between the two treatments. There was no significant difference between the bandage group and rigid immobilization group at any subsequent re-evaluations. At day 1, parents in the rigid immobilization group were more satisfied than parents in the bandage group; however, this difference was not present at 6-week review and there was no evidence of any significant differences in patient self-reported function.

Editor’s comments: Strong parental preference for rigid immobilization led to a high exclusion rate from nonconsent for

ABSTRACTS IN URGENT CARE

enrollment in the study. This approach of nonimmobilization is not the accepted standard of care for radial torus fractures in most regions. Caution is advised about employing this approach unless doing so with both parental and orthopedic approval. ■



COVID-19 Abstracts

Efficacy of Paxlovid in Reducing Severe COVID-19 and Mortality

Take-home point: Paxlovid (nirmatrelvir/ritonavir) was highly effective in reducing the risk of severe COVID-19 or mortality among this patient population infected with recent viral strains.

Citation: Najjar-Debbiny R, Gronich R, Weber G, et al. Effectiveness of Paxlovid in reducing severe COVID-19 and mortality in high-risk patients. *Clin Infect Dis.* 2022;ciac443.

Relevance: COVID-19 remains a significant source of morbidity and mortality. Safe, widely available, and effective oral antiviral treatment options are important to identify in order to minimize the health impacts of the ongoing SARS-CoV-2 pandemic.

Study summary: This retrospective cohort study used the

computerized databases of Clalit Health Services (CHS) and the Israeli Ministry of Health (MOH) to identify all adults with a first-ever positive test for SARS-CoV-2 (PCR or antigen test) who were started on nirmatrelvir/ritonavir within 5 days of the positive test. Patients were included into the study irrespective of their vaccination status.

The authors found 4,737 patients who met inclusion criteria. Nirmatrelvir/ritonavir was independently associated with a significantly decreased risk for the composite outcome of severe COVID-19 (ie, hospitalization) or death (HR = 0.54; 95% CI, 0.39-0.75). Adequate COVID-19 vaccination status was also associated with significantly decreased risk for the composite endpoint of severe COVID-19 or mortality (HR 0.20; 95% CI, 0.17-0.22). Multivariate analysis suggested nirmatrelvir/ritonavir was more effective in older patients and patients with cardiovascular disease, neurological disease, or immunocompromise.

Editor's comments: Nirmatrelvir/ritonavir continues to show promise in reducing risk of severe COVID-19 and death, especially in older patients with comorbidities. This study did not address adverse reactions to nirmatrelvir/ritonavir; however, its current use is predominantly limited due to extensive drug-drug interactions. ■

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SARS-CoV-2 and Influenza Type A/B Infection Rates: A Report of a Federal Qualified Healthcare Center Urgent Care Department During an Omicron Wave In Rhode Island

Urgent message: Influenza types A and B have demonstrated a pattern that increases patient volumes in urgent care centers during "flu season." But the COVID-19 virus, including its different variants, continues to have different patterns throughout multiple waves and has shown to overcome/oppress other predictable viruses.

CESAR MORA JARAMILLO, MD, FAAFP, FCUCM

Citation: Jaramillo CM. SARS-CoV-2 and influenza type A/B Infection rates: a report of a federal qualified healthcare center urgent care department during an Omicron wave in Rhode Island. *J Urgent Care Med.* 2022;16(11): 29-33.

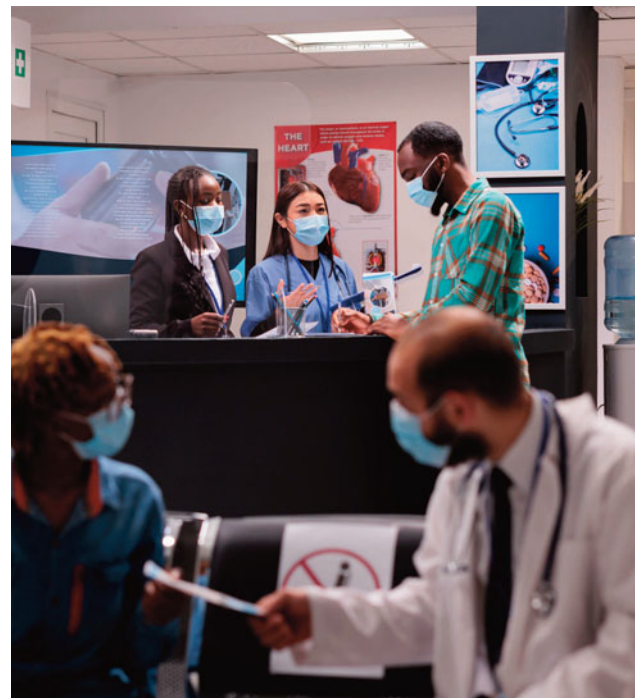
Introduction

The relatively recently detected SARS-CoV-2 B.1.1. Omicron COVID-19 variant is known as highly infectious/transmissible due to its more than 30 mutations on the spike protein (the part the virus uses to attach to human cells) but less virulent than previous variants.^{1,2} Omicron is considered the fifth COVID-19 variant of concern. By late December of 2021 it was announced as the predominant variant in the United States. Just weeks later, nearly 100% of new COVID-19 infections were attributed to Omicron.²

Influenza type A and B viruses cause seasonal infections, most commonly during the fall and winter. Pre-pandemic, the WHO reported an estimated 1 billion cases every year across the globe, of which 3 to 5 million are severe cases, resulting in 290,000 to 650,000 influenza-related respiratory deaths.³

Description

The Express Department of a federal qualified health



center (Providence Community Health Centers) has been considered a "hot zone" since the pandemic started. As part of the U.S. outpatient influenza-like Ill-

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Week	Sample Size	PCR COVID-19	PCR Influenza A	PCR Influenza B
11/1/21	252	15	2	1
11/8/21	280	14	5	0
11/15/21	277	8	3	3
11/22/21	187	20	0	0
11/29/21	304	16	10	3
12/6/21	330	26	23	0
12/13/21	363	45	25	0
12/20/21	309	57	20	0
12/27/21	350	183	16	0
1/3/22	360	214	15	0
1/10/22	409	226	11	0
1/17/22	234	105	9	0
TOTAL	3655	929	139	7

Week	PCR COVID-19	Rapid COVID-19	False Positive	False Negative
11/1/21	15	15	0	0
11/8/21	14	8	0	6
11/15/21	8	9	1	0
11/22/21	20	15	0	5
11/29/21	16	18	2	0
12/6/21	26	21	0	5
12/13/21	45	35	0	10
12/20/21	57	55	0	2
12/27/21	183	139	0	44
1/3/22	214	157	0	57
1/10/22	226	144	0	82
TOTAL	824	616	3	211

ness Surveillance Network (ILINet), the department provided nasal swabs for SARS-CoV-2 RT-PCR assay to the Rhode Island Department of Health regardless of rapid tests results, to assess ILI illness rates in our community and to detect COVID-19 infections and variants. Rapid tests were obtained using Sofia 2 Flu + SARS Antigen FIA machine.

Historically, the Express Department managed close to 25,000 visits a year (pre-COVID-19 pandemic). The Community Health Center serves a predominantly Hispanic/Latino population, including many uninsured patients, undocumented immigrants, and households under 200% of the federal poverty level.

Methodology

Retrospective Descriptive Study

Data were retrospectively obtained from the urgent care department of a Federally Qualified Health Center (FQHC) in Providence, RI, to determine the percentage of SARS-CoV-2 and influenza type A and B infections during the four-wave attributed to the Omicron variant. A query was conducted of the electronic medical record database of the point-of-care (POC) rapid SARS-CoV-2 and influenza A/B testing. In addition to the report from the Rhode Island Department of Health (RIDOH) on RT-PCR swabs, results were identified from November 2021 to January of 2022 (12 weeks). In the Express De-

Week	PCR Combo Influenza	Rapid Combo Influenza	False Positive	False Negative
11/1/21	3	0	0	3
11/8/21	5	7	2	0
11/15/21	6	55	49	0
11/22/21	0	3	3	0
11/29/21	13	18	5	0
12/6/21	23	27	4	0
12/13/21	25	26	1	0
12/20/21	20	18	0	2
12/27/21	16	22	6	0
1/3/22	15	25	10	0
1/10/22	11	17	6	0
TOTAL	137	218	86 (39.4%)	5

Week	PCR COVID-19	Rapid COVID-19	PCR Influenza Combo	Rapid Influenza Combo
11/1/21	5.95%	0.79%	1.19%	0.39%
11/8/21	5.00%	1.79%	1.79%	0%
11/15/21	2.89%	1.08%	2.17%	1.08%
11/22/21	10.70%	0%	0%	0%
11/29/21	5.26%	3.29%	4.28%	0.99%
12/6/21	7.88%	6.97%	6.97%	0%
12/13/21	12.40%	6.89%	6.89%	0%
12/20/21	18.45%	6.47%	6.47%	0%
12/27/21	52.29%	4.57%	4.57%	0%
1/3/22	59.44%	4.17%	4.17%	0%
1/10/22	55.26%	2.69%	2.69%	0%
1/17/22	44.87%	3.85%	3.85%	0%

partment, a total of 3,655 patients with influenza-like illness (ILI) symptoms were tested during this period.

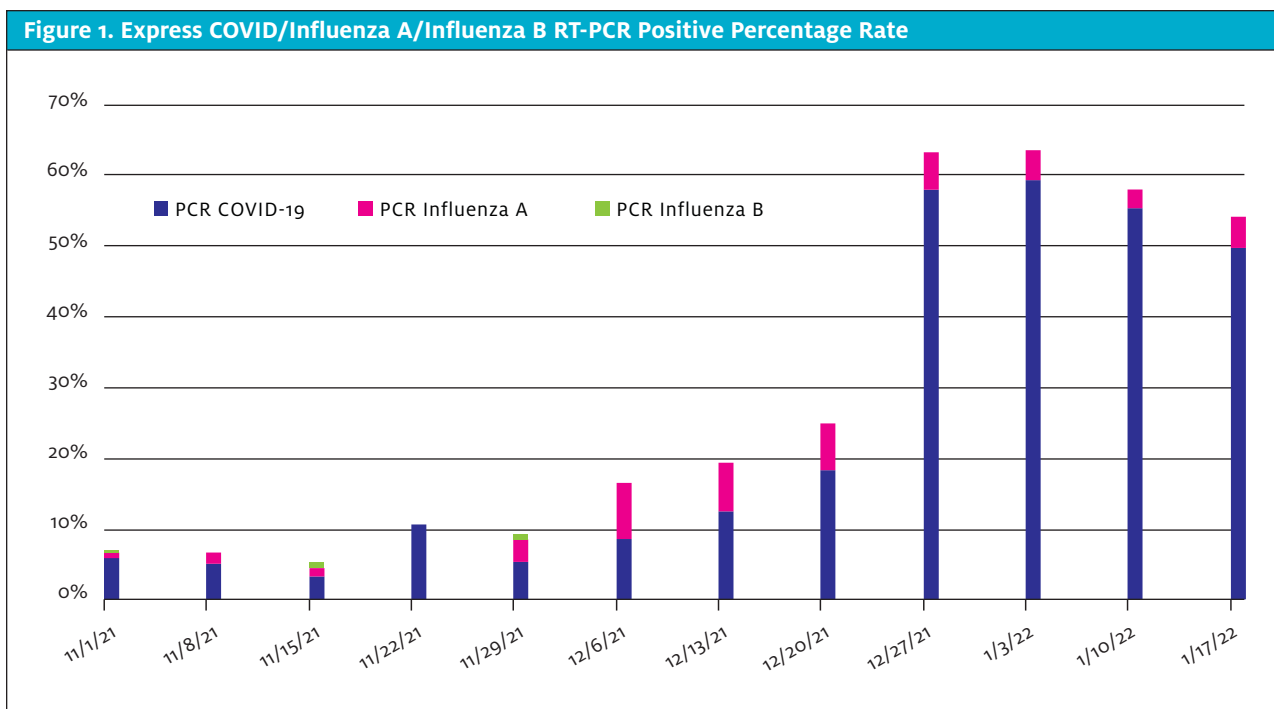
The data were analyzed to assess the percentage of confirmed infections with RT-PCR and compare with rapid testing POC to study the rate of false-negatives and false-positives results. Providence Community Health Centers approved the project.

Results

A total of 3,665 patients with ILI symptoms were tested from November 2021 until January 17, 2022. Of these patients, 929 had a positive PCR test for SARs-CoV-2 infection, while 139 tested positive for influenza A and seven for influenza B (see **Table 1**).

A total of 616 rapid COVID tests and 218 rapid influenza combo tests were obtained from the first week of November 2021 to the third week of January 2022. Regarding COVID-19, 211 rapid false-negative tests (34%) were obtained, with only three (0.48%) being false-positives (**Table 2**). Furthermore, a total of 86 false-positive (39.4%) and five false negatives rapid influenza tests were obtained (**Table 3**).

The lowest positive rate of COVID-19 infections was 2.89% during the third week of November, and the highest was 59.44% during the first week of January (**Table 4**, **Figure 1**, and **Figure 2**). Regarding influenza type B, a total of seven positive PCRs were reported, all in the month of November, while influenza A highest



rates were during the first 2 weeks of December.

Discussion

As SARS-CoV-2 infections spiked nationwide during late fall/early winter of 2021-2022, most cases were attributed to the Omicron variant. On December 11, 2021, RIDOH announced the first case of COVID-19 Omicron variant, 10 days after the first case was reported in the United States.

One week after the first case of Omicron in Rhode Island, the Express Department experienced a 6% increase in the rate of COVID-19 infections and a 39.89% increase within 3 weeks (2.5 out of five patients had a positive PCR test by the last week of December 2021).

By December 19, the state averaged about 1,068 new COVID-19 cases a day.⁵ With the rates of SARS-CoV-2 infections increasing in a very short time, the governor of Rhode Island mandated that residents wear masks inside large businesses on December 20, 2021. Moreover, at this time, nearly 85% of residents had received at least one shot of a coronavirus vaccine; 74% were fully vaccinated.⁵

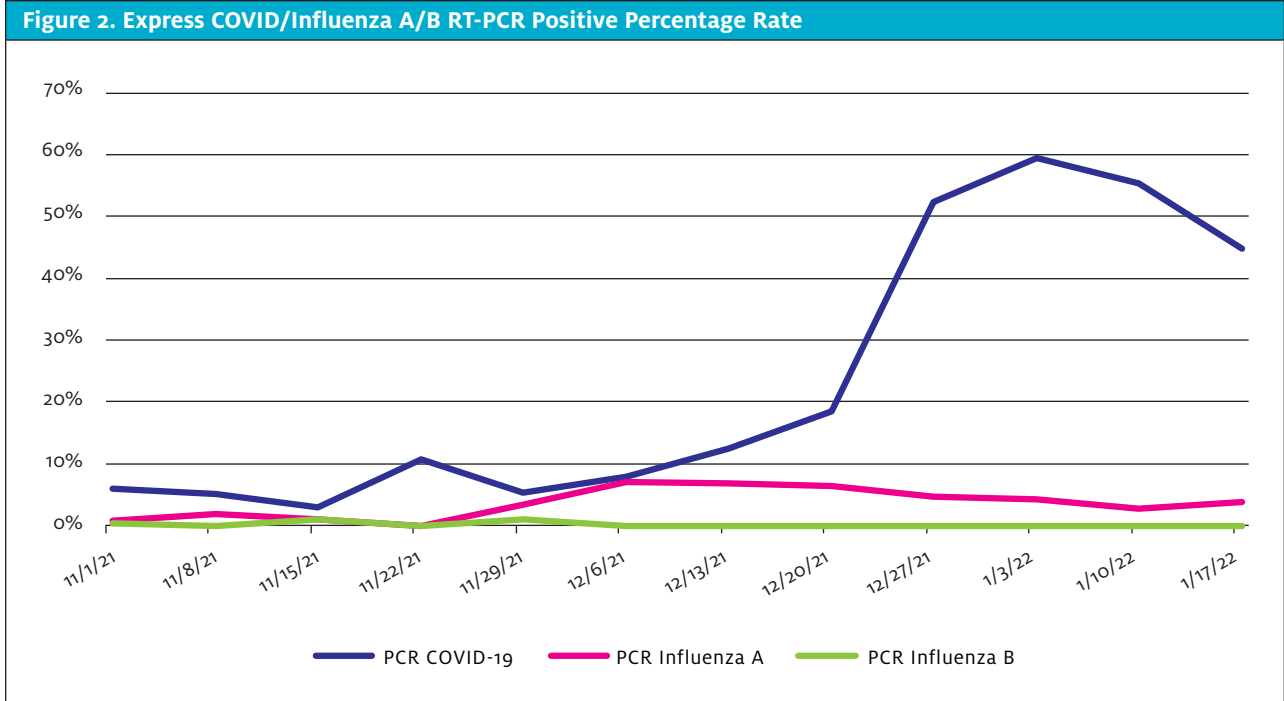
Mask mandates were implemented when the department's COVID-19 infections were at a 18.45% positive rate. The peak of SARS-CoV-2 infections during the first week of January 2022 (when 5.9 out of 10 patients tested RT-PCR positive) was noticeable 2 weeks after the mask mandate was announced. Consequently, the

effect of masks was synergized with the high vaccination rates in the state, showing a decrease in cases 1 week after the peak to a rate of 55.26% (from 59.4%).

During the 12 weeks of analyzed data, almost a quarter (22%) of rapid COVID-19 tests were false-negatives, and only three were false-positives (0.48%). In contrast, 3.9 out of 10 patients had a rapid influenza combo false-positive test. These data show that the risk of COVID-19 false-positive results is low during high prevalence of infections but there is a higher risk for false negatives.⁶

Sofia 2 Flu + SARS antigen FIA product has a sensitivity for nasal swabs for influenza A of 90%, influenza B of 89%, SARS-CoV-2 of 95.2%, and a specificity of 95%, 96%, and 100%, respectively.⁷ In this study, the rate of rapid COVID-19 false negatives and the rate of false positives with the influenza combo contradict the product's sensitivity and specificity, respectively. With that said, testing should assist clinicians in making medical decisions, but clinical information should also be a vital component. Moreover, testing should be used carefully, with clinicians considering the limitations and the impact of these while evaluating patients. Hence, it is crucial for quality of care to balance test results' desirable and undesirable significance when deciding which tests should be performed and whether their results will influence medical decisions.⁸

These data reveal how little we know about viruses, as well as a good deal of uncertainty while raising new



questions: Will COVID-19 become a seasonal virus? Is another wave coming soon? Are more variants expected this year? Will influenza cases continue to be minimal compared to COVID-19 infections during fall/winter?

Conclusion

Urgent care centers continue to play an essential role in healthcare, especially since the SARS-CoV-2 was declared a pandemic. Historically, urgent care's patient volumes have been highly driven by infections, mostly seasonally, leading clinicians to diagnose and treat accordingly. Medical decision-making should be complemented with testing in certain conditions/situations. When interpreting results, clinicians should understand the limitations of testing and the impact of community infection prevalence in false-positive and false-negative results. Hence, intertwining a detailed clinical history and interview, performing a focused physical exam, obtaining relevant diagnostic testing, and referring or consulting with other clinicians are important tools for gathering information in the process of appropriately diagnosing and treating patients. Furthermore, the clinical decision-making must be tailored to the specific patient's needs and situation. A timely accurate diagnosis decreases the risk of poor health outcomes.

These data accentuate how limited our knowledge is regarding virus behaviors and highlight the concern of how unpredictable they can be. There is still a lot of

uncertainty, but urgent care centers will continue to adapt and adjust as they have in the past. Such uncertainty will require continued vigilance toward emerging data at the local, state, and national levels. ■

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A Rare Case of Sequential Simultaneous Bilateral Mandibular Fractures

Urgent message: The angle of the mandible is one of the most common locations among bilateral mandibular fractures. Bilateral mandibular angle fractures are a rare traumatic event and often occur in the setting of panfacial fractures due to an impacting force.

CHAD E. RICHMOND, DO, DAOBFP; LEONARD POWELL, DO, MS, FACOFP, CMD;
and KEITH S. RICHMOND, DMD, MDS

Introduction

The mandibular angle is a weak zone that is more exposed to fractures than other areas of the mandibular bone.¹ The unbalancing of regional muscles must also be considered as displacement of the fracture often occurs.² If left untreated, there is often increased morbidity including decreased functional status and decrease in quality of life. The combined net effects of two temporally separated (by 1 week) bilateral mandibular fractures is presented here.

Case Presentation

A 24-year-old male presented to an urgent care office with a chief complaint of right-sided jaw pain after a bar fight the previous evening. His history was notable for prior mandibular trauma a week earlier, when he sustained a fracture to the left side of his mandible while playing hockey. His past medical history, past surgical history, and family history were unremarkable. He denies any former or current alcohol, tobacco, or drug use. He reported taking no medications and no allergies to medications. His vital signs were stable and he was afebrile. He did not experience any bleeding within the mouth during either injury.



Clinical Findings

The patient was noted to have right-sided mandibular soft tissue edema, trismus, and residual left-sided

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mandibular tenderness to palpation, but no problems with speaking, eating, or performing oral hygiene. He did note discomfort with mastication but did not demonstrate dysphagia. No facial cellulitis was present. Slight malocclusion was noted upon maximum intercuspation. Imaging showed bilateral mandibular angle fractures. (See **Figures 1** and **2**.)

Discussion

A retrospective review of case studies reflecting more than 2,000 patients with mandible fractures showed incidence of bilateral presentation simultaneously was only 2.1% over 20 years.² All the fractures were attributable to a single incident.

This patient was being evaluated fairly early for the right fracture but unfortunately not his left. He anecdotally had experienced very few complicating factors up to that point. If care for these fractures is delayed, however, significant complications can develop.² These include atrophy of the mandibular muscles; diminished ability for speaking, mastication, and eating; malocclusion; chronic temporomandibular joint pain; facial aesthetic changes; and even “flail mandible” (destabilization of the bony network of the mandible). All of these sequelae may lead to significant long-term morbidity.

The unbalancing of regional muscles must also be considered as displacement of the fracture often occurs. In bilateral angle fractures, the complexity is manifold because the mandible is split into three fragments: two proximal fragments, the right and left angles influenced

by the pterygomasseteric sling, and the temporalis producing a superior vector. The intermediate segment of the distal corpus is acted upon by the mylohyoid and suprahyoid muscles produce an inferior vector.²

The dynamic environment predisposes the angle to high incidence of nonunion or malunion in the event of inadequate reduction and suboptimal fixation.

Ultimately, surgical treatment is required for proper alignment of the fractured segments with fixation of the mandible to stabilize significant opposing forces of a mandible fractured in the three different segments identified previously.

Case Resolution

This patient was placed on empiric oral antibiotics and referred for outpatient dentist evaluation, including consideration for fixation with stable occlusion.

Conclusion

Bilateral mandibular fractures are very rare traumatic events, especially when the fractures occur at two different times. Definitive treatment involves surgical fixation to prevent dysfunction involving chewing, eating, and speaking. Dental referral and close follow-up are necessary. ■

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In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of conditions that real urgent care patients have presented with.

If you would like to submit a case for consideration, please e-mail the relevant materials and presenting information to editor@jucm.com.

A 41-Year-Old with Dorsal Wrist Pain After a Slip-and-Fall



Case

A 41-year-old male presents to urgent care following a slip-and-fall on a wet swimming pool surface. He complains of dorsal/posterior wrist pain. On exam you find soft tissue swelling of the posterior wrist.

View the image taken and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

**Differential Diagnosis**

- Avulsion fracture, dorsal wrist
- Wrist sprain
- Ulnar styloid fracture
- Scaphoid fracture

Diagnosis

This patient was diagnosed with an avulsion fracture of the dorsal wrist (typical location is a dorsal avulsion fracture of the triquetrum). The triquetrum may be fractured by means of impingement from the ulnar styloid, shear forces, or avulsion from strong ligamentous attachments. It is the second most common carpal bone fracture, after the scaphoid.

Learnings/What to Look for

- There are three fracture patterns often observed: dorsal avulsion fractures (93% of fractures), body fractures, and palmar avulsion fractures
- The findings on lateral view are called “the pooping duck” sign

Pearls for Urgent Care Management

- Treatment may be nonoperative or operative
- Indications for nonoperative treatment (immobilization for 4 to 6 weeks) include dorsal cortical fractures without evidence of instability, nondisplaced body fractures, and palmar cortical fractures without evidence of instability
- Indications for operative treatment (open reduction and internal fixation) include dorsal cortical fractures with evidence of instability, displaced body fractures, and palmar cortical fractures with evidence of instability

Acknowledgment: Images and case presented by Experity Teleradiology (www.experityhealth.com/teleradiology).



A 4-Week-Old Girl with a New Rash on Her Back



Case

A mother brought her 4-week-old daughter to the doctor concerned about a vesicular rash that developed on the girl's back within the last day. On examination, tiny vesicles in a primarily truncal distribution were seen. The patient had no systemic symptoms and appeared well.

View the image taken and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

**Differential Diagnosis**

- Neonatal varicella
- Milia
- Neonatal pustular melanosis
- Miliaria crystallina
- Miliaria rubra

Diagnosis

This patient was diagnosed with miliaria crystallina, also referred to as sudamina. This condition is thought to result from increased hydration compounded by humidity and sweating and occurs due to occlusion of the eccrine ducts at the superficial epidermis or stratum corneum. When the occlusion of the sweat duct is deeper in the epidermis, miliaria rubra (prickly heat), miliaria pustulosa, or miliaria profunda (skin-colored papules with possible associated hypohidrosis or anhidrosis) may result. It may occur at any age but is common in neonates and infants, probably secondary to the immaturity and weakness of the duct structure.

Learnings/What to Look for

- While similar to miliaria rubra (heat rash), which is characterized by small erythematous papules, miliaria crystallina presents as 1- to 2-mm fragile vesicles *without an erythematous base*
- Both types of miliaria are benign and the lesions are asymptomatic, with a predilection for the head, neck, and upper torso. These rashes affect up to 40% of infants and typically present in the first month of life
- Predisposing factors include occlusion (excessive clothing or swaddling) and exposure to warm and humid environmental conditions

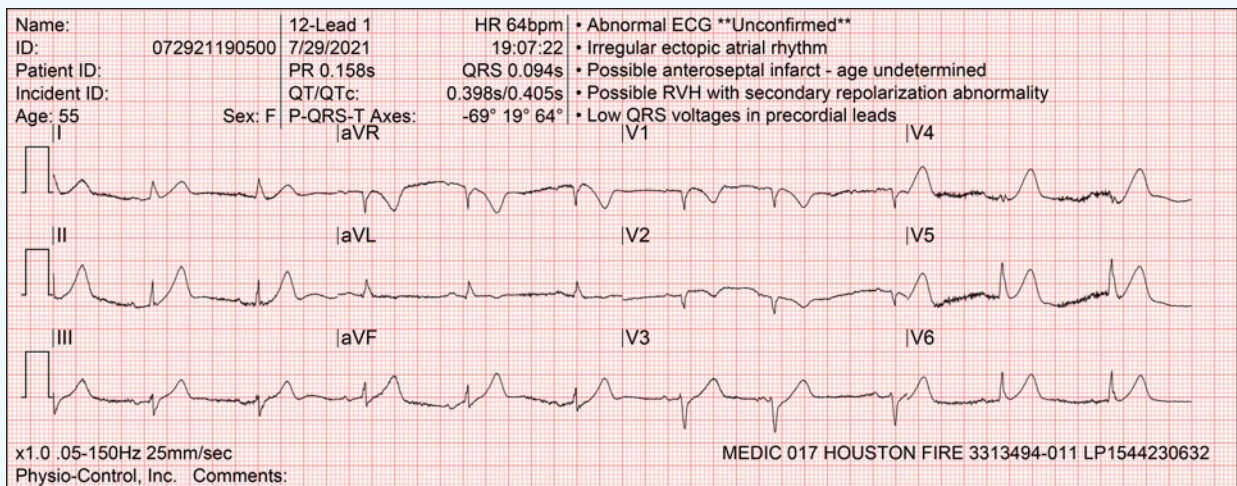
Pearls for Urgent Care Management

- Miliaria crystallina is self-limiting
- Counsel the caregiver to avoid exposure to heat and occlusive clothing in warmer weather
- Avoid ointments and creams that can further occlude sweat glands

Acknowledgment: Images and case presented by VisualDx (www.VisualDx.com/JUCM).



A 55-Year-Old Female with 1 Hour of Chest Pain



ST measurements are measured at the J point and are expressed in mm.											
I	II	III	aVR	aVL	aVF	v1	V2	V3	V4	V5	V8
0.05	0.05	0.00	-0.06	0.03	0.02	-0.01	-0.15	-0.82	-0.32	-0.16	-0.25

To ensure printer accuracy, confirm that the calibration markers are 10mm high and the grid squares are 5mm wide.

Figure 1.

A 55-year-old female presents to urgent care with chest pain that started 1 hour prior. On exam, she appears diaphoretic with normal vital signs.

View the initial ECG taken and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

(Case presented by Benjamin Cooper, MD, McGovern Medical School at UTHealth Houston Department of Emergency Medicine.)

THE RESOLUTION

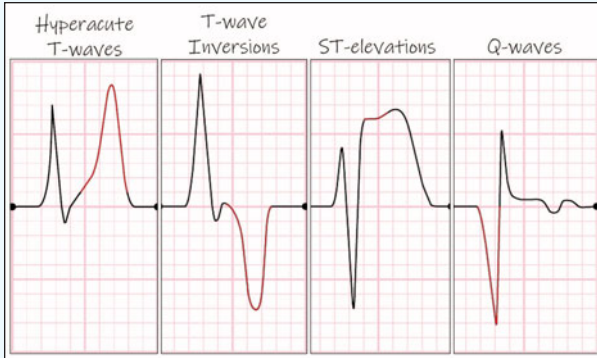


Figure 2. Signs of ischemia.

Differential Diagnosis

- Hyperkalemia
- Myocardial infarction with hyperacute T waves
- Myocarditis
- Hypokalemia
- Brugada syndrome

Diagnosis

This patient was diagnosed with myocardial infarction with hyperacute T waves.

ECG Analysis

This ECG shows sinus rhythm with a rate of 66 bpm and large T

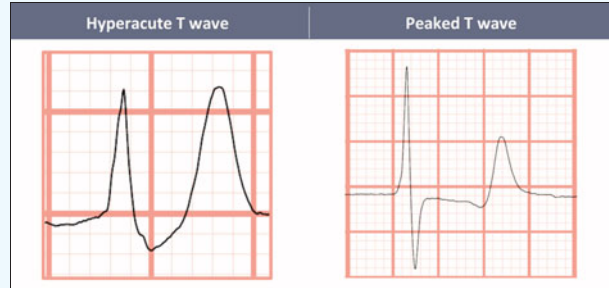


Figure 3. Hyperacute vs peaked T waves.

waves in the inferolateral leads. The T waves in the inferolateral leads are relatively large, broad-based, and symmetric. While the T waves may not initially appear large in terms of absolute amplitude, when compared with the amplitude of the QRS complex they are as large (leads V5 and V6) or larger (leads V4 and II).

Electrocardiographic findings of ischemia include hyperacute T waves, T wave inversions, ST-changes, and Q waves (Figure 2).

Hyperacute T waves are one of the earliest electrocardiographic findings in acute ischemia.¹ They tend to occur within the first 30 minutes of acute occlusion and precede ST-segment elevation.² They are more easily identified when a previous ECG is available for comparison.

Note that hyperacute T waves may not be large in terms of absolute amplitude, but are considered hyperacute if their amplitude exceeds that of the QRS complex (Figure 2). Additionally,

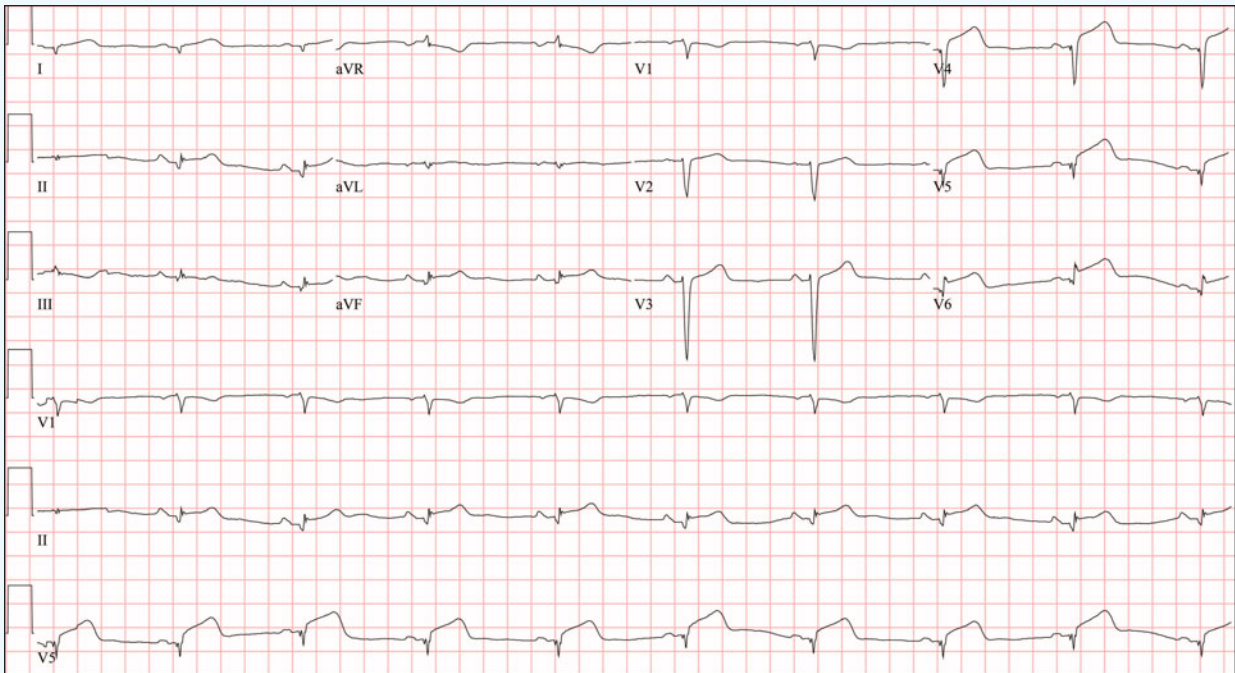


Figure 4. Repeat ECG.

THE RESOLUTION

when preceding T wave inversions are present, hyperacute T waves may become upright and appear normal—a phenomenon referred to as pseudonormalization.^{1,3}

While other differential considerations exist, it is most important to differentiate hyperacute T waves from peaked T waves of hyperkalemia. The peaked T waves of hyperkalemia tend to be more narrow-based with a pointed peak, as opposed to the broad base and rounded peak of hyperacute T waves (**Figure 3**).

While myocarditis can cause hyperacute T waves, they do not tend to have a focal distribution. Hypokalemia can cause a prolonged QT interval by way of delaying repolarization. Brugada syndrome is a sodium channelopathy with a characteristic ECG pattern (pseudo-right bundle branch block pattern with down sloping ST segment elevation in V1 and/or V2) and an increased risk of sudden cardiac death, in the absence of gross structural heart disease.

The patient in this case had a repeat ECG that revealed evolving ST-segment elevation in the lateral precordial leads (**Figure 4**). She was taken for emergent catheterization, which revealed a mid-left anterior descending artery occlusion.

Learnings/What to Look for

- Hyperacute T waves are early electrocardiographic findings of acute ischemia
- Look for large, broad-based, and symmetric T waves which exceed the amplitude of the QRS complex

Pearls for Initial Management

- When hyperacute T waves are encountered, immediate transfer to a percutaneous coronary intervention-capable facility is indicated
- Serial ECGs can help secure the diagnosis of myocardial infarction; however, transfer should not be delayed

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Primed for Growth: Why It's Time to Consider Adding Primary Care Services to Your Urgent Care Center

■ MONTE SANDLER

Many patients don't think about "urgent care" until the moment they need treatment. Likewise, few people think of urgent care when considering a routine check-up at the doctor's office.

Perhaps it's time for that to change.

The main demographic served by urgent care consists of "working age" adults, 24-54, and their families. Historically, these patients lack a primary care provider (PCP). Whereas children have a pediatrician and seniors in a Medicare plan are likely served by a "medical home," working adults use urgent care once or twice a year when illness or injury arises.

Many people view this as a fine approach.

However, from annual wellness exams to routine lab work and preventative care to a relationship with your provider, those without a PCP are missing out on significant pieces of the wellness puzzle.

Though it may not be the obvious answer, urgent care is well-positioned to help bridge this gap.

With this in mind, it's important to consider how primary care services can be integrated into the traditional urgent care model without disrupting your center's main focus.

Why Primary Care Matters

Every segment of the healthcare industry is dealing with a staffing crisis. For primary care, this problem is only getting worse.

According to data from the Association of American Medical Colleges (AAMC), one in five active physicians will be at retirement age in the next decade.¹

Even sooner, by 2024, up to 124,000 physicians will step away from patient care. An estimated 48,000 of those providers work

in primary care.

In underserved communities, the demand for primary care providers is immense. Roughly 180,400 additional providers are needed to serve those areas alone.

So, what does this mean for urgent care? Opportunity.

As demand for primary care services grows and provider availability shrinks, consumers will be looking for new ways to get care. Urgent care centers are already strategically positioned to provide easy access to the community. This opens the door for offering primary care services to patients who may not otherwise visit unless they were seeking care for an illness or injury.

Urgent care has fared better than many healthcare settings during the COVID-19 pandemic. However, the need for growth within the industry remains.²

Adding primary care services to an urgent care center is not a one-size-fits-all endeavor. It might not be right for all clinics. That said, it's an opportunity to reach new patient populations.

Given the expected demand for primary care as physician shortages increase, urgent care centers should look to take advantage.

What Primary Care Services Can Urgent Care Offer?

The term "primary care" is rather vague—especially in the context of what services fall under it. As such, urgent care owner/operators need to evaluate and define which primary care services they want their centers to offer.

Not all services are viable or appropriate.

Factors like reimbursement, patient morbidity, and time all dictate whether an urgent care center should offer a primary care service. In a busy urgent care focused on optimizing throughput (measured in patients per hour per provider), there's not always time to complete a thorough medical history or medication reconciliation. Analyzing and maintaining complex and ongoing medical records is another issue some urgent care centers face.

Fortunately, there are still plenty of primary care services that fit well alongside urgent care. For instance:



Monte Sandler is Chief Operating Officer of Experity (formerly DocuTAP and Practice Velocity).

- Physicals (annual, school, work, sports)
- Men's/women's health
- Chronic disease management (diabetes, hypertension, back pain, etc.)
- Lab work
- Illness/injury visits
- Immunizations
- Referrals to a specialist

Benefits of Offering Primary Care Services at Your Urgent Care Center

As noted, adding primary care services to your urgent care center is a fantastic opportunity for growth. It fosters loyalty with patients who are familiar with your practice's urgent care offerings and can now visit more frequently for primary care.

Numerous studies have demonstrated that primary care and preventative services have an overwhelmingly positive impact on public health.³

However, countless Americans don't have a PCP.

According to a 2019 Harmony Healthcare IT survey, 71% of the adult population has not seen a primary care provider in the past 5 years or more. This is a personal decision for some. Others struggle to find a PCP in their area or one with appointments sooner than a few months away.⁴

Alan Ayers, president of Experity Networks and senior editor, practice management of *JUCM*, says improving access to primary care is one of the best ways to increase interest and utilization. Patients will see your UC as a more holistic presence.

Today's patients find on-demand care very appealing. Hence, urgent care is viewed as a good option when illness or injury strikes. Making primary care available at conveniently located urgent care centers with flexible hours is appealing to patients with busy lives.

An on-site PCP doesn't just attract busy people, though. They attract those looking for primary care services. This includes seniors, families, and those searching for a new provider. Growing and diversifying your patient base is key to ongoing success. Primary care offerings get more people through the doors of your clinic. Efficient, high-quality service makes them more likely to return the next time they need care—planned or unplanned.

Problems with Adding Primary Care Services to Your Urgent Care Center

While there are many benefits to adding primary care services to your urgent care center, doing so doesn't come without obstacles.

Perhaps the biggest challenges can be attributed to fundamental differences in the operating models of an urgent care center and a PCP office. Throughput is a key metric for the urgent care centers. This isn't necessarily the case for other areas of healthcare.

Offering primary care visits, which typically consist of time-consuming activities, in the same system as regular urgent care

visits can be a disaster. There is simply too much variability in visit types to account for. Thus, your patients may end up with longer wait times and providers may start to drown in their patient census.

Urgent care providers may also feel uncomfortable offering certain services to patients they don't know. Take, for instance, prescribing behavioral health or weight loss medications to a patient they've never met before.

For a PCP who is familiar with their patient and sees them regularly, performing these services wouldn't be an issue. An urgent care provider who is meeting their patient for the first or second time may feel differently.

Finally, billing and reimbursement need to be considered. Primary care services are typically billed differently, under different contracts (with different copays) than urgent care services. Wellness physicals, immunizations and other "preventive" services that are core to primary care are often not reimbursable as "urgent care." The acuity of each patient, types of procedures, and length of visits all vary between the two. Thus, offering both types of services under a single billing model can be a headache.

Running Primary Care Alongside Your Urgent Care Center

Considering the issues we've discussed, offering primary care services in the same flow using the same providers as your urgent care services may not be a wise decision.

So, how can your urgent care center still utilize primary care as an opportunity for growth?

Many companies have decided to offer both services in parallel. In other words, your urgent care business is legally and logistically distinct from your primary care business, but both operate under the same roof.

Tammy Mallow, senior director of consulting for Experity, emphasizes that with this method, a new legal entity is formed for the primary care side of the practice, primary care payer contracts are secured, separate fee schedules are agreed to, and providers are credentialed according to the payer requirements.

Payers may also require specific physical components of the building as well as policies outlining how a patient is defined as urgent care or primary care. Each line of business has dedicated providers and teams. This gives the provider more time to spend with each patient and allows them to form better relationships. Likewise, it keeps your other providers free to provide traditional urgent care services for patients who walk in or schedule ahead of time.

Segmenting your primary care offerings also means giving them a dedicated workflow, appointment schedule, and waiting queue. Operating primary care as a separate business entity also allows you to track revenue cycle management key performance indicators separately from the urgent care, since all billing functions are separate.

When operating in parallel, 'primary care' consists of preventive services and rechecks for chronic concerns, occurring through scheduled appointments. 'Urgent care' consists of episodic illness and injury which is unscheduled.

Patients coming in for urgent care don't notice a difference as that side of the center continues to run like normal. Meanwhile, primary care patients benefit from providers having more time to interact with them and easy access to care.

Your urgent care business gets more visitors and more revenue. You also build trust with the local community and increase your patient volume.

This system gives you the best of both worlds while avoiding the biggest challenges of adding PCP services to your urgent care center.

Starting with Primary Care Functionality

Over the past decade, and especially through the pandemic, many patients have discovered the convenience and accessibility of urgent care.

For urgent care centers exploring new growth opportunities in the coming years, few paths look as promising as primary care. The market is wide open thanks to the massive efflux of traditional primary care providers and soaring demand for their services.

Urgent care owner/operators who want to start offering primary care services should be careful, though. Establishing new services at the cost of your core business is a recipe for disaster.

Primary care offerings should be run parallel to your urgent care operations—not intermixed with them. This means separate providers, queues, and logistics for your primary care division.

With this strategy, your urgent care center can be even more impactful in the community, enjoy higher visit volumes, and offer more holistic services to patients that aren't just there for illness or injury. ■

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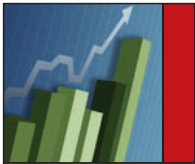


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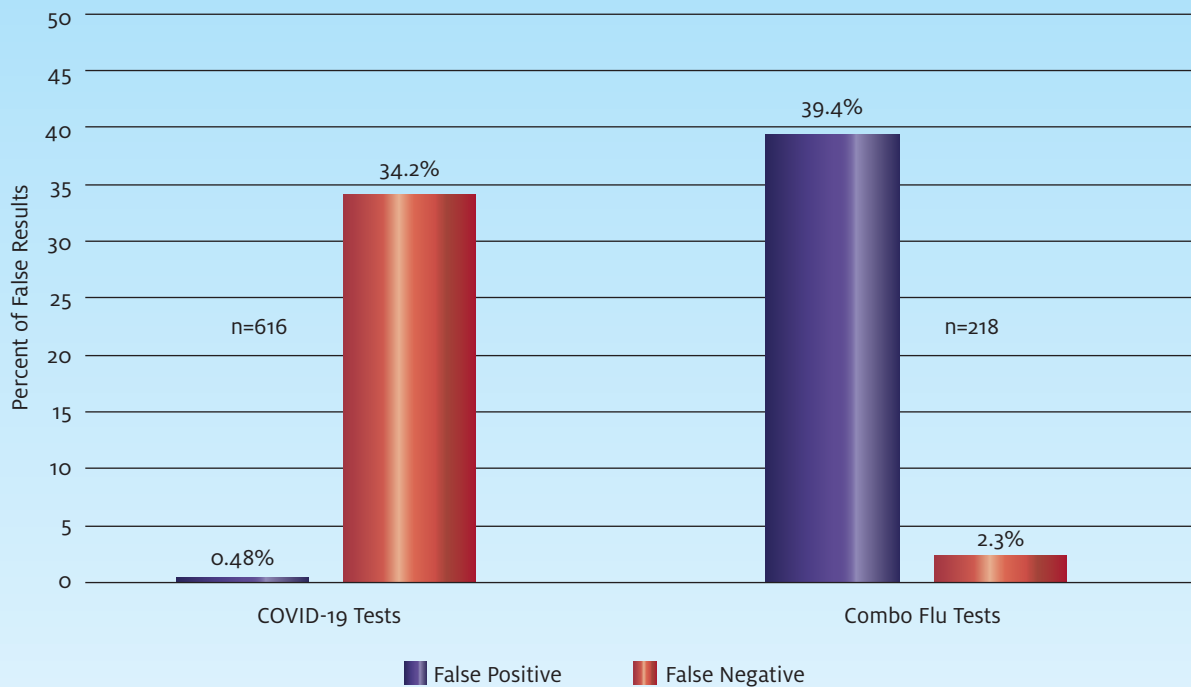
A Tale of Two Viruses: Rapid Flu and COVID-19 Tests in the Urgent Care Setting

JUCM has been fortunate to be on the forefront of research on SARS-CoV-2, from a headline-making article entitled Chest X-Ray Findings in 636 Ambulatory Patients with COVID-19 Presenting to an Urgent Care Center: A Normal Chest X-Ray Is No Guarantee way back in May 2020 right through this issue.

The latest COVID research article we're pleased to present focuses on infection rates of influenza type A/B and COVID in a federal qualified healthcare center in Rhode Island. We appreciate Cesar Mora Jaramillo, MD, FAAFP, FCUCM giving us the op-

portunity to share it with you. One of the interesting data points the article reveals is the relative accuracy of COVID tests and influenza type A/B combination flu tests; the visually striking details of those findings are illustrated in the graph below. For greater context and even more revealing details, turn back to page 29. (Please note that the data reflect conditions at a single healthcare facility at a specific time, and may not be generalizable to other settings.) ■

FALSE NEGATIVE AND FALSE POSITIVE COVID-19 VS COMBINATION FLU TESTS



Data source: Jaramillo CM. SARS-CoV-2 and influenza type A/B Infection rates: a report of a federal qualified healthcare center urgent care department during an Omicron wave in Rhode Island. *J Urgent Care Med.* 2022;16(11):29-33

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