



The purpose of this white paper is to explore the benefits of the Children's School Services (CSS) of Children's National Hospital **program** and highlight how this comprehensive school-based model of care within schools helps improve health outcomes for students, families and the communities they serve. Health issues are common among school-aged children and can negatively impact their academic performance and overall wellbeing. These issues can lead to absenteeism, poor academic performance and reduced quality of life for students, parents and caretakers. The CSS school-based program aims to address these issues through its coordinated and comprehensive model of care. This paper explores the benefits of a coordinated comprehensive in-school model and why it is the most effective way to provide pediatric school-based services.



The District of Columbia's school-age population faces unique health challenges that can make learning difficult and affect academic performance. Children's School Services (CSS), a partnership between DC Health and Children's National Hospital, has identified common health issues among students in Washington, D.C. public and public charter schools. Such issues include asthma, diabetes, mental health disorders and dental problems. Students with chronic health conditions are prone to missing more school days, receiving lower grades and struggling with concentration and attention. Long-term consequences include truancy, lower graduation rates, increased dropout rates and reduced opportunities for higher education.

CSS advocates for the importance of early detection and intervention of health issues to mitigate healthcare issues that impact student health and academic performance. CSS works with District of Columbia students, schools and families to promote regular health screenings in on-site health suites to identify and treat health issues. Such amenities in schools are important and contribute to improved health outcomes and reduced visits to the emergency room, as well as reduced healthcare costs.

The CSS in-school coordinated and comprehensive model of care provides regular health screenings and

onsite healthcare for DC public school and public charter school students. CSS has two on-site health centers located inside the campuses of two DCPS high schools: one at Ballou Senior High School in Southeast and the other located within Dunbar High School in Northwest. The in-person clinics are staffed by registered nurses and licensed nurse practitioners who specialize in early intervention and treatment. Most importantly, CSS provides students with access to medical care, particularly for those who may struggle with access to healthcare outside of the school. These services include asthma management, diabetes, prescriptions filled in schools, vaccinations, mental and behavioral assessments, reproductive medicine intervention and other vital pediatric health services. These services are also managed by the health suite.

CSS also emphasizes the importance of social and emotional well-being as a critical component of a comprehensive school health program to reduce stress and anxiety, strengthen interpersonal relationships and achieve better academic outcomes for Washington, D.C. students. CSS promotes a holistic approach to student health, including supporting families and their communities and emphasizing collaboration and coordinated care through multiple components of the school-based programs.



# What is Children's School Services?

The Children's School Services program is part of a public-private partnership with the District of Columbia Department of Health (DC Health) and Children's National Hospital that places specialized, dedicated nurses in 117 DC public schools and 84 public charter schools. CSS provides coordinated and comprehensive healthcare services to students attending District of Columbia public and public charter schools. The program is designed to address the needs of the whole child and promote the physical, mental and emotional health of students. It is implemented in accordance with the Centers for Disease Control's Whole School, Whole Community, Whole Child (WSCC) model, which emphasizes the importance of collaboration and integration across

multiple components of a school health program such as comprehensive school health services, health education, family, community engagement and many complementary services.

CSS programs and services are designed to meet the educational, social, emotional and behavioral needs of children in a school setting and aim to help children achieve academic success, improve their overall well-being and overcome any challenges or obstacles they may be facing. CSS paraprofessionals provide basic healthcare services to students, such as administration of medication and first aid and conduct essential health screenings, while CSS nurses administer clinical services to students on site.

## Partnership between Children's National Hospital and CSS

Children's National Hospital generously supports the CSS program for several reasons:

#### 1. Promoting a school friendly health system:

CSS creates a system that focuses on promoting and supporting the health and well-being of students within the school environment, with the goal of enhancing students' overall educational experience and academic success.

#### 2. Improving student patient care:

The partnership allows for better communication and coordination between healthcare providers and schools, which can result in improved health outcomes for DC public and public charter school children. By working together, healthcare providers and schools can ensure that children receive the care and support they need to stay healthy and thrive academically.

#### 3. Enhancing school health services:

Children's National's expertise in pediatric healthcare can help schools improve their student health services. Services include training school nurses and staff on best practices for managing chronic conditions such as asthma and diabetes and providing guidance on how to respond to medical emergencies for students.

#### 4. Addressing health disparities:

The CSS program also works with schools in underserved communities, where children may face higher rates of chronic health conditions and limited access to healthcare. The CSS program helps address these health disparities by providing specialized care to children who need it the most.

#### 5. Supporting academic success:

When children are healthy, they are more likely to succeed in school. CSS helps to ensure that students of DC public and public charter schools have the support they need to stay healthy and focused on their academic goals.

#### 6. Improving community health outcomes:

Collaborations with families and communities in the District allow CSS to work closely with families, government agencies and community-based organizations to help create a supportive environment for children, promoting healthy behaviors and improving overall health outcomes for everyone.





### **Care Coordination**

Care coordination in CSS programs involves a collaborative and integrated approach to providing support and services to children with complex health and educational needs. The CSS care coordination model integrates services across school healthcare providers, social services, outside healthcare providers, hospitals and other community-based healthcare organizations.

The goal of care coordination is to ensure that children receive comprehensive and highquality care that addresses their needs, including physical, behavioral and educational needs. Care coordination helps families navigate healthcare and education systems and ensures they have access to the resources and support they need. Moreover, care coordination may involve coordinating healthcare services, special education services and related services such as speech therapy, occupational therapy and counseling. It may also involve working with school-based nurses, teachers and other school personnel to ensure that children's educational and behavioral needs are met. Care coordination also ensures continuity of care from higher levels of care and supports the students' return to the community.

## **Telehealth Services**

Telehealth is a valuable tool for providing video and telephone visits aimed at increasing children's access to providers. The purpose of telemedicine is to increase access to primary and specialty care providers, increase seat time in class and decrease the burden on parents and caregivers accessing healthcare. The program allows children to be seen by a hospital-based physician while they are still at school and parents can log in remotely to participate in the call. With this innovation children can stay at school and parents are able to work without significant disruption. Moreover, telehealth services give parents a smarter solution than burdening emergency room facilities with non-emergency needs.

#### **Health Suite**

A CSS health suite located at a DC public or DC public charter school is a designated space where a team of healthcare professionals (RNs, LPNs and health technicians) works together to provide medical assistance and healthcare services to students who may become ill or injured during school hours. CSS health suite staff provide healthcare-related services to students for all health conditions, however, there is a rising rate of asthma, diabetes and behavioral

health illness in children across the District. In addition, staff administer medication, provide health education and offer many other services.

## Training and Technical Assistance

CSS provides training and technical assistance to its school-based staff. The goal is to provide education, support and resources to CSS nurses and other healthcare providers to improve the quality of healthcare services provided to children in DC public and public charter schools.

One approach to training and technical assistance is through workshops and professional development sessions. CSS nurses receive Continuing Nurse Education (CNE) to support and enhance the knowledge and skills of registered nurses and other healthcare professionals. CNE training is designed to meet the continuing education needs of nurses and other healthcare professionals in areas such as patient care, safety, infection control, pharmacology and emerging health issues such as COVID-19. CNE is a means of ensuring that CSS nurses stay up to date with the latest developments and advances in nursing and maintain their professional competence.

All DC public and public charter schools are required to have one staff person attend training in medication administration, ensuring the safe and effective management of medication for pediatric patients. This training program is designed for lay persons who are responsible for administering medication to patients. The training program, which is developed and delivered by CSS leadership, covers topics such as pharmacology, medicine safety, dosage calculation, medication administration techniques and documentation. The goal of this training is to ensure that school staff persons have the necessary knowledge and skills to administer medication safely and effectively in a clinical setting and to reduce the risk of medication errors and adverse drug reactions in the absence of a CSS healthcare professional.

# CSS Disease Management and Health Education Programs in Schools

## **Asthma Program**

The CSS asthma program in schools is designed to help DC public and public charter school children with asthma manage their condition in a school setting. The program is usually run by school nurses and aims to provide education, support and resources to students, teachers and parents to ensure that children with asthma can participate fully in school activities and maintain good health. Some key components of this program include:

#### 1. Asthma education and training:

This provides information about asthma, its triggers and how to manage symptoms. It may also involve training teachers and school staff on how to recognize and respond to asthma emergencies among their students.

#### 2. Asthma action plans:

These plans outline steps to take if a child experiences asthma symptoms or an asthma attack. The plans are developed by a CSS physician and implemented in collaboration with school nurses, parents and school staff.

#### 3. Medication management:

This ensures that children have access to their medication, scripts for their inhalers and that the medication is properly stored.

#### 4. Communication and collaboration:

Maintaining open lines of communication between parents, school nurses and staff ensures that children's needs are being met and that everyone is working together to support them.

#### 5. Environmental assessments:

Identifying and minimizing asthma triggers in the school environment, such as dust, pollen and mold, can help reduce asthma attacks.



Diabetes is a chronic health condition that affects millions of children worldwide. Children with diabetes need special attention and care, especially when they are at school. CSS provides an in-school diabetes program that provides support and assistance to DC public and public charter school students with diabetes. This program helps children manage their diabetes effectively, prevent complications and participate in school activities without any difficulty. The CSS program includes the following services:

#### 1. Diabetes education and training:

CSS provides diabetes education and training to school staff, parents and students with diabetes. The education and training cover topics such as diabetes management, nutrition, exercise and diabetes-related complications.

## 2. Individualized diabetes management plans:

CSS works with parents, school staff and nurses to develop individualized diabetes management plans for each student with diabetes. The plan outlines the student's specific needs and provides guidance on how to manage their diabetes while at school.

#### 3. School nurse support:

CSS provides school nurses who can provide diabetes care and support students with diabetes. The nurses can help students monitor their blood sugar levels, administer insulin and manage other diabetes-related needs.

## 4. Diabetes support groups:

CSS offers support groups for students with diabetes to connect with other students who are going through similar experiences. The support groups provide a safe and supportive environment where children can share their feelings, ask questions and learn from each other.

#### 5. Advocacy:

CSS advocates for policies that support students with diabetes. This includes providing information about diabetes to school staff, creating diabetes-friendly environments and advocating for appropriate accommodations for students with diabetes.

## Scripts to School Program

In partnership with DC Health, DC Public Schools and the DC Public Charter School Board, the Scripts to School Program is a comprehensive medication management service offered by CSS for students who need to take medications during school hours. The program is designed to improve medication safety and positive outcomes for children. The program is important because it allows students to remain in school while taking care of their medical ailments. It also allows vulnerable and low-income children who do not have access to preventative and health education to receive their medications under the supervision of the school nurse. In this program, the school nurse prepares an individualized health plan that details how the student's health condition will be managed at school. The school nurse is available

to educate other school staff who will need to understand the student's unique medical needs during the school day.

The Scripts to School Program provides medication reconciliation, which involves reviewing the student's current medication list, ensuring accuracy and identifying any discrepancies per the guidance of the student's physician. The program also offers medication counseling and education for students and their families, including information on proper dosing, administration and the potential side effects of medications. Lastly, the Scripts to School Program includes medication management and monitoring and coordinating refills. The program is effective because it provides ongoing communications with the school nurse, school staff and provides collaborations between the students and their parents and or caretakers to enhance student and family education and empowerment.



# Why it is Important to have a Comprehensive and Coordinated School Health Services Program

School-based health suites help address health disparities within communities and help improve community health by providing students and their families with medical, mental/behavioral, dental and vision care directly in schools where young people spend most of their time, maximizing their opportunity to learn and grow. School-based health clinics help increase access to health services for children, families and communities, which ultimately leads to positive short- and long-term outcomes in service of a broad range of stakeholders, particularly for hospitals and urgent care centers and other medical and health providers.

Low-income and hard-to-reach populations benefit from the services provided in school settings as low-income persons in the United States are less likely to seek preventative healthcare and have low health literacy rates, which places them at risk for poorer health outcomes and increased use of treatment services. Health literacy may impact an individual's ability to successfully use the healthcare system and to engage in preventative care and disease management. In the case of parents of young

children, low health literacy may compromise their ability to seek or engage in preventive care for themselves and their children.

According to the Institute of Medicine, older adults, racial and ethnic minorities, individuals with less than a 12th grade education, GED certificate recipients, non-native English speakers and individuals with low incomes are more likely to have low health literacy. Individuals with these demographic characteristics are also more likely to be socially disadvantaged and thus further disadvantaged on health.

The District of Columbia Office of the State Superintendent of Education (OSSE) estimates that more than 96,000 students attend traditional public and public charter schools in the District as of 2020. ,12 Approximately 75% of DCPS students are considered to be economically disadvantaged and approximately 45% of these students are considered at-risk.3 According to OSSE, the state education agency for the District of Columbia, disadvantaged students refers to students who possess one of the following characteristics at any point in the

school year: received free or reduced-price lunch (FRL); received FRL through Community Eligibility Provision (CEP) (attending a school where the entire student population receives FRL); eligible to receive Temporary Assistance for Needy Families (TANF) or the Supplemental Nutrition Assistance Program (SNAP) benefits; identified as homeless in available data feeds; or under the care of the Child and Family Services Agency (CFSA or Foster Care). Students who are at-risk, according to OSSE, are students who qualify for TANF, SNAP, have been identified as homeless during the academic year, who are under the care of CFSA or who are high school students at least one year older than the expected age for their grade.

CSS is an instrumental component of children's lives in the District and the community at large because it serves many of the neediest children in the District by placing specialized, dedicated school nurses in 117 DC public school and 84 public charter schools.

The CSS program lays a healthy foundation that improves children's health over their lifespan, enabling them to reach their greatest potential

by helping them fully access their education. Our program also leads the discourse on how to work with partners in the community and in school to improve the health of children. CSS also supports parents and helps them recognize the value of health and education in their child's growth and development.

CSS provides school services across many schools in the District but also has two clinics in Ballou and Dunbar High Schools. Both clinics provide many healthcare services.

#### These include:

- Immunizations
- Sick Care
- Sports Physicals
- Wellness Check
- Mental Health Counseling
- Sexual Health Counseling
- Sexual Health Services

<sup>&</sup>lt;sup>1</sup> District of Columbia Public Schools. (2019). DC Public Schools Enrollment Surpasses 50,000 Students for First Time Since 2006 | dcps. [online] Available at: https://dcps.dc.gov/release/dc-public-schools-enrollment-surpasses-50000-students-first-time-2006

<sup>2</sup> Stein, P. (2019). D.C. charter schools experience first enrollment drop since 1996. [online] The Washington Post. Available at: https://www.washingtonpost.com/local/education/dc-

charter-schools-experience-first-enrollment-decline-since-1996/2019/10/22

<sup>&</sup>lt;sup>3</sup> District of Columbia Public Schools. (2023). DCPS at a Glance: Enrollment. Available at: https://dcps.dc.gov/page/dcps-glance-enrollment



## **Efficacy of the Program**

CSS provides high-quality care in schools throughout the District, caring for children's mental as well as their physical conditions. Our programs are effective because of the collaboration between many stakeholders: Children's National, the DC Department of Health and other healthcare providers, DC Public Schools and the DC Public Charter School Board.

What makes CSS stand out is three important components of its school-based program:

#### 1. A continuum of care:

CSS supports and collaborates with providers throughout the continuum of care, from diagnosis and treatment to long-term follow-up care.

#### 2. Safety:

CSS nurses are passionate about pediatrics and strive to provide the safest care outcomes for children. Our continued training programs ensure that our nurses are always abreast of the best practices in care delivery.

#### 3. Community outreach/advocacy:

CSS teams raise awareness of certain conditions and provide families with the resources they need to ensure the best care for their children.

We have more than

500,000

interactions with students each year

Other outcomes of our program include:

#### 1. Improved access to healthcare:

Our program increases access to healthcare for students who may not have regular access to medical care; hence, improving healthcare utilization among young people in the District. By providing medical care on-site, students can receive care without having to miss school or have their parents take time off from work to take them to medical appointments.

#### 2. Improved health outcomes:

Due to our continuum of care, CSS helps identify and treat health issues early, which can lead to improved health outcomes. Studies have shown that students who used school-based clinics had better health outcomes compared to students who did not use the school-based clinics and services.<sup>4</sup>

#### 3. Reduced absenteeism:

By providing convenient access to healthcare, CSS programs help reduce absenteeism due to illness.

#### 4. Cost-effectiveness:

CSS programs provide cost-effective healthcare services by providing preventative care, early intervention and reducing the need for expensive and inconvenient emergency room visits.

#### 5. Improved academic performance:

Students who are healthy and have their basic healthcare needs met are better able to focus on their academic work. This can lead to improved academic performance and better educational outcomes.

#### 6. Health education:

CSS programs provide health education to students, families and community members through their inside and outside of the school educational programming.

<sup>4</sup>Arenson M, Hudson P, Lee N, Lai B (2019). The Evidence on School-Based Health Centers: A Review. Glob Pediatr Health. 2019 Feb 19;6:2333794X19828745. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6381423/#bibr1-2333794X19828745



### **CSS Data in Schools**

Data on medical events, office visits and prescriptions in DC schools illustrate the efficacy of the CSS program. Figures 1 and 2 show the statistics on Washington, D.C. public and public charter school students with asthma between August 22, 2022 and February 27, 2023.

## STATISTICS ON STUDENTS WITH ASTHMA

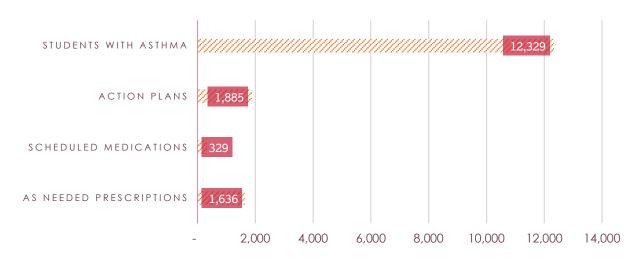


Figure 1: Out of 12,329 students with asthma, 1,885 received action plans, 1,636 students were provided as-needed prescriptions and 329, or less than 3%, required scheduled medications.

### **ASTHMA-RELATED OFFICE VISITS**

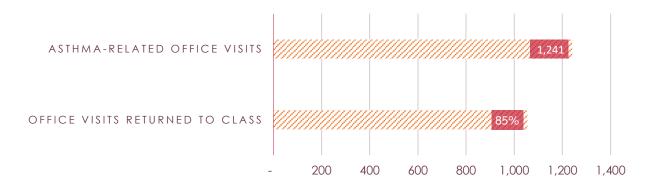


Figure 2: Out of 1,241 asthma-related office visits, 85% of students returned to class after the visit.

CSS also tracked diabetes-related statistics in the first three quarters of the 2022-2023 school year. Figures 3, 4 and 5 summarize the diabetes figures and incidents between August 22 and February 27. Notably, no events related to diabetic ketoacidosis (DKA) occurred during this time frame.

## STATISTICS ON STUDENTS WITH DIABETES

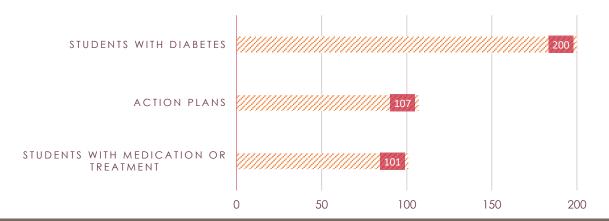
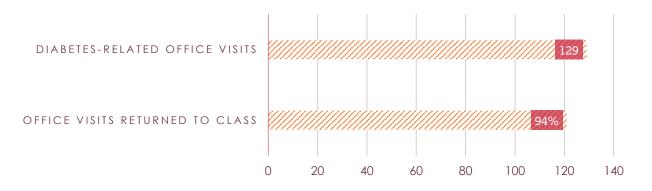


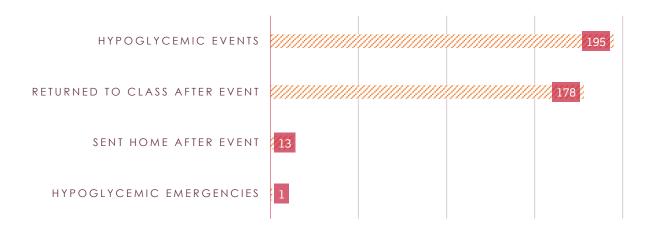
Figure 3: Out of 200 DC public and public charter school students with diagnosed diabetes, 107 action plans were developed and 101 students were provided medication.

## **DIABETES-RELATED OFFICE VISITS**



**Figure 4:** There were **129 diabetes-related office visits** between August 22 and February **27. 94%** of these students **returned to class** after their office visit.

## HYPOGLYCEMIC EVENTS



**Figure 5:** Between August 22 and February 27, **195 diabetes-related hypoglycemic events** occurred in students. **178, or 92%** of these events, resulted in **students returning to class**. **13 students** were **sent home** to recover and only **1** was **administered emergency services**.

Between August 22 and February 27, data was collected on the most common medications prescribed to students. The three most common were bronchodilators, emergency epinephrine doses and antihistamines.

## IN-SCHOOL MEDICATIONS ADMINISTERED

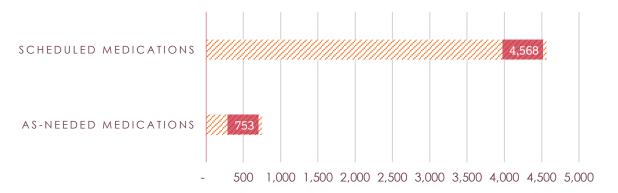


Figure 6: **4,568 scheduled medications** were administered and **753 PRN** or as-needed **medications** were **administered** between August 22 and February 27.

A key goal of the DSS program is to successfully link students and their families with medical homes or primary care providers (PCPs). Figure 7 compares the number of students linked to medical homes with the number of emergency room visits.

## LINKS TO MEDICAL CARE

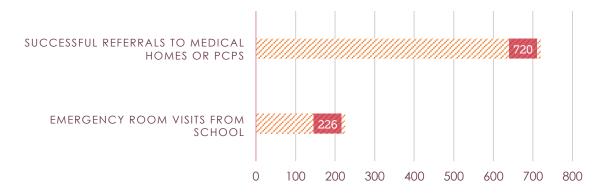


Figure 7: Between August 22 and February 27, 720 students were successfully linked to medical homes or PCPs. During the same time period, there were 226 emergency room visits from school.



Healthcare professionals who go above and beyond deserve special recognition.

Special call out to **Nurse Andrella** 

**D. Adams** currently serves students at Coolidge High School, a public high school in Ward 4. This was adapted from an interview with Nurse Adams in February 2023.

Coolidge High School 6315 5th St. NW Washington, DC 20001

"I saw how the school nurse, the telehealth doctor, the father, the student, his primary care provider and my case manager all work together as one to make the student care much better than what it would have been."

## Three main reasons I love my job as a school nurse:

- 1. I am serving my community.
- 2. I love to care for others. I have a big passion for caring for individuals regardless of whether it's for healthcare needs, mental health needs; I just love to care for individuals.
- 3. I just love it. I don't even feel like I am at work. We have a school-based clinic at Coolidge High School, so you do not have to worry about taking the students to primary care, or even an urgent care facility because we have that right here at school. One of the great things about working with CSS compared to other districts is our connection to Children's National Hospital. And we do have a very comprehensive approach to individuals that have fragile medical issues such as asthma, diabetes, seizures, you name it. We have great follow-through and we have great case management services. We now have telehealth that is going to be implemented in schools. So basically, everything is taking place in a school nurse office.

## **Community Outreach**

#### DoseChella 2022

DoseChella was a CSS community-based event to vaccinate children in the community to address vaccine compliance issues before the start of the 2022-2023 academic school year. CSS held this event to meet a critical need in the community and in the schools we serve. The enforcement of the Immunization Attendance Policy (colloquially termed No Shots No School) created a great need for vaccinations in the community. When Mayor Muriel Bowser announced enforcement of vaccine compliance this year (mid 2022), there were over 30,000 students out of compliance.

We had less than six months to identify a way to connect with the community and meet their needs. We wanted to address not just their compliance, but also vaccine hesitancy within the community, particularly with children of color. DoseChella was a series of community health fairs or block parties that were hosted on eight consecutive Saturdays in August and September 2022. We recognized that parents who want to have their children immunized may struggle with securing a vaccine appointment because of the hours of operation for the clinics during the week. Hosting these vaccination events on a Saturday allowed many families to become compliant because they did not interfere with their work schedules.

We also recognized that a well-child visit does not leave much time to ask doctors important questions for many families. We scheduled physicians who were available to talk with families, answer questions and help them understand the safety and efficacy of vaccines. Finally, CSS provided lunch and gift cards to families for each child who received a shot. This went a long way for families in need, especially those who depend on the school for meals. The lunches were greatly appreciated and the atmosphere was one of community and not of forced compliance. DoseChella was a very successful community outreach and education event for CSS.

## **Pediatric Diabetes Summit**

Children's National hosted a pediatric diabetes summit to ensure school nurses across the District can provide the best care for students with diabetes and had resources for managing diabetic care among students in the school health suites. These resources include a reference guide for carb counts in common foods and a "badge buddy" reference card with steps to calculate insulin doses.

The event took place on February 24, 2023, at the Children's National Research & Innovation Campus. This event supported the concerns in the community and showcased the training that the CSS team has undergone to manage diabetes treatment with children and adolescents in schools. Various manufacturers of pumps and continuous glucose monitors provided training on healthcare devices including the Dexcom, Omnipod and Tandem. CSS invited nurses from across the region, several of whom attended and received the training as well. Members of the Children's National Endocrinology team discussed research and best practices in diabetes management along with many other medical experts on site.

The summit also featured presentations, panel discussions and workshops covering a range of topics related to diabetes prevention, diagnosis, treatment and management in children and adolescents. This summit fostered collaboration and knowledge-sharing among healthcare professionals and highlights new research findings and technological innovations that can improve diabetes care and outcomes for children and adolescents in schools throughout the District.



School-based health centers, particularly in urban areas, are a winning framework for students, families, the community and the important health stakeholders that serve them. CSS is proud to serve the students of DC public schools and public charter schools. CSS provides access to healthcare for many students, particularly those from low-income and immigrant families in the District and others who face barriers to accessing healthcare services. CSS programs provide students with convenient and accessible healthcare services which lead to better health outcomes for the District students they serve.

CSS nurses provide a range of services, including preventive care immunizations, mental health screenings and management of chronic health conditions such as asthma and diabetes. They also support social needs by connecting the students to the CSS care coordination team and community

resources when the need is identified. The innovative telehealth services provided on-site with our school nurses allow students to receive care without leaving the school premises, which helps them overcome barriers such as transportation or scheduling conflicts.

CSS serves as a medical home for its DC public and public charter school students who may not have a regular healthcare provider. By establishing a relationship with a healthcare provider at the students' school, students can receive continuity of care and ongoing management of their health needs. Access to healthcare is essential for promoting overall health and well-being. By providing healthcare services within a school setting, District public and public charter school students have access to the care they need to stay healthy and succeed academically. We are proud to serve the healthcare community and residents of the District of Columbia.

The innovative addition of school health to the continuum of health services allows us to expand access, serve vulnerable children and minimize absenteeism. I am so excited to lead this organization during this season of growth, expansion and change as we shift our focus to health equity and improving overall health outcomes. The most unique transition is our incorporation of mental health into the school health suite. As a pediatric psychologist, I am proud to bring both of my passions together to serve this community!"

Andrea J. Boudreaux, PsyD, MPH, MHA, FACHE Executive Director Children's School Services





