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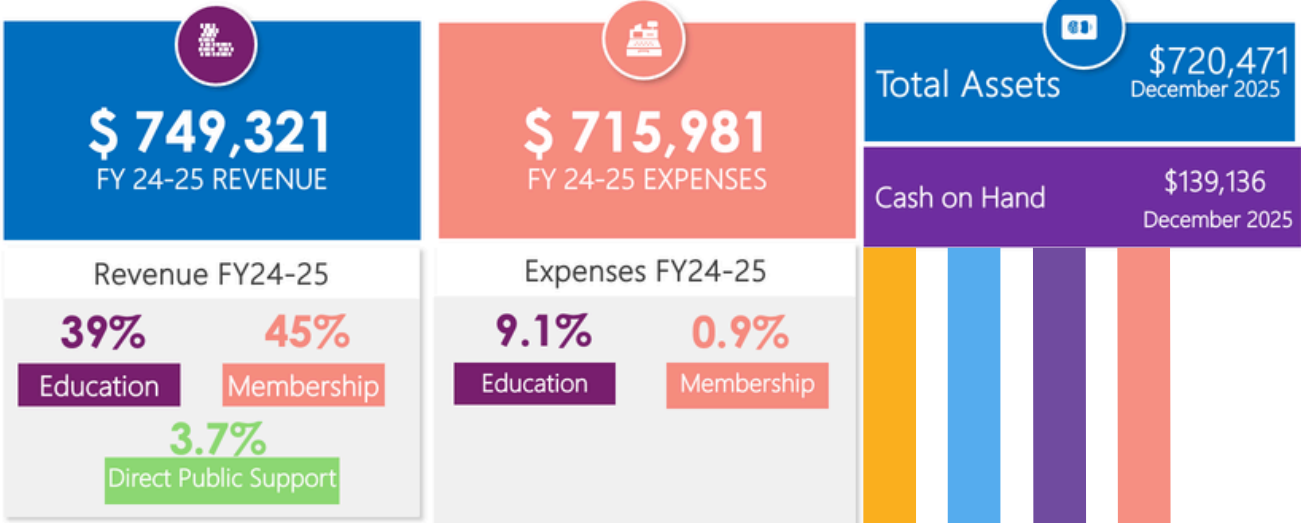
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Organization and Membership Update

Pediatric Pharmacy Association

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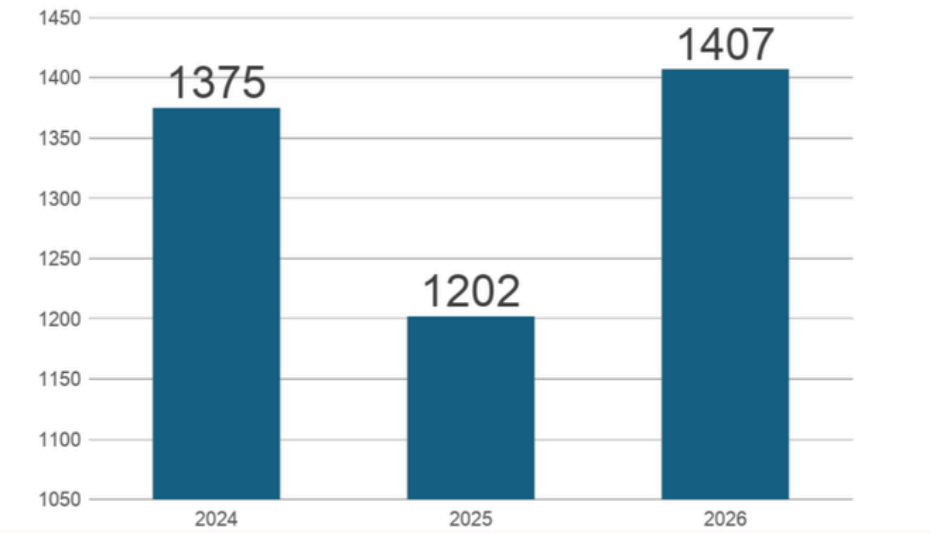
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Cash on Hand

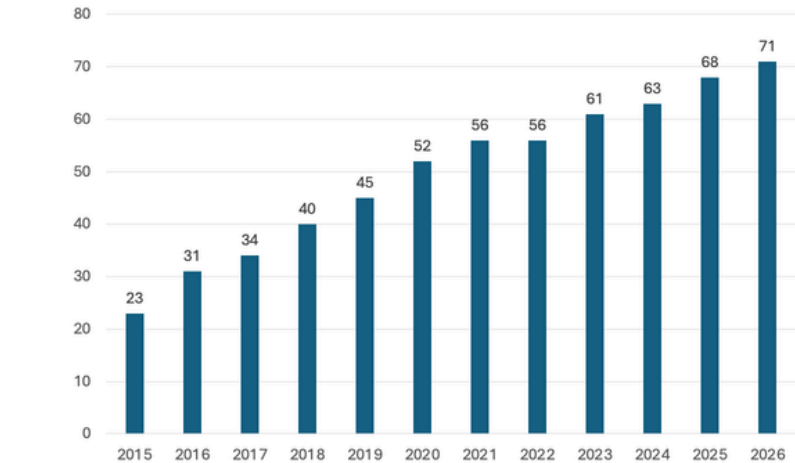
\$139,136

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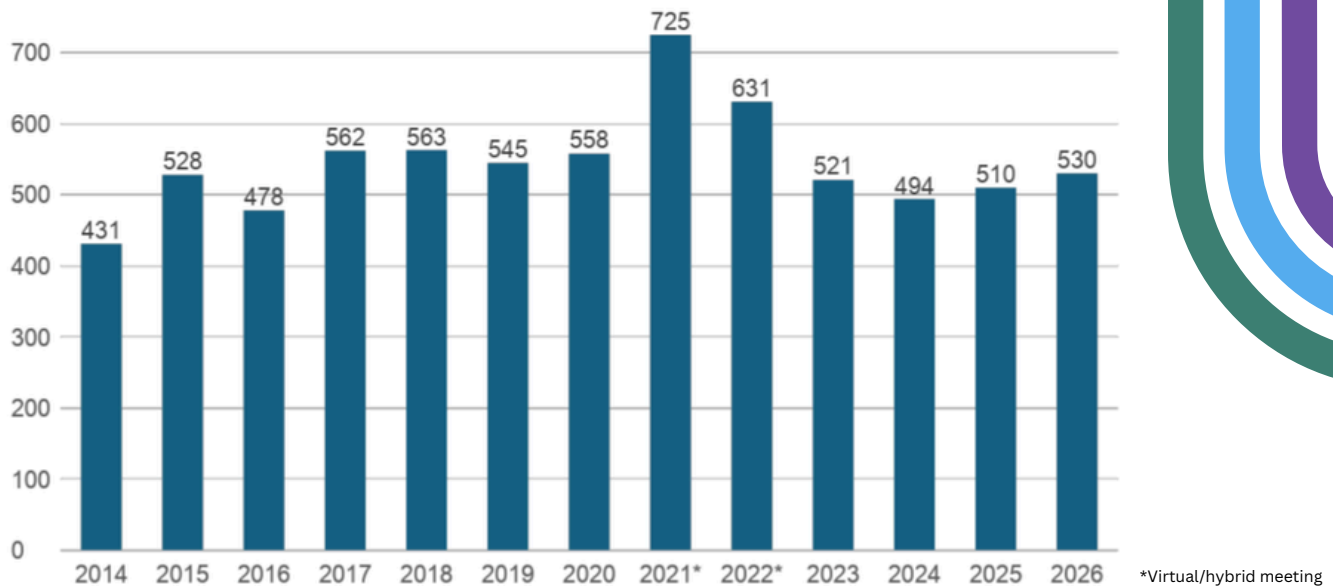


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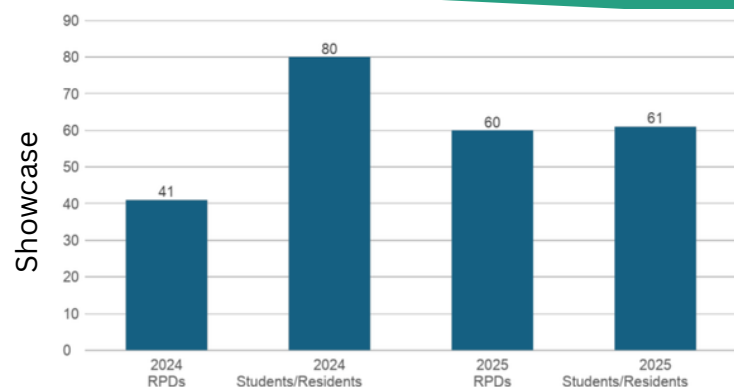
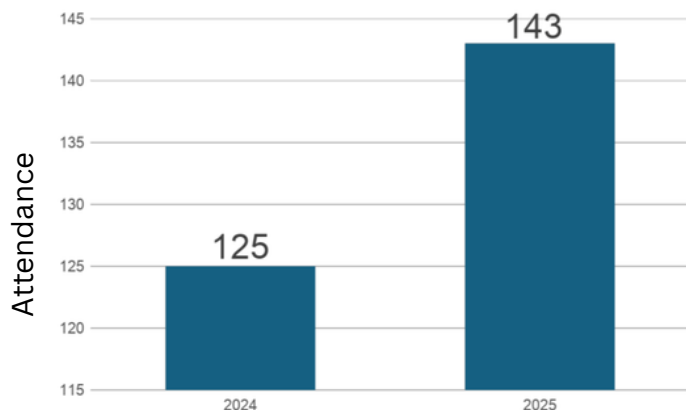
The University of Incarnate Word (San Antonio)

Pediatric Pharmacy Association

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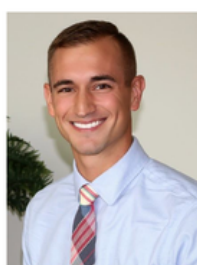


Susan Abdel-Rahman



Jeff Low Service Award

Chad Knoderer, PharmD, MSDA, FPPA



Best Practice Award

Lucas E. Orth, PharmD, FCCP, BCPPS

Kari Allan, PharmD, BCPS, BCPPS

"Improved Adherence to Antipsychotic Monitoring Guidelines in Children with Special Health Care Needs"

Pediatric Pharmacy Association

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Kelly Tartera, PharmD, MHIIM

"Pharmacy Performance Evaluation (PPE): A Single-Center Assessment of Drug Waste and Mitigation Strategies"



Outstanding Original Paper

Karen Williams, PharmD, BCPPS

"Improving Naloxone Co-Prescribing Utilizing Best Practice Advisory Alert For Pediatric Patients: A Pilot Study"



Student Investigator Award

Patricia Tanola, BS

"Not Kidneying Around-Evaluation of Nephrotoxic Medications in a Level-III Intensive Care Nursery"

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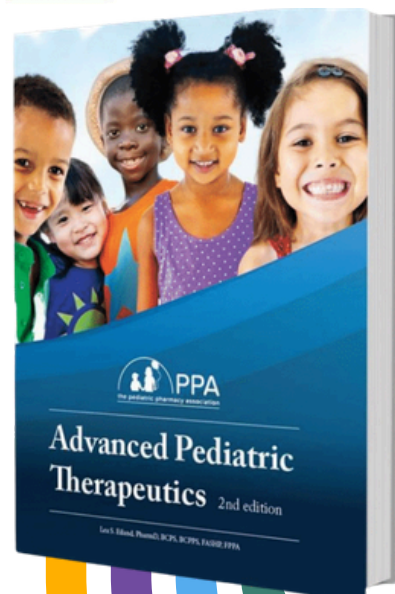
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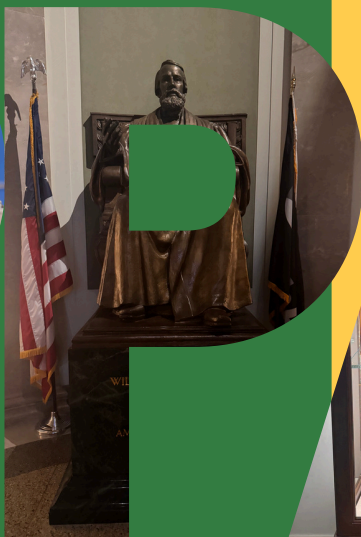
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2026 PPA

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Promoting Resiliency, Minimizing Burnout and Increasing Retention in the Pharmacy Team

NICOLE PANOSH, PHARM.D, MS, BCPS; DAVID NASH, PHARM.D, MHA;
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Burnout: A Real Risk to the Profession

"Human Services" related burnout was described in a 1981 Journal of Organizational Behavior article by Maslach and Jackson as "a syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do 'people-work' of some kind."¹

This article described three consequences of burnout: 1) emotional exhaustion, 2) negative, cynical attitudes and 3) negative self-evaluation of work-related accomplishments. The authors suggested that burnout, "appears to be a factor in job turnover, absenteeism and low morale." This groundbreaking article also introduced one of the first assessment tools to measure burnout, the Maslach Burnout Inventory (MBI), which is still used today.¹

The World Health Organization (WHO) more recently characterized burnout as a "syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed." They also describe three dimensions that are very similar to those described in the 1981 study. These three dimensions include: 1) feelings of energy depletion or exhaustion, 2) increased mental distance from one's job, or feelings of negativism or cynicism related to one's job, 3) reduced personal efficacy.² Burnout is included in the International Classification of Diseases (ICD-11), although not as a medical condition but rather an occupation-related syndrome or phenomenon. Despite the longevity of burnout descriptions and measures, we are still challenged with responding to this phenomenon and fostering a resilient and committed pharmacy workforce. This challenge has only been exacerbated by the COVID-19 pandemic, which added pressures and stressors secondary to increased workloads, rapid changes in patient care and work format.³

While the prevalence of pharmacist burnout varies by practice setting, it increased in all sectors during the pandemic. A 2022 systematic review found that over half of pharmacists acknowledge experiencing burnout. While rates have decreased since the pandemic began, they have not returned to pre-pandemic levels.³

The significance of this sustained increase cannot be ignored. There is an abundance of literature linking healthcare worker burnout with decreased patient safety.³⁻⁷



A 2021 publication surveyed 614 hematology-oncology pharmacists and found that pharmacists experiencing burnout were four times more likely to self-report a major medication error in the prior three months. They were also more likely to leave their current positions. Similarly, a 2012 study of nurses found that the risk of infection increased in patients cared for by nurses experiencing burnout, even when controlling for patient severity and other hospital and nurse factors.⁵ Error self-reporting also increased in a study of physicians experiencing burnout, fatigue and lower work unit safety grades, where each of these factors were independently associated with an increase in the risk of error self-reporting.⁸ Several other studies corroborate the above findings.^{3-4,6-7}

With the recent and sustained increase in burnout rates among pharmacists and other healthcare workers as well as the negative impact to individual pharmacists, pharmacy teams and patients, it is imperative that we identify ways to address this ongoing challenge. While individual strategies have been suggested, it is important to take a multipronged approach involving both the individual and area leaders.

Individual Strategies

Burnout among healthcare professionals is a persistent and complex issue, exacerbated by high workloads, emotional labor, and systemic inefficiencies. While organizational reform is essential, much of the literature continues to emphasize individual strategies as the frontline defense against burnout. This section evaluates the effectiveness and limitations of these approaches, including wellness perks, Employee Assistance Programs (EAPs), boundary-setting, and work-life balance.

Wellness Perks: A Starting Point, Not a Solution

Healthcare organizations often offer wellness perks—such as gym memberships, mindfulness apps, and healthy snacks—as part of their burnout prevention efforts. These initiatives promote physical and emotional well-being and are supported by evidence. A systematic review by Maresca et al., identified physical activity, self-care, and emotional distancing from work as effective coping strategies among healthcare professionals.⁹ Unfortunately, these perks can be superficial if not embedded within a broader culture of wellness. Montgomery and Lainidi argue that focusing on what we can do—like offering perks—may distract from what we should do, such as addressing systemic issues and fostering dignity in the workplace.¹⁰

Employee Assistance Programs (EAPs): Valuable but Underused

EAPs offer confidential support for employees dealing with stress, anxiety, and burnout. Catapano et al. found that individual-level interventions such as Cognitive Behavioral Therapy (CBT), mindfulness, and relaxation techniques—including art therapy and Emotional Freedom Techniques—were effective in reducing burnout and improving quality of life.¹¹ Despite their proven benefits, EAPs are often underutilized due to stigma, lack of awareness, and concerns about confidentiality. For these programs to be impactful, organizations must actively promote them and normalize their use.

Creating Boundaries: Empowerment Through Limits

Setting boundaries is a critical individual strategy for managing burnout. Maresca et al. highlighted boundary-setting as one of the coping mechanisms associated with reduced burnout, alongside clinical variety, realistic expectations, and passion for one's work.⁹ However, boundaries are difficult to maintain in cultures that reward overwork or lack clear expectations. There is a significant need for training of front-line managers to help employees feel competent and appreciated, while supporting their efforts to set and maintain well-being boundaries.¹⁰



Work-Life Balance in the Digital Era

Achieving work-life balance is often seen as a key to preventing burnout. In the digital age, this balance has become more complex. Györfy et al., found that self-consciousness and communication are essential for establishing digital work-life boundaries.¹² They advocate for integrating these principles into training curricula and institutional policies as part of preventive measures against burnout. While individual awareness is crucial, systemic support—such as flexible scheduling and realistic workload expectations—is necessary to make balance achievable.

Individual Strategies Need Systemic Support

Individual strategies are vital tools in the fight against burnout. They empower healthcare professionals to take control of their well-being and build resilience. However, without organizational backing and cultural change, these strategies may offer only temporary relief. Institutions must move beyond surface-level solutions and invest in systemic reforms that address the root causes of burnout—creating environments where individual strategies can truly thrive.

How can leaders intervene?

Despite these many individual strategies we can focus on for our own well-being, they are not making the big impacts that are necessary to maintain a resilient workforce. By looking deeper into the causes of stress relating to burnout, one can see that these issues are systemic and engrained into our institutions. Healthcare touts high rates of burnout compared to other professions. The finite time in each day can easily be consumed by a myriad of tasks that are difficult to relate back to the underlying purpose of our profession; taking care of our pediatric patients. Requirements such as electronic health record documentation, USP compliance, and prior authorizations can feel like an administrative burden instead of something to benefit patients.

As leaders, we have the unique role and responsibility to shape the daily work of our teams. It is imperative that we must act to ensure the work required of our pharmacy workforce does not continue to feed the burnout seen in our profession. To implement meaningful change, we must understand the work of our teams. This starts with listening. Here are some ideas to engage team members and find out more about the factors contributing to burnout.

Round regularly with team members

Ask specific questions related to workflows that could be optimized. Solutions for Patient Safety outlines the 4Ds framework.¹³ These questions prompt team members to identify something difficult, dangerous, dumb, and different about their work as conversation starters.

Hold dedicated listening sessions

Don't just focus on the what, but also the how work is being done, in current state to identify target areas for change.

Distribute an anonymous survey.

Give team members the opportunity to share their thoughts candidly without the fear of repercussions.

Have team members complete time studies of their work

Time studies help to evaluate time spent on tasks and can be compared between individuals and teams. Collect qualitative information as well, such as how team members perceive a task or if there is specific feedback on how the task is completed.

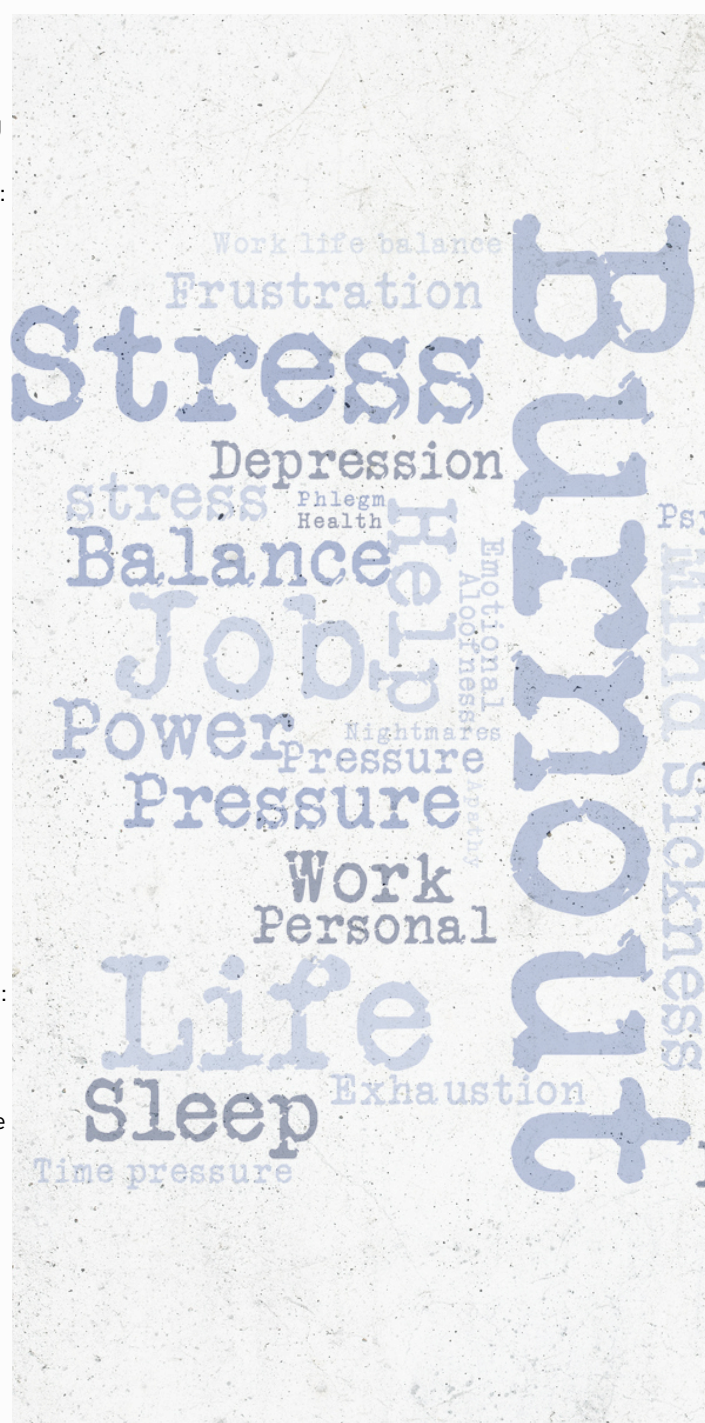
Armed with a strong understanding of: the current state, leaders can compare what is being done in a day versus the required elements of the job. This can often vary greatly and is helpful to create a shared understanding to build from. Team members are key partners in developing changes that impact their day-to-day work. Creating a representative work group to address concerns and implement improvements is one way to ensure engagement in the process and that interventions are meaningful to team members.

As a clinical support service, pharmacy services can often relieve work previously completed by other healthcare team members. Pharmacy leaders should be a strong advocate for their teams to thoughtfully take on new services only if and when it is determined to be sustainable. In the current climate, justifying additional personnel resources can be challenging. Thus, critical conversations both internally and externally surrounding expansion of services may also include what potentially needs to be cut to maintain a reasonable workload.

Creating a sustainable workload is a crucial first step in preventing burnout, however, five other factors have been identified in the causes of burnout which should be addressed as well. These include mismatched values, perceived lack of control, poor relationships, lack of recognition/reward, and lack of fairness.¹⁴ We need to focus our efforts on creating a culture that supports our teams at an upstream level, enabling them to thrive instead of survive.

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- ¹²Györfy Z, Radó N, Pölczman L, et al. Creating work-life balance among physicians in the age of digitalization: the role of self-consciousness and communication - a qualitative study. *BMC Health Serv Res.* 2023;23(1):1141.
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PEDIATRIC ADVANCED LIFE SUPPORT AND BASIC LIFE SUPPORT 2025 UPDATE

BY: ELIZABETH FERRINGTON, PHARMD, FCCP, FCCM, FPPA, BCPS, BCNSP

The 2025 Pediatric Advanced Life Support (PALS)¹ and Basic Life Support (BLS)² guidelines were published in October 2025 by the American Heart Association (AHA). These recommendations supersede the last full set of AHA recommendations for pediatric advanced support published in 2020. This is a brief summary of the key changes found in the 2025 guideline.

It is critical to note that the epidemiology, pathophysiology, and common etiologies of pediatric cardiac arrest are distinctly different from both neonatal and adult cardiac arrest. Cardiac arrest in the majority of infants and children is the result of progressive respiratory failure or shock, not from a primary cardiac cause. In children with congenital heart disease, cardiac arrest is often due to a primary cardiac cause. However, the etiology is different than cardiac causes reported in adults, which is most commonly coronary insufficiency or ischemia. Despite these differences, the AHA supports a single Chain of Survival that has now been standardized across infants, children, and adults. This excludes neonatal resuscitation which has its own chain of survival.



Because respiratory conditions are a major cause of cardiac arrest in infants and children, quick recognition of inadequate or absent breathing is critical. In 2019, Sutton and colleagues in a multicenter observational study found that ventilation rates of at least 30/min in infants and at least 25/min in children > 1 year during CPR with an advanced airway in place were associated with an improved return of spontaneous circulation (ROSC)³. Achievement of these respiratory rates were also associated with improved survival to discharge and survival with a favorable neurologic outcome. Faster respiratory rates were associated with lower systolic blood pressure (SBP) in older children. Therefore, AHA recommends one breath every 2 to 3 seconds in the pediatric patient with inadequate breathing and a pulse.

Basic Life Support:

A few changes were made to the Pediatric BLS guidelines

1. Chest compressions in infants using 2 fingers along the sternum was eliminated due to ineffectiveness in achieving proper depth using this method. In infants, compressions using the heel of 1 hand or the 2 thumb-encircling hands technique may be used.
2. A new definition was included in the child guidelines, stating a child is defined as the age of 1 year until the development of puberty (breast development in females and the presence of axillary hair in males). For those with signs of puberty and beyond, adult BLS guidelines should be followed.
3. In the infant to puberty health care professional algorithm, the use of opioid antagonists (e.g. naloxone) during respiratory or cardiac arrest is incorporated.
4. Despite increasing frequency of compression-only CPR in adults and children, large observational studies of children with out-of-hospital cardiac arrest (OHCA) show best results with conventional CPR. This is not surprising as most pediatric arrest start as a respiratory event.

Step into Room 104 and you'll find more than a history class—Foreign-Body Airway Obstruction (FBAO):

In 2024, Dunne and his colleagues published an observational study of adult and pediatric FBAO which suggests improved clearance of foreign bodies with back blows over abdominal thrusts.⁴ Therefore, the new recommendation in children is to start treatment with a series of back blows followed by 5 abdominal thrusts. Repeated cycles of 5 back blows followed by 5 abdominal thrusts are performed until the obstruction is cleared or the patient becomes unresponsive. In infants, abdominal thrusts are not recommended due to the potential to cause abdominal organ injury.⁵ In infants, the recommendation is to initiate treatment with 5 back blows, but they are followed by 5 chest thrust using the heel-of-hand technique, similar to chest compressions used in CPR. Repeat until the item is expelled or the infant becomes unresponsive. In either population, once the patient is unconscious, immediate CPR with provision of chest compressions followed by ventilation is recommended. Blind finger sweeps should not be used.

Pediatric Advanced Life Support:

Pediatric patients are defined as infants and children up to the age of 18 years of age. This contrasts with Pediatric BLS that only applies to infants and children without signs of puberty.

Drug Administration During Cardiac Arrest:

Weight: Cognitive aids such as the Broselow, PAWPER XL, and Mercy tapes are reported to be within 10 to 20% of measured total body weight, yet closely approximate ideal body weight. The use of tapes has been shown to be more accurate than weight estimation by health care professionals. Several studies have suggested the addition of body habitus or anthropometric measurements to improve the accuracy of tapes; however, they require training and delay the estimation of patient weight for medication dosing. The most important concept is that once the patient achieves ROSC, a patient-specific weight should be obtained to guide post-resuscitation medication dosing.

Epinephrine: Intravenous (IV) or intraosseous (IO) administration of epinephrine is preferred over endotracheal (ET) administration whenever possible.

- For infants and children in cardiac arrest with an initial non-shockable rhythm, epinephrine should be administered as soon as possible.
- If there is an initial shockable rhythm, epinephrine should be administered after 2 attempts at defibrillation
- In cardiac arrest from anaphylaxis, standard anaphylaxis intramuscular (IM) epinephrine dose may be insufficient. Follow standard cardiac arrest epinephrine recommendations.



Atropine:

When atropine is used as a premedication for emergency intubation of infants and children, a dose of 0.02 mg/kg with no minimum dose may be considered. This is based on a 2015 prospective observational study of 60 infants < 15 kg who received < 0.1 mg of atropine prior to elective intubation. No patient experienced paradoxical bradycardia or arrhythmias.⁶

In the PEDIATRIC BRADYCARDIA WITH A PULSE ALGORITHM, for bradycardia due to increased vagal tone or atrioventricular conduction block, atropine is recommended to be administered at 0.02 mg/kg BUT with a minimum dose of 0.1 mg and a maximum single dose of 0.5 mg. The authors do not discuss the difference in a recommendation of a minimum dose of atropine for bradycardia with a pulse and no minimum dose for intubation. However, it is most likely due to a lack of published evidence of the safety of no minimum dose of atropine for patients with bradycardia with a pulse. In the intubation trial cited above, all patients had a normal baseline heart rate prior to administration of atropine.

The adult max dose of atropine had increased to 1 mg from 0.5 mg.

Amiodarone: The pediatric dose of amiodarone changed from 5 mg/kg/dose (MAX: 300 mg/dose), may repeat x 2 doses for a total dose of 15 mg/kg. The new recommendation is 5 mg/kg/dose (MAX: 300 mg/dose), may repeat x 2 doses but at a dose of 5 mg/kg/dose (MAX: 150 mg/dose).

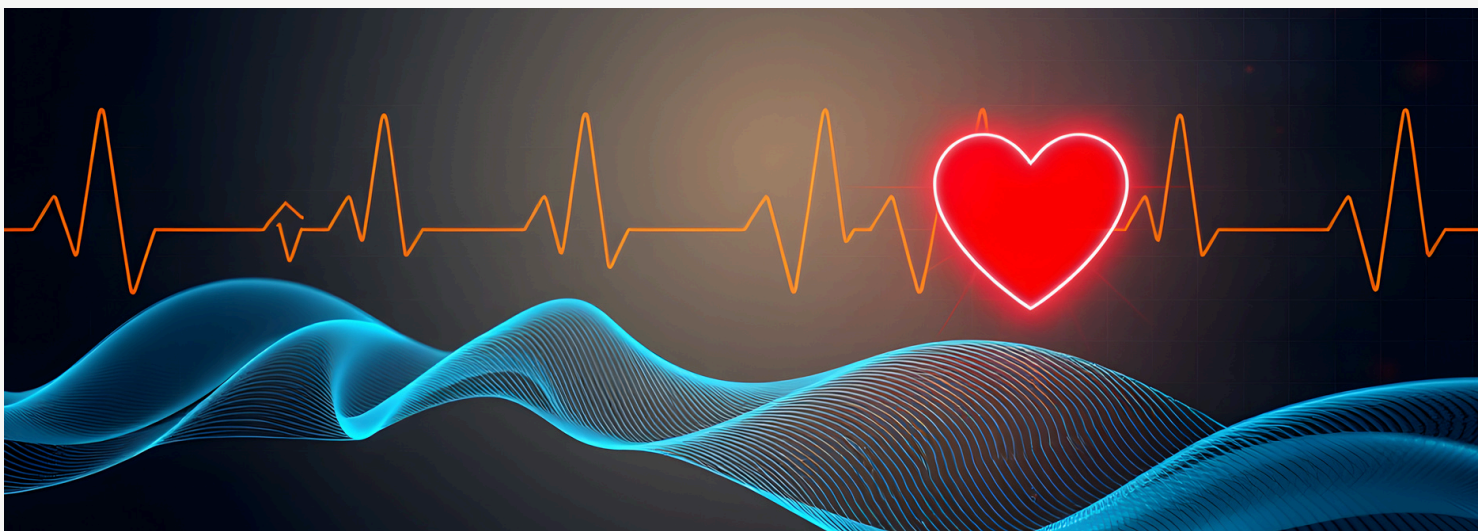


There are new sections added to the PALS guideline covering myocarditis, resuscitation of patients with single ventricle congenital heart disease (CHD), management of pulmonary hypertension, and management of traumatic cardiac arrest. There is no specific medication management recommended in these sections. In the 2025 AHA guideline, there is a new chapter Part 10: Adult and Pediatric Special Circumstances of Resuscitation. Some of the key concepts covered in the new chapter are alternative CPR techniques, anaphylaxis, asthma, drowning, hyperkalemia, hyper- and hypothermia, pregnancy, pulmonary embolism and toxicology. This chapter (pp. 587-672) is extensive and an excellent reference.⁷

As pharmacists it is critical to be aware of any changes to the pediatric BLS and PALS guidelines as they are updated and be prepared to implement them at our institutions. With the new puberty update to the BLS guidelines, discussions with the life support team on how to implement this change is essential.

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FOUNDERS DAY GIVING CHALLENGE

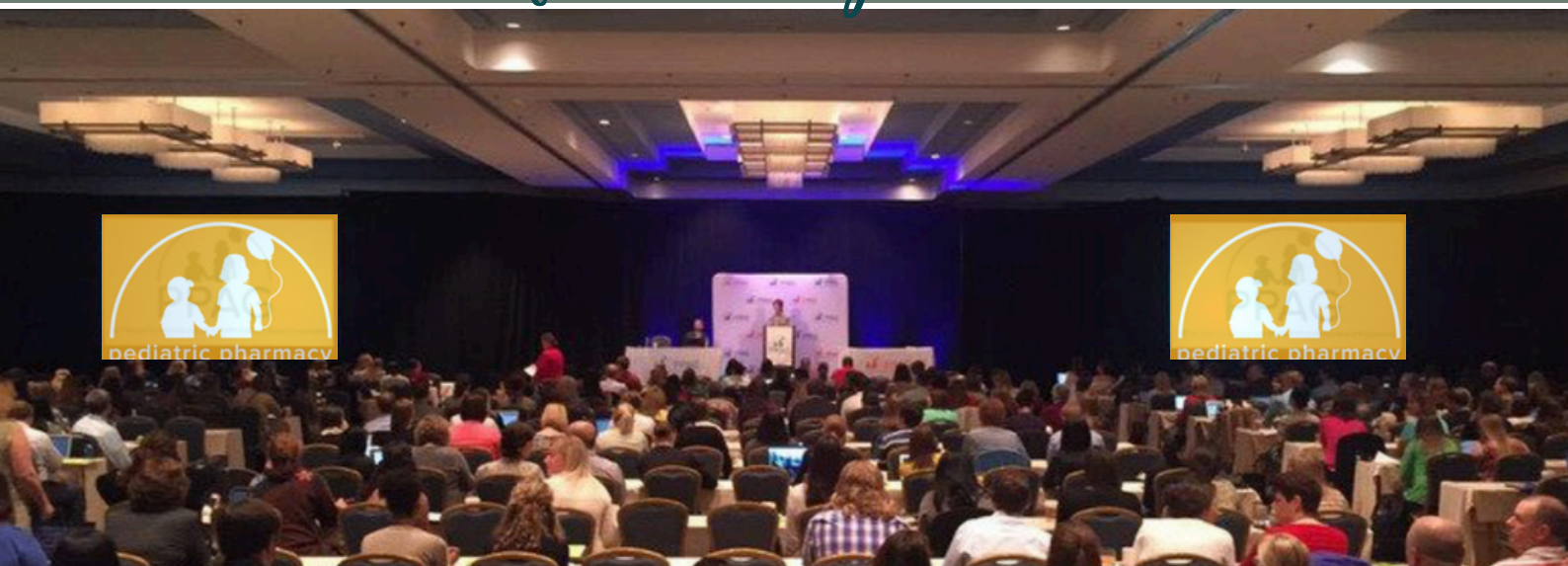


In December 1979, a small group of Directors of Pharmacy in Children's Hospitals gathered to discuss the need for a free-standing, autonomous organization dedicated to the specific needs of pediatric patients. After many years of informal meetings and formal programs, the Pediatric Pharmacy Association was officially recognized by the IRS as a tax-exempt organization on December 14, 1993, which now has been designated as "Founders Day."

PPA Annual Fundraising Campaign

For 2024-2025, the PPA Board of Directors has selected research as the focus for the Founders Day Giving Challenge. PPA offers research grants to enhance the work of our members including the Pediatric Pharmacy Association Small Research Grants. In 2025, we are introducing the New Practitioner Travel Award along with the updated Student-Resident/Fellow Travel Award.

Acknowledgments



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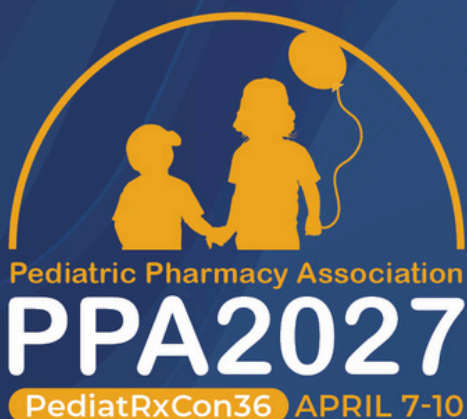
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