POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

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Safe Administration of Medication in School: Policy Statement

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Many youth with acute and chronic health conditions require medication to be administered during the school day. This policy statement offers guidance to school physicians, community prescribers, school nurses, other school health professionals, and groups providing oversight to school health activities and ensures patient safety and equity lenses are applied to administration of medications during school and for school-related activities. The American Academy of Pediatrics supports a robust collaborative model that allows all those involved in student health, including the student and family, to communicate, participate in effective medication management, inform delegated medication responsibilities, and promote safe medication storage and administration. School medication administration protocols are developed to help prevent medication administration errors specific to potential risks in the school setting and are responsive to the maturing students' evolving understanding of their health needs, growing autonomy, and responsibility. All protocols involving school nurses, unlicensed assistive personnel, and prescribers must be consistent with state and federal regulations on scope of practice, student privacy laws, and professional nursing organization guidelines. Consistent policies and messaging on safety of the patient and the entire school community enable school health teams to ensure equitable treatment of students prescribed therapeutic agents newly regulated by the US Food and Drug Administration, over-the-counter medications, or products that are currently not regulated by the US Food and Drug Administration.

INTRODUCTION

Access to comprehensive school health services enables students to attend school regardless of chronic or acute health conditions. With estimates of the prevalence of health conditions in American youth ranging from 25% to 43%, the delivery of health interventions during the school

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day has the potential to increase student classroom time and attendance.[1,2] Schools that have health services professionals on staff are better equipped to serve students from all backgrounds and tend to their medical needs throughout the school day. Students with acute and chronic medical conditions are able to remain in school when school health staff partner with the student's medical home.[3,4] Regular attendance from prekindergarten through graduation or completion of transitional programming predicts grade promotion and core subject proficiency. Chronic absenteeism, whether caused by social or health circumstances, negatively impacts academic success, health behaviors, and adult health outcomes.[5,6]

This policy statement addresses the goal of making school medication administration safe and accessible to all students. Safe medication administration must be equity informed. If students are unable to access required medication during the school day, they are deprived of their right to equitable access to a free and appropriate education in the public school setting. Robust medication administration policies allow for optimal achievement of learning and social goals and provide a level playing field for all students, including those with chronic medical conditions, special health care needs, adverse childhood experiences, or detrimental social drivers of health. Advocacy should address school health funding for adequate staffing, supplies, and stock medication in all schools. Advocacy may also address safe medication administration in school settings where there are fewer requirements for equitable access to medication.

Although equity demands all students have appropriate access to needed medications to optimize school attendance and success, the overriding goal of medication administration in any setting must be patient safety. Every member of the school health care team must support student safety during school medication administration process development and implementation. The team includes the student, parents or guardians, community prescribers, mental health professionals, school board and administration, school physician, school-based health center (SBHC) staff, registered nurses (hereinafter referred to as the school nurse), licensed practical nurses and licensed vocational nurses (LPN and LVNs), and unlicensed assistive personnel (UAP).

The complexity of physical, psychosocial, and family needs of students requires strong collaborative models of care linking the medical home, school, and the community to achieve best health outcomes. The importance of communication between team members involved in the direct care of students is highlighted in the American Academy of Pediatrics (AAP) medical home model[3,4] and is a critical component of the Whole School, Whole Community, Whole Child model codeveloped by the Association for Supervision and Curriculum Development[7] and Centers for Disease Control and Prevention.[8] Attention to these models supports the AAP strategic priority of equity[9] and "emphasizes the role of the community in supporting the school, the connections between health and academic achievement, and the importance of evidence-based school policies and practices."

UNDERSTANDING THE ROLES OF THE SCHOOL HEALTH CARE TEAM

The engagement of students, parents and guardians, SBHC staff, school nurses, and community prescribers is essential to the successful design and execution of the school medication administration plan. Variations in the provision of school health services may be related to district budget appropriations, school board policies, state legislation on nursing practice, and federal legislation. The delivery of health care in school for students, including medication administration, may be provided by a school nurse, LPN and LVN, or UAP. Specific processes for school nurse care assignment to the LPN and LVN or delegation to the UAP must comply with applicable municipal and state regulations. Once processes are established, then school building administrators work with the school nurse to ensure that parents and guardians provide medication and consent to the administration of medications required during the school day. Table 1 addresses both the necessary collaboration among working partners and community collaborators[10] in planning safe medication administration to students while at school and the process improvements that can elevate student safety.

School Physician or Medical Director

The school physician, medical director, or consultant may be a physician (MD, DO), nurse practitioner (APRN), or a physician assistant either employed or contracted by a school system or a local health department. The school physician is often consulted by the school nurse, school administration, community prescribers, school staff, parents or guardians, and students regarding safe administration of medications during the school day. The school physician may participate in school medication policy creation along with the school nurse and school administration teams. In settings without a school medical director or physician, schools face greater challenges coordinating care and developing such policies. The AAP policy statement "Role of the School Physician" describes these functions and encourages pediatricians to advocate that all school districts have a school physician with pediatric expertise to oversee health services.[11]

School Nurses

The school nurse is best positioned to assess and intervene to meet the fluctuating health care needs of students,

TABLE 1 Collaboration Among School Medication Safety Stakeholders: Shared Functions and Process Improvements

Working Partners and Community Collaborators	Shared Functions	Process Improvements
Community prescriber (medical home, pediatric specialist), SBHC staff and school health team, medical director	Prescribing	Standardized medication order forms, standing orders
Parents or guardians, student, school health team, pharmacist, community prescriber	Coordination between home and school	Assent and consent communications, self-administration assessment and training, multidirectional communication
School nurse, LPN or LVN, UAP, and SBHC staff	Medication administration	Standard procedures for delegation, supervision, training, and workflows
School board, school administration, state agencies, school health team, families	Whole child wellness, safe environments	School medication guidelines with a patient safety and health equity lens
School physician, SBHC staff, school health team, school board, state agencies, CDC, NASN, AAP	School health policy oversight and monitoring	Documented evidence-based guidance on best practices and medication safety, system trainings

CDC, Centers for Disease Control and Prevention.

especially those for whom medication is required during the school day. School nurses coordinate care among home, school, and community prescribers, serving as the bridge between education and health care to interpret legal, professional, and ethical tenets across disciplines. School nurses are educated in pharmacology and comprehensive assessment, providing them with specific expertise in medication administration, effectiveness, and adverse effect monitoring. School nurses are critical in developing individual health plans (IHPs) that include in-school medication and often train other school staff in IHP implementation.

Nationwide, students have disparate access to school nurses. Urban schools are more likely than rural schools to employ a full-time school nurse. The United States has regional variances in school nurse staffing, with 88.2% of schools in the Northeast employing a full-time school nurse, followed by 78.9% in the South, 59.9% in the Midwest, and 33.3% in the West.[12] For more information about your state's mandates regarding school nurses, contact the AAP State Advocacy team at E-mail: stgov@aap.org. Although the AAP strongly endorses the employment of a full-time school nurse in each school and acknowledges "the use of a ratio for workload determination in school nursing is inadequate to fill the increasingly complex health needs of students,"[13] the realities of small schools and nurse shortages are part of the current school health landscape.

Whether the school nurse directly provides care or delegates nursing tasks to other school health team members, collaboration and strong communication among the medical home, community prescribers, and the school health team is imperative. When the responsibility of direct administration of medication to students is shared with other staff members, the school nurse, as allowed by the Nurse Practice Act (NPA) in each state, is responsible for delegation of care for specific students, training and supervising staff, reviewing medication logs and medication error documentation, and providing coordination between prescribers and school staff. Furthermore, the school nurse performs such delegation after assessment of the unique needs of the individual child and suitability of the staff member for performance of the medication tasks. For more details on the role of the school nurse, the reader may consult the AAP policy statement "The Role of the School Nurse in Providing School Health Services"[14] and the National Association of School Nurses (NASN) policy statement "Student Access to School Nursing Service."[15]

LPNs and LVNs can provide safe medication administration at school and report their observations of medication effectiveness, side effects, and adverse effects to their practice supervisor. They also contribute data related to medication administration included in the IHP. LPN and LVN practice requires supervision by a registered nurse, physician, APRN, or other licensed provider, as designated by the state NPA or licensing boards. Supervision requirements under each state's NPA specify when direct or remote supervision is required.[13]

Unlicensed Assistive Personnel

When school nurse staffing levels are insufficient, state law may allow schools or school personnel to assign responsibility for medication administration to unlicensed assistive personnel (UAP). School districts must address medical liability issues in their policies covering assignment of health services to UAP by school administrators or delegation by the school nurse, taking into consideration federal drug and education statutes and state law and regulation surrounding medication administration. School nurse delegation to UAP may provide students timely access to medications. UAP may include paraprofessionals, health aides, medical assistants, nurse assistants, teachers, administrators, coaches, and athletic trainers. School staff who supervise students during on-campus and

off-campus activities can be trained as UAP, removing barriers to participation for students requiring medication and, thus, advancing equity in the school. Identified UAP require ongoing assessment, training, and supervision of medication administration tasks by the school nurse or school physician.[16,17] UAP may be trained to administer or supervise a student's use of emergency and/or routine medications. Skills training should be documented at initial and follow-up reinforcement sessions to ensure student safety and health care professional accountability. When UAP are not regularly trained, assessed, and supervised, medication errors may occur.

Advance access to students' emergency action plans (EAPs), as well as the requisite training for administration of emergency use medication, prepares these staff members to recognize and respond to situations that require medical intervention. UAP serve an important role in the collaborative at-school medication process. They may be the first to see improvement in student health or notice side effects or adverse effects of medication.

The AAP recommends that pediatricians, chapters, and all who advocate for safe medication administration in schools seek provisions in proposed state legislation that includes clear blanket liability coverage for school districts, school staff, school physicians, and/community prescribers who follow standard safe medication practices. The AAP suggests that the onus be placed on the provisions of state law and not on schools to ensure liability protections. Without explicit protection in statute, schools may choose not to institute UAP or medication administration policies that allow stock medications to be administered.

COMMUNICATION BETWEEN MEMBERS OF THE SCHOOL HEALTH CARE TEAM

The school health care team should prioritize communication among all appropriate working partners and community collaborators when initiating school medication orders, monitoring adherence, and adjusting medications. Community prescribers, parents and guardians, and school health staff benefit from routine review of privacy and confidentiality regulations and processes.

School health teams recognize the critical need for student confidentiality. Safe implementation of treatment protocols by appropriate school health staff requires strong communication between all members of the school health team. In the school setting, student privacy is protected by the Family Education Rights and Privacy Act (FERPA). FERPA applies to educational agencies that receive US Department of Education funding for any program and governs the privacy of education and school health records.[18] Conversely, student health information housed with community prescribers or school-based health center clinicians is protected by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). As stated in Roberts et al (2017), "HIPAA permits covered entities to disclose protected health information for treatment purposes, without the authorization of the student or student's parent. For example, a student's primary care physician may discuss the student's medication and other health care needs with a school nurse who will administer the student's medication and provide care to the student while the student is at school."[18–20] School health procedures standardized throughout a district will reduce differences in interpretation of HIPAA and FERPA. School health teams, nonclinical school staff, and community prescribers will benefit from robust interdisciplinary discussion and the creation of district guidance documents that address clinical situations that may or may not require release of information forms. Teams are encouraged to refer to applicable state regulation and resources such as the US Department of Health and Human Services and US Department of Education Joint Guidance on Application of FERPA and HIPAA[20] and to be particularly vigilant in protecting information about student health information. Information about medication is protected health information in all circumstances, including but not limited to mental health and reproductive health. Additional guidance on special considerations for adolescent confidentiality and privacy in electronic health records may be found in the AAP policy statement "Standards for Health Information Technology to Ensure Adolescent Privacy."[21]

Members of the school health team and community medical teams use a number of modalities to communicate about medications and student health. Whether discussions occur via telephone, fax, e-mail, secure text, or school district portal, understanding of applicable FERPA and HIPAA regulations by both parties will protect privacy and confidentiality without creating barriers to care. Each staff member may confer with their department leads for proper consent forms and processes, but the common element for all communications should be the consent of the patient and/or their caregivers.

CREATING AND IMPLEMENTING SAFE POLICIES AND PROCEDURES

Pediatricians and other community prescribers must be aware that any child may require access to school medication at some point in their educational career. Safe medication management requires sound policy for medications necessary during the typical school day, in emergency situations, as well as during school-sponsored on- or off-campus activities.[16,17] Prompt and safe school medication administration processes are protected by federal and state regulations. Federal laws Section 504 of the Rehabilitation Act of 1973,[22] the Americans with Disabilities Act Amendments of 2008,[23] and the Individuals with Disabilities Education Improvement Act of 2004[24] prohibit discrimination against "qualified persons with disabilities" or health conditions in programs receiving federal financial assistance,

including public schools and many private schools. Community prescribers can advocate for school policies that allow students with acute and chronic health conditions to fully engage in educational activities, self-care, play, and social interaction.[25] Community prescribers and school staff must respect minors' rights laws and foster students' growing self-efficacy and skill-building.

School policy makers must be acquainted with federal and state education, health care, and privacy laws critical for safe school medication administration. These may include state scope of practice, each state's NPA, and regulations from the departments of health and education governing those who can administer medication and those who can delegate medication administration. They should also remain up-to-date on guidance related to documentation and reporting requirements for medication inventory, administration, training, environmentally sound medication disposal, and medication errors.[16,17] School physicians and school nurses should review school board policies for completeness and consistency with state policies and professional standards.[16,26,27] Protocols and procedures[16] can then be created for staff to follow in daily practice to administer necessary medications to students. Students have a right to privacy during the delivery of in-school health care, including access to the school health room during medication administration.

The community prescriber can better support school staff in the administration of medication in school by aligning practice workflow with these policies and protocols. Medication order systems within the medical home may include establishment of communication pathways to facilitate order changes, refill requests, dedicated dosing (eg, prescriptions to include a second metered dose inhaler for school), and fielding medication-related concerns from parents and guardians and school nurses. Community prescribers can seek awareness of how they may prescribe stock medications (eg, albuterol, epinephrine, glucagon, naloxone) for use by the general school population. They may also learn about the procedures in local schools regarding assignment of medication administration to LPNs and LVNs or delegation of medication administration to UAP and may collaborate with families, the school health team, and school administration to ensure medication safety for their patients. An interdisciplinary quality improvement approach to medication administration allows for identification of system barriers to effective medication adherence, proactive solutions such as a dedicated school health champion in the pediatric practice, and expedited contact protocols between the school and community practices.

Guardian consent and student assent are critical to a patient safety-informed approach to school medication administration. Informed parental or guardian consent to treatment plans includes clear communication about the health condition, proposed treatment plan, clarification of consenter's understanding of the treatment plan and their ability to make medical decisions for the child, which school personnel are trained to administer medication, and voluntary consent.[28] Safe at-school medication administration requires parent or guardian disclosure of home medication schedules, changes in observed reactions to medication, and timely reports on treatment plan adjustments made by the community prescriber. Although legal considerations of school districts demand written guardian consent for medication administration, ethical considerations include the assent of the youth themselves, where possible. This assent requires education by the community prescribers and the school nurse to achieve a student's developmentally appropriate awareness of the condition, understanding of the proposed medication, and solicitation of the student's willingness to participate in the treatment plan. When students can participate with their medication regimen as developmentally appropriate, whether by self-administration in school or being part of the medication management discussions with health care staff, fewer school medication administration errors, such as missed doses or nonadherence, are reported.[29] Community prescribers and school staff should respect applicable minors' rights laws and should foster students' growing self-efficacy and skill-building related to medication management.

Medication Order Forms

School medication order documentation is not standardized nationally or locally, with states requiring different combinations of medication order forms and school health forms. Standardization decreases the probability of medication error. School systems should collaborate with school nurses and school physicians to standardize their forms for medication administration consent, student self-administration, and condition-specific orders (eg, allergy action plans, asthma action plans, seizure action plans). Community prescribers can contribute to safe medication administration by integrating the districts' school medication order form into their own electronic health records.

Standing Orders and Stock Medications

School physicians may provide nonpatient-specific standing orders for emergency rescue medications and over-the-counter (OTC) medications as state regulations allow. Policies on these standing orders must be created and maintained in accordance with applicable state law and current school policies. Standing orders should be updated and renewed annually. When standing orders for emergency medications are in place, the school should procure and stock those medications. Once stock medication is used or approaches its expiration date, it should be replaced by the school as soon as feasible. For further resources on emergency medication procedures, the reader

may consult the AAP policy statement "Individual Medical Emergencies Occurring at School"[28] and the NASN Emergency Medications Toolkit.[30]

Students may experience disparities in access to emergency medications not only at home but also at school.[31] Although it is widely understood that students must be healthy to learn, school funding disparities can present unique challenges for the equitable delivery of in-school health care. Furthermore, access barriers may be related to the wide variance in drug costs.32 Pharmaceutical companies have supplied 46.7% of schools with epinephrine at no cost for more than a decade, but albuterol (11.7%) and glucagon (4.26%) garner less manufacturer support.[32] Local schools are left to support the majority of purchases of epinephrine, albuterol, glucagon, and naloxone.[32] The cost to school budgets for the purchase of essential rescue medications can be significant and vary widely. For example, in 2022, costs of epinephrine 2-dose units ranged from US $110 to $494,[33] albuterol ranged from US $23 to $72 each,[34] glucagon ranged from US $226 to $338[35] each, and naloxone ranged from US $20 to $4000.[36] In some cases, schools may be able to access grant and foundation funding to support equitable access to these emergency rescue medications, or state departments of health may underwrite their purchase. School boards and administrators should prioritize equitable access and leverage all available options for stock emergency medications.

THE "RIGHTS" OF MEDICATION ADMINISTRATION KEEP STUDENTS SAFE

Clear medication administration protocols help to prevent medication administration errors in any setting. The "rights of medication administration" (Table 2) establish a framework for safe medication administration to students that are specific to potential risks in the school setting.[16,37]

Some medications have good evidence for safe off-label use in youth, but school health policies typically require clarification of any deviation from standard labeling. School nurses with questions about the administration or dosage of any therapeutic agent, especially if there is a concern about off-label use, should collaborate with both the community prescriber and the school physician to determine best practices for safe medication administration.

It is imperative that access to all medications be limited to authorized personnel and that documentation of administration be reviewed regularly. In accordance with state law, schools may elect to provide rapid access to emergency response medications. The storage of schedule II controlled substances, such as psychostimulants

TABLE 2 The "Rights" of Medication Administration Protect Student Safety (Adapted from NASN "School Nursing Evidence-based Clinical Practice Guideline: Medication Administration in Schools"[16])

"Right"	Steps to Patient and Student Safety
Right student	• Dispense medication real-time directly from student's prescription bottle; • Have students identify themselves; • Use photo verification of student identity
Right medication	• Verify twice that the pharmacy prescription label and prescriber medication order match the medication provided; • Cross-reference prescribed medication with student allergies; • Check the medication expiration date; • Ensure that the medication and dosage is appropriate for student's health condition; • Store according to manufacturer's guidance; • Review current contraindications and drug interactions
Right dose	• Before first administration and periodically throughout course of medication therapy, weigh student in kilograms and document clearly; • Verify weight-based correct dose and contact pharmacist, parent/guardian, or community prescriber with questions; • Record medication dosage into student record by using "leading 0s before a decimal amount and avoiding trailing zeros after a decimal"[46]; • Accept medication order changes as prescribed by the community health care prescriber
Right route	• Confirm route of administration on prescription: oral, sublingual, gastrostomy or jejunostomy tube, ear, eye, nasal, intramuscular, intravenous, subcutaneous, rectal, inhaled, topical
Right time	• Administer medication as ordered; • May be administered 30 min before or after the scheduled time unless otherwise specified by the medical order; • Locate students who do not show to the health room for medication; • Identify missed doses as medication errors
Right documentation	• Current at-home and at school medication list; • Indications, effectiveness, side effects, and adverse reactions; • Consent by guardian for administration by school staff or self-administration; • Assent or refusal by student for administration by school staff or self-administration; • Medication administration recorded at time of delivery; • Competency of student for medication self-administration; • Medication errors by licensed personnel and UAP, lost or wasted medication; • Inventory of medication delivered to school and returned to home signed by school nurse or other school health team member and parent or guardian

TABLE 3 Glossary of Student-Centered Plans[17,35,37]	
Types of School Health Plans	**Purpose**
Individualized education program (IEP)	An education plan developed via collaboration between parent, student, and school personnel that may include health components including medications
Individualized health plan (IHP)	A plan of care developed by the school nurse to document the nursing process, including medication administration.
Emergency action plan (EAP)	Developed by community provider (eg, asthma action plan)
Emergency care plan (ECP)	Developed by the school nurse to assist the UAP in recognizing symptoms of potential emergent conditions and outlines a UAP plan of action. Generalizable ECP templates for undiagnosed emergent conditions (eg, new seizure activity)
504 plan	A medical accommodation plan developed during an eligibility determination meeting for a documented disability in collaboration with parent, student, and school personnel; may include specific details for the individual student's access to medication during school and at school-sponsored functions

for attention-deficit/hyperactivity disorder and medications used for pain control, should follow federal, state, and local law or regulations and be addressed specifically in school medication policies.

INDIVIDUALIZED HEALTH PLANS AND EMERGENCY CARE PLANS

A number of plans exist to support students with acute and chronic medication needs, including IHPs.[38] The IHP can be used to communicate the level of staffing needed to support student medication administration during the school day, on school-sponsored trips, and during extracurricular activities. Both IHPs and emergency care plans (ECPs) should be updated at least annually and when a student's health care needs change. Table 3 describes a variety of student-centered plans that support student health.

SAFE MEDICATION SELF-ADMINISTRATION

As students grow and mature, so may their understanding of the need to take medication during the school day. Federal law encourages self-administration of emergency medications for asthma and anaphylaxis.[37,39] Decision-making surrounding student medication self-administration may be regulated by state law and must be based on comprehensive school policy. The school health team can collaborate with all stakeholders to ensure these decisions prioritize student and community safety measures. Self-carry of controlled substances such as stimulants should not be allowed. Students may self-administer controlled substances in the health office to provide monitoring and accurate documentation of doses dispensed while promoting student autonomy.

School nurses play an important role in promoting a student's independence toward medication self-administration. A self-carry order allows an independent student to keep their medication with them at school and school functions and provides the student immediate access to medication when needed without having to visit the health office; such students should know how to access help if needed and have ECPs and EAPs. School health teams looking to determine the level of support a student requires for medication administration at school can refer to a model guide created by the New York State Center for School Health to assist school nurses (Table 4). By categorizing students on the

TABLE 4 Decision-Making Considerations for Student Medication Self-Administration (Adapted from NYSCSH "Guide to Determining Levels of Assistance in Medication Delivery"[47])		
Level of Support Necessary	**Student Skill Level**	**Staff Role**
Nurse-dependent: • School nurse, LPN or LVN (under the direction of), or advance practice registered nurse, physician, or physician assistant must administer medications	• Unable to demonstrate understanding about their medication; inability to administer as described below	A licensed medical professional, as per state regulations, must administer all medications to the student
Supervised: • A medical professional is not needed to monitor student taking their own medication	• Fully knowledgeable about their need for medication in school; • Not fully independent; • Requires supervision to ensure compliance with medication orders	As allowed by state law, UAP trained by a licensed school medical professional (eg, school nurse) may assist the student at their request to administer prescribed medications at school
Independent: • School staff only required in emergency situations	• Self-administers own medications without any assistance; • School should grant permission to student for self-carry of rescue medications	No assistance from school staff is needed for students who can independently carry and administer their medication

basis of their skill, autonomy, and understanding, school nurses can determine which students are fully dependent on licensed medical staff to administer their medications versus those who are fully independent or need supervision from a trained adult.[40]

SELECTED MEDICAL CONDITIONS AND MEDICATIONS

Students present with a wide variety of medical conditions, some of which require medication administration during the school day. Of critical concern are those conditions with the potential for emergent health crises. Community prescribers can collaborate with schools to facilitate appropriate training for the various school staff who may respond to these student emergencies. Table 5 provides policy development and training resources for the most common emergent conditions in schools.

CURRENT AND FUTURE DIRECTIONS IN SCHOOL HEALTH

Cannabis, Its Constituents, and Derivatives at School

As the availability of therapeutic substances expands, policies on school administration of medications are most successful when patient safety remains the chief priority. Although most school health policies employ the terms "student" health, the professionalism of school nurses and their collaborating prescribers demands the same "patient" safety lens when administering medications in school as they would in a hospital or medical office setting. Therefore, school medication policies must be reviewed and updated regularly as

TABLE 5 National Guidelines for Management of Medical Conditions in Schools

Condition	Resources
Asthma, allergy, anaphylaxis	• American Academy of Allergy, Asthma, and Immunology[40]: o Student and staff training, o Environmental action plan; • American Lung Association - Back to School Asthma Toolkit[48]: o Student and staff education; • Asthma and Allergy Network - Asthma at School[49]; • NASN Asthma Resources[50]; • NASN Allergies and Anaphylaxis Resources[51]: o Epinephrine training resource
Diabetes	• American Diabetes Association[52]: o Staff training, o IEP and section 504 resources; • Juvenile Diabetes Research Foundation International – School[53]: o Resources for parents and guardians and staff; • NASN School Nursing Evidence-Based Clinical Practice Guideline: Students with Type 1 Diabetes[54] • NASN School Nursing Evidence-Based Clinical Practice Guideline: Students with Type 1 Diabetes Toolkit[55] • National Institute of Diabetes and Digestive and Kidney Diseases - Helping the Student with Diabetes Succeed[56]
Epilepsy and seizures	• Epilepsy Foundation - School Tools[57]: o School nurse and staff training, o Seizure action plans, o Parent questionnaire, o Seizure documentation form; • NASN School Nursing Evidence-based Clinical Practice Guideline: Students with Seizures and Epilepsy[58]
Substance use or overdose	• NASN Naloxone in Schools Toolkit[59]: o Sample policies or protocols, o Staff and community education, o Advocacy
Emergency medication – general	• NASN Emergency Medication Toolkit[30]: • Policy or protocol development, • School nurse delegation, • Algorithms for asthma, allergy/anaphylaxis, diabetes, and seizures; • NASN School Nursing Evidence-based Clinical Practice Guideline: Medication Administration in Schools[16]; • NASN School Nursing Evidence-based Clinical Practice Guideline: Medication Administration in Schools Implementation Toolkit[17]: • Sample policies, • Training and delegation, • Forms and templates, • Checklists and protocols, • Just culture resources, • Additional resources

federal, state, and municipal policies change to reflect new medication licensing or usage.

Notably, the evolving role of cannabis, its constituents, and derivatives has posed ethical challenges in the field of school health. As noted in its 2015 policy statement, the AAP "opposes 'medical marijuana' outside the regulatory process of the US Food and Drug Administration (FDA)." Notwithstanding this opposition to use, the AAP currently "recognizes that marijuana may currently be an option for cannabinoid administration for children with life-limiting or severely debilitating conditions and for whom current therapies are inadequate."[41] The FDA-approved cannabinoids—cannabidiol (Epidiolex), dronabinol (Marinol and Syndros), and nabilone (Cesamet)—may be treated in the school health environment as all other prescribed medications with appropriate prescriber orders, storage, and administration.

The AAP and others have summarized the known health effects of cannabis.[41,42] There is considerable variation in state regulations on cannabis not regulated by the FDA. Community prescribers and school nurses may follow their respective professional and licensing guidelines for ethical and liability protection.[43] If states were to approve school administration of non–FDA-regulated cannabis products, explicit district- and building-level policies may be enacted to ensure safety for the individual student and the entire school community. These policies include prescriber orders, family approval, labeling and safe packaging, storage guidelines, and clear professional decision-making on self-administration and self-carry. School health teams are encouraged to develop and implement medication administration policies that approach THC and CBD products in any form using the same rigorous safety lens applied to all school-based medications, requiring storage, sign-out, and tracking of medications by the school nurse.

Future School Health Funding and Advocacy Considerations

In August 2022, the Centers for Medicare and Medicaid Services released an informational bulletin related to the role of Medicaid in supporting school-based services. The focus of this federal initiative is to encourage states to support school health in improving students' physical and mental health. More than 15% of students live in poverty, and 27% are eligible for free or reduced lunch by their household income level.[44] Expanding Medicaid payment for school-based health services provided to all eligible students constitutes an opportunity to increase access to diagnostic and treatment options regardless of geography, health conditions, or socioeconomic circumstance.[45]

RECOMMENDATIONS FOR PEDIATRICIANS AND OTHER CHILD HEALTH PROFESSIONALS

The AAP recommends that pediatricians and other prescribing pediatric health care professionals take the following actions when writing prescriptions for students to take medication at school and school-related programs on and off the school grounds:

1. Consider risks and benefits of school medication administration before sending an order to school: ideal and feasible dosing intervals, the family's ability to administer required medications in the home before or after school, and potential adverse medication effects.
2. To ensure patient safety, commit to communicating timely updates to your patients' school health office with new orders when dosage, frequency, or other medication administration details change or when medications are added or discontinued.
3. Understand local school health staffing when writing orders and collaborating on medication management, particularly for students with chronic medical conditions. Consider the ability of UAP to recognize an emergent condition and to follow the EAP and the ECP with fidelity.
4. Understand state and local laws governing medication administration in schools.
5. Use technologies such as HIPAA- and FERPA-compliant fax order transmission, secure messaging, and telehealth to improve bidirectional communication with school health personnel, students, and guardians.
6. Work to integrate school medication administration order templates into the electronic health record to meet all school district requirements for specific dosage, administration route, frequency, effective dates, side effects, date of order, and discontinuation date.
7. Use guides to help determine the level of assistance in medication delivery when writing self-carry and self-administer medication orders. Elicit input and feedback from the school nurse on successful self-administration and clinical outcomes.
8. Standardize medical home workflows to review all school medication orders at annual preventive care visits and complete applicable school forms for any new or updated medication orders.
9. Consider strategies to minimize the financial burden of school form completion fees on families when possible by integrating form completion into compensated office visits, advocating for care coordination reimbursement by payers, or considering fee waiver protocols as needed to address equity concerns.
10. Remain up-to-date on school health policies and procedures for relevant therapeutic agents that are recently FDA approved. Actively educate policy makers on critical safety concerns surrounding non-FDA-regulated substances in schools.

11. When there are questions regarding HIPAA or FERPA privacy considerations, collaborate with school nurses and school administrators on clarifying communication requirements and timely transmission of any requested release of information documents.

RECOMMENDATIONS FOR PUBLIC ADVOCACY

The AAP recommends that pediatricians and other child health professionals, AAP chapters, and other state professional organizations take the following actions to improve safety and equity in school medication processes during the school day and at school-related activities:

1. Participate in school health advisory councils to improve coordination of health programs between home, medical home, school health, and school-based health centers.
2. Collaborate with state departments of health and education to advocate for appropriate and evidence-based school staffing workloads (eg, a school nurse in every school or registered nurse staffing based on student acuity), school nurse oversight of medication administration, and role-specific training of all school health staff and UAP to promote student safety.
3. Advocate that all school districts have a school physician to oversee health services. The school physician's roles and responsibilities should be well defined, fairly compensated, and outlined within a written contract.
4. Advocate for state laws establishing policies, procedures, and up-to-date technologies for documenting school medication administration, medication data collection, and analysis.
5. Prioritize advocacy supporting regulatory and legislative actions that emphasize patient safety aspects of school health practice for both OTC and prescription medications and educate policy makers on the "rights of medication administration" designed to keep all students safe. These recommendations should include parental consent for OTC medication administration as opposed to required medical home orders.
6. Within the confines of federal law, state medical license, and institutional constraints, provide evidence-based guidance to schools to advise that use of THC and CBD products is limited to those that are FDA regulated.
7. Collaborate with school nurse leaders on advocacy for standardization of school medication administration and other school health forms statewide to reduce risk of medication errors.
8. Encourage increased federal and state funding to support safe and equitable school medication administration services and supplies, including stock emergency medications, on a sustainable basis.
9. Propose expanded Medicaid funding for school health services for all students.
10. Advocate for electronic health record interoperability solutions between the medical home and school.
11. Advocate for unrestricted payer coverage of appropriate medication dosages, such as for dedicated rescue inhalers for school use, without requiring additional prior authorization.
12. Advocate for state-level blanket liability coverage governing school districts and other stakeholders responsible for safe medication practices.

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ABBREVIATIONS

AAP: American Academy of Pediatrics
EAP: emergency action plan
ECP: emergency care plan
IHP: individualized health plan
LPN and LVN: licensed practical nurse and licensed vocational nurse
NASN: National Association of School Nurses
NPA: Nurse Practice Acts
OTC: over the counter
SBHC: school-based health center
UAP: unlicensed assistive personnel

REFERENCES

1. National Survey of Children's Health. NSCH 2019-20: number of current or lifelong health conditions, nationwide, age in 3 groups. Available at: childhealthdata.org. Accessed January 9, 2022
2. Academy of Pediatrics. Consensus statement on the core tenets of chronic condition management in schools. Available at: https://www.aap.org/en/patient-care/school-health/management-of-chronic-conditions-in-schools/. Accessed October 28, 2022
3. American Academy of Pediatrics, National Resource Center for Patient/Family-Centered Medical Home. What is medical home? Available at: https://www.aap.org/en/practice-management/medical-home/medical-home-overview/what-is-medical-home/. Accessed August 15, 2022
4. Garg A, Sandel M, Dworkin PH, Kahn RS, Zuckerman B. From medical home to health neighborhood: transforming the medical home into a community-based health neighborhood. *J Pediatr*. 2012;160(4):535–536.e1
5. Attendance Works. Key research: why attendance matters for achievement and how interventions can help key research. Available at: https://awareness.attendanceworks.org/wp-content/uploads/Research2016.pdf. Accessed August 26, 2022
6. Allison MA, Attisha E; Council on School Health. The link between school attendance and good health. *Pediatrics*. 2019;143(2):e20183648
7. ASCD, Centers for Disease Control and Prevention. Whole school, whole community, whole child: a collaborative approach to learning and health. Available at: www.ascd.org/ASCD/pdf/siteASCD/publications/wholechild/wscc-a-collaborative-approach.pdf. Accessed July 22, 2022
8. Centers for Disease Control and Prevention. Whole school, whole community, whole child (WSCC). Available at: www.cdc.gov/healthyschools/wscc/index.htm. Accessed July 18, 2022
9. Academy of Pediatrics. American Academy of Pediatrics strategic plan. Available at: https://www.aap.org/en/about-the-aap/strategic-plan/#:~:text=2023%20Goals%20and%20Objectives,policy%2C%20advocacy%2C%20and%20education. Accessed April 24, 2023
10. Centers for Disease Control and Prevention. Preferred terms. Available at: https://www.cdc.gov/healthcommunication/Preferred_Terms.html. Accessed September 12, 2023
11. Devore CD, Wheeler LS; Council on School Health; American Academy of Pediatrics. Role of the school physician. *Pediatrics*. 2013;131(1):178–182
12. National Association of School Nurses. Public school nurses in the US. Available at: https://higherlogicdownload.s3.amazonaws.com/NASN/8575d1b7-94ad-45ab-808e-d45019cc5c08/UploadedImages/PDFs/Advocacy/2023-08-03-Public_School_Nurses-Final.pdf. Accessed January 15, 2024
13. Council on School Health. Role of the school nurse in providing school health services. *Pediatrics*. 2016;137(6):e20160852
14. American Association of Occupational Health Nurses. Licensed practical/vocational nurses: a place on the team. *Workplace Health Saf*. 2017;65(4):154–157
15. National Association of School Nurses. The school health services team: supporting student outcomes (position statement). Available at: https://www.nasn.org/nasn-resources/professional-practice-documents/position-statements/ps-team. Accessed July 21, 2022
16. National Association of School Nurses. School nursing evidence-based clinical practice guideline: medication administration in schools. Available at: https://learn.nasn.org/courses/33787. Accessed June 25, 2022.
17. National Association of School Nurses. School nursing evidence-based clinical practice guideline: medication administration in schools implementation toolkit. Available at: https://learn.nasn.org/courses/36927. Accessed July 28, 2022
18. Roberts JR, Zittoun GJ. Family Educational Rights and Privacy Act ("FERPA")/Health Insurance Portability and Accountability Act ("HIPAA"). In: Rescha CA, Taliaferro VL, eds. *Legal Resource for School Health Services*. School Health Alert; 2017:125–139
19. US Congress. Health Insurance Portability and Accountability Act of 1996 (Pub L No. 104-191). Available at: https://www.govinfo.gov/content/pkg/PLAW-104publ191/pdf/PLAW-104publ191.pdf. Accessed July 12, 2022
20. US Department of Health and Human Services and the US Department of Education. Joint guidance on the application of the Family Educational Rights and Privacy Act (FERPA) and the Health Insurance Portability and Accountability Act of 1996 (HIPAA) to student health records. Available at: https://www.hhs.gov/sites/default/files/2019-hipaa-ferpa-joint-guidance.pdf. Accessed March 10, 2022
21. Blythe MJ, Del Beccaro MA; Committee on Adolescence; Council on Clinical and Information Technology. Standards for health information technology to ensure adolescent privacy. *Pediatrics*. 2012;130(5):987–990
22. US Congress. Rehabilitation Act of 1973 (29 USC §701). Available at: https://uscode.house.gov/view.xhtml?req=(title:29%20section:701%20edition:prelim). Accessed September 12, 2023
23. US Congress. Americans with Disabilities Amendment Act of 2008, 42 USC 12102. Available at: https://uscode.house.gov/view.xhtml?req=(title:42%20section:12102%20edition:prelim. Accessed July 21, 2022
24. US Congress. Individuals with Disability Education Improvement Act of 2004 (20 USC 1400 et seq v). Available at: https://uscode.house.gov/view.xhtml?path=/prelim@title20/chapter33&edition=prelim. Accessed June 27, 2022
25. Lowe AA, Gerald JK, Clemens C, Gaither C, Gerald LB. Medication administration practices in United States' schools: a systematic review and meta-synthesis. *J Sch Nurs*. 2022;38(1):21–34
26. National Association of School Nurses. *School Nursing: Scope and Standards of Practice*, 4th ed. National Association of School Nurses; 2022
27. Gray L. Consent for healthcare services. In: Rescha CA, Taliaferro VL, eds. *Legal Resource for School Health Services*. School Health Alert; 2017:289–303
28. Gereige RS, Gross T, Jastaniah E; Council on School Health and Committee on Pediatric Emergency Medicine. Individual medical emergencies occurring at school. *Pediatrics*. 2022;150(1):e2022057987
29. World Health Organization. Medication safety in transitions of care. Available at: https://www.who.int/publications/i/item/WHO-UHC-SDS-2019.9. Accessed September 12, 2023

30. National Association of School Nurses. Emergency medication toolkit. Available at: https://learn.nasn.org/courses/25694. Accessed March 15, 2022

31. Volerman A, Lowe AA, Pappalardo AA, et al. Ensuring access to albuterol in schools from policy to implementation. An official ATS/AANMA/ALA/NASN policy statement. *Am J Respir Crit Care Med.* 2021;204(5):508–522

32. McCaughey RA, McCarthy AM, Maughan E, Hein M, Perkhounkova Y, Kelly MW. Emergency medication access and administration in schools: a focus on epinephrine, albuterol inhalers, and glucagon. *J Sch Nurs.* 2022;38(4):326–335

33. GoodRx. Epinephrine (Epipen) generic. Available at: https://www.goodrx.com/epinephrine-epipen. Accessed June 25, 2022

34. GoodRx. Albuterol generic. Available at: https://www.goodrx.com/albuterol. Accessed June 25, 2022

35. GoodRx. Glucagon generic. Available at: https://www.goodrx.com/glucagon. Accessed June 25, 2022

36. Wood S. As opioid overdose numbers rise, so does the cost of naloxone. Available at: https://blog.petrieflom.law.harvard.edu/2018/06/04/as-opioid-overdose-numbers-rise-so-does-the-cost-of-naloxone/#:~:text=It%20wasn%27t%20until%20the,brand%20name%20Evzio%20is%20%244%2C000.00. Accessed September 12, 2023

37. Bonsall L. 8 rights of medication administration. Available at: https://www.nursingcenter.com/ncblog/may-2011/8-rights-of-medication-administration. Accessed August 9, 2022

38. Sampson CH, Will IS. IHP basics and Using IHPs with other educational, health and home care agency plans. In: Will IS, Arnold MW, Zaiger DS, eds. *Individualized Healthcare Plans for the School Nurse: A Comprehensive Resource for School Nursing Management of Health Conditions*, 2nd ed. Sunrise River Press; 2017:1–10

39. US Congress. Asthmatic School Children's Treatment and Health Management Act of 2004 (Pub L No. 108-377). Available at: https://www.govinfo.gov/app/details/PLAW-108publ377. Accessed September 12, 2023

40. American Academy of Allergy Asthma and Immunology. School tools. Available at: https://www.aaaai.org/Tools-for-the-Public/School-Tools. Accessed March 15, 2022

41. Committee on Substance Abuse, Committee on Adolescence; Committee on Substance Abuse Committee on Adolescence. The impact of marijuana policies on youth: clinical, research, and legal update. *Pediatrics.* 2015;135(3):584–587 (Reaffirmed January 2024)

42. Dharmapuri S, Miller K, Klein JD. Marijuana and the pediatric population. *Pediatrics.* 2020;146(2):e20192629

43. National Council of State Boards of Nursing. The NCSBN national nursing guidelines for medical marijuana. *J Nurs Regul.* 2018;9(2):S1–S60

44. Centers for Medicare and Medicaid Services. Information on school-based services in Medicaid: funding, documentation and expanding services. Available at: https://www.medicaid.gov/federal-policy-guidance/downloads/sbscib081820222.pdf. Accessed August 18, 2022

45. Healthy Student. Promising futures. Map: school Medicaid programs — state data on Medicaid-eligible school health services and providers. Available at: https://healthystudentspromisingfutures.org/map-school-medicaid-programs/. Accessed September 12, 2023

46. National Conference of State Boards of Nursing. Working with others delegation paper. Available at: https://www.ncsbn.org/3945.htm. Accessed August 31, 2022

47. The Regent of the University of the State of New York, The State Education Department, Office of Student Support Services. New York State education department guidelines for medication management in schools. Available at: https://www.p12.nysed.gov/sss/documents/MedicationManagement-DEC2017.pdf. Accessed September 12, 2023

48. American Lung Association. Back to school with asthma toolkit for schools. Available at: https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/living-with-asthma/creating-asthma-friendly-environments/back-to-school-with-asthma-toolkit. Accessed March 15, 2022

49. Allergy and Asthma Network. Allergies and asthma at school: resources for parents and schools. Available at: https://allergyasthmanetwork.org/allergies-and-asthma-at-school/. Accessed March 15, 2022

50. National Association of School Nurses. Asthma. Available at: https://www.nasn.org/nasn-resources/resources-by-topic/asthma. Accessed March 15, 2022

51. National Association of School Nurses. Allergies and anaphylaxis. Available at: https://www.nasn.org/nasn-resources/resources-by-topic/allergies-anaphylaxis. Accessed March 15, 2022

52. American Diabetes Association. Safe at school state laws: help for schools. Available at: https://www.diabetes.org/tools-support/know-your-rights/safe-at-school-state-laws/help-for-schools. Accessed March 15, 2022

53. JDRF. Life with T1D: school. Available at: https://www.jdrf.org/t1d-resources/living-with-t1d/school/. Accessed March 15, 2022

54. National Association of School Nurses. School nursing evidence-based clinical practice guidelines: students with type 1 diabetes. Available at: https://learn.nasn.org/courses/37660. Accessed March 15, 2022

55. National Association of School Nurses. School nursing evidence-based clinical practice guidelines: students with type 1 diabetes toolkit. Available at: https://learn.nasn.org/courses/44058. Accessed March 15, 2022

56. National Institute of Diabetes and Digestive and Kidney Disorders. Helping the student with diabetes succeed. Available at: https://www.niddk.nih.gov/health-information/professionals/clinical-tools-patient-management/diabetes/helping-student-diabetes-succeed-guide-school-personnel?dkrd=hispt1099. Accessed March 15, 2022

57. Epilepsy Foundation. Schools and seizure preparedness. Available at: https://www.epilepsy.com/preparedness-safety/schools. Accessed March 15, 2022

58. National Association of School Nurses. School nursing evidence-based clinical practice guideline: students with seizures and epilepsy. Available at: https://learn.nasn.org/courses/8992. Accessed March 15, 2022

59. National Association of School Nurses. Naloxone in schools toolkit. Available at: https://learn.nasn.org/courses/3353. Accessed March 15, 2022