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PHARMACY STUDENTS AS VOLUNTEER MEDICAL STAFF FOR AMERICAN DIABETES ASSOCIATION SUMMER CAMP

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STUDENT AUTHOR BIO SKETCH

Emily Harvath is a PharmD candidate in the Purdue University College of Pharmacy. She has been involved with College Mentors for Kids and Purdue Musical Organizations, which fueled an interest in community engagement and working with children. Her experience as a member of the Pharmacy Orientation Steering Committee fostered a passion for mentoring younger students. She plans to pursue a career as a pediatric clinical pharmacy specialist. This article describes her experience as volunteer medical staff for the American Diabetes Association's Camp John Warvel.

ABSTRACT

For children living with a diagnosis of diabetes, community support and education about proper disease management are critical for the mental and physical health of the child and their family. The experiences offered at summer camps hosted by the American Diabetes Association address both of these needs for the pediatric diabetes community. These camps provide children with the opportunity to participate in a traditional camp experience—swimming, rock climbing, tubing, and more—while giving parents peace of mind in the knowledge that their child's diabetes will be closely monitored by a team of health care professionals. During my time as volunteer medical staff at the American Diabetes Association's Camp John Warvel, I was given the unique opportunity to put into practice the topics taught in my pharmacy curriculum in a hands-on learning environment. As part of the camp

medical staff, I was responsible for adjusting insulin doses, checking blood sugar levels, and treating episodes of low or high blood sugar. While campers were given the opportunity to make friends and learn about how to manage their diabetes, I was able to supplement areas of my education with real-world applications of content from my clinical courses. Camp John Warvel is a prime example of the incredible benefit that a service-learning experience can have for a student, particularly in a health care profession. I left Camp John Warvel with a rejuvenated passion for my profession that helped sustain me through my remaining years of school. I returned to my classes at Purdue with improved retention of my diabetes knowledge after using that information in a hands-on setting. My campers went home having formed lifelong friendships and a better understanding of diabetes management, with their eyes excitedly set on coming back to camp again next year.

INTRODUCTION

Despite the common misconception that diabetes is a condition experienced only by the elderly population, there are an estimated 210,000 Americans under age 20 that have diagnosed diabetes, with 187,000 of those being diagnosed with type 1 diabetes (Centers for Disease Control and Prevention [CDC], 2020). Type 1 diabetes is a lifelong condition in which an individual has elevated blood sugar due to an inability to produce insulin and will be the main focus of discussion in this paper as it is the most prevalent form of diabetes in the pediatric population. Patients with type 1 diabetes are completely dependent on insulin injections to manage their blood sugar for the rest of their lives. If not treated properly, diabetes can have serious, long-term consequences such as cardiovascular disease, kidney dysfunction, vision loss, and nerve damage that can lead to limb amputation (DiPiro et al., 2020). Managing type 1 diabetes correctly involves a combination of daily insulin injections, testing blood sugar at home several times each day, and counting carbohydrate intake at meals. The responsibilities associated with having diabetes can feel overwhelming for children and families, but with proper disease management and quality medical care, a child with diabetes is able to live a normal and fulfilling life.

A diagnosis of diabetes in a child will undoubtedly result in a host of reactions and changes to the family unit. Parents of a young child with diabetes will become responsible for the child's management of the disease, which adds stress for the parents and may disrupt the patterns of family life that the child's siblings are accustomed to. On top of learning all there is to know about proper management of diabetes, parents face an additional challenge when dosing the child's insulin due to the continuous growth and development of the child in question. As a child's physical development changes, increased and random bursts of physical exertion will result in greater variability of blood sugar levels, causing more frequent episodes of low blood sugar and an increase in monitoring requirements. Parents of young children with type 1 diabetes are at an increased risk of developing depression and anxiety, with 19% of parents reporting significant distress 1 to 4 years after their child's diagnosis (Streisand & Monaghan, 2014). Parents often develop a significant fear of low blood sugar, particularly during the child's sleep and time away from the parent, which impacts their own sleep patterns and ability to manage stress.

To cope with the challenges and stress of caring for a child with type 1 diabetes, the American Diabetes

Association (2018) puts forth several recommendations. The American Diabetes Association (ADA) emphasizes that transitioning care responsibilities from parent to child should occur when developmentally appropriate, recognizing that premature transfer of diabetes care to the child can result in nonadherence and deterioration in glycemic control. Educating the child about diabetes management as early as possible can help the child feel more independent and improve their disease control throughout their life. The American Diabetes Association hosts summer camps every year, aiming to provide a traditional summer camp experience for children with diabetes in a medically safe environment. ADA summer camps provide much needed peace of mind for parents and an opportunity for children with diabetes to forge lifelong relationships while learning to successfully manage their diabetes. These camps cannot run effectively without the help of many volunteers, which is where health care students come into the picture.

As first-year professional pharmacy students, we are introduced to a plethora of different illnesses, treatment guidelines, and important soft skills needed to provide quality patient care. Early in my pharmacy school journey, I quickly developed a passion for the field of pediatrics and found myself fascinated by diabetes and the intricacies involved in managing the disease. During the first semester of professional school, a general overview of diabetes was covered during the Patient Centered Care course (PHRM 82600). In the same semester, I learned how to use various point of care devices for diabetes, such as at-home blood glucose monitors, in Professional Program Lab (PHRM 82000). Both of these courses covered important patient interview and education techniques that would prove important when interacting with patients and when collaborating with multidisciplinary health care teams. With a passion for pediatrics and my enhanced knowledge of patient care and diabetes management, I applied to volunteer as medical staff at ADA Camp John Warvel in Indiana. The objective of this decision was to learn more about a specialty in pediatrics and to better prepare myself for the extensive coverage of diabetes that would take place during the third semester of the professional pharmacy curriculum. Since 8.2% of the U.S. population has diagnosed diabetes, this is a prevalent disease state that I will encounter frequently in practice as a pharmacist (CDC, 2020). As medical staff at Camp John Warvel, my goal of increasing preparedness to study diabetes in the classroom would have the long-term effect of ensuring I am an excellent pharmacy provider for the large diabetic population that I will encounter throughout my career. By the end of Camp John Warvel, I realized

that the decision to volunteer as medical staff and participate in this service-learning experience would be the most rewarding and profoundly beneficial aspect of my pharmacy school education to date.

DESCRIPTION

The mission of the American Diabetes Association is to prevent and cure diabetes and to improve the lives of all people affected by diabetes. They provide a list of local and national resources for patients with diabetes and their families, including information about their summer camps for children with diabetes ages 5–17 (“Community Overview,” n.d.). The American Diabetes Association camps are designed to facilitate a traditional camp experience in a medically safe environment, while creating opportunities for children to forge lifelong relationships, overcome feelings of isolation, and gain self-confidence. To accomplish this goal, ADA camps have medical staff composed of licensed medical professionals who oversee medical, dietetic, and pharmacy students. Medical staff at ADA camps are responsible for overseeing daily diabetes care while helping campers learn to live successfully with their disease.

American Diabetes Association camps utilize student volunteers from different fields of health care, each with potentially varying roles while at camp. Physician assistant, pharmacy, and medical students all work as medical staff who reside with their assigned cabin group and accompany them on all daily activities to manage the campers’ diabetes constantly. Dietetic students work as nutrition staff who assist campers with making proper meal choices, facilitate all meals and monitor for any changes in amount of food consumed, and communicate carbohydrate counts to the medical staff. Nursing students can be assigned to perform tasks in either of these categories, and may also administer minor first aid when needed. All of these students work collaboratively throughout the day and meet with licensed medical staff members twice daily to check in and ensure that students are providing high-quality care for the campers. Additionally, licensed medical staff are available to be contacted for assistance via two-way radio any time a serious health issue needs to be addressed, or whenever a student has questions that cannot be answered by the student alone. All students report to camp one day early for a full day of training on the camp protocols, proper insulin dosing and administration, camp treatment guidelines, and the paper documentation system used at camp.

As medical staff for Camp John Warvel, I was assigned to a cabin of 8 girls, all around ages 13–14. At least one

Figure 1. An example of a Camp John Warvel medical staff fanny pack and its contents. Contents from left to right: alcohol swabs, lancets, blood glucose monitor and test strips, ketone test strips, glucose tablets, peanut butter cup, graham crackers, raisins, glucagon kit (bottom row).

medical staff member is required to be with campers at all times, so medical staff are assigned at least two staff per cabin to allow for staff breaks. Each cabin medical staff team is given a backpack that must go everywhere with the campers and contains a sharps container, pen needles, two-way radio, camper documentation, and supplies for testing and treating low blood sugar. At all times medical staff are equipped with a fanny pack filled with supplies for checking blood sugar and urine ketones as well as treatments for both mild and severe low blood sugar (Figure 1).

A day in the life of a Camp John Warvel medical staff member includes all of the following responsibilities:

- Blood sugar checks prior to every meal and at bedtime
- Insulin dosing and administration at all meals and sometimes with snacks, based on blood sugar levels and carbohydrate intake
- Blood sugar checks when a camper is not feeling well; urine ketone checks if applicable
- Overnight blood sugar checks at midnight and 3 a.m.
- Treatment and monitoring of low blood sugar
- Twice daily staff meetings with licensed medical staff, in which each camper’s chart is reviewed individually and insulin dosing is adjusted for the upcoming day

This list includes everything that happened daily, but as expected when working with children, other tasks often come up throughout the day and require the attention of a medical staff member, such as a need for first aid. Since medical staff members travel with their cabin everywhere the campers go, they form a close relationship with their group of campers throughout the week. As part of this relationship, it is important for the medical staff to help educate the campers about their diabetes and empower them to learn how to manage the disease on their own.

Camp John Warvel takes place at the YMCA Camp Crosley in North Webster, Indiana. Camp Crosley has a full staff of their own, with two camp counselors in every cabin in addition to the medical staff provided by ADA. These camp counselors are responsible for all of the day-to-day activities that the campers take part in, executing a specific daily schedule for each cabin group. Camp Crosley is equipped with an abundance of fun activities for campers including zip lining, rock climbing, horseback riding, tubing, an overhead ropes course, and a swim front. Fortunately for health care students around the country, Camp John Warvel, located in North Webster, Indiana, is just one camp offered by the American Diabetes Association. There are opportunities to volunteer at different types of ADA camps all over the country, some of which are overnight camps like Camp John Warvel while others may be daytime camps with very different staff responsibilities. Each year, the American

Daily Schedule

7:40 a.m.	Flag Raising/Hoppers
8:00 a.m.	Breakfast
8:40–9:40 a.m.	Paddle Boarding
9:50–10:50 a.m.	Soccer
11–12:00 p.m.	Rock Climbing
12:10–1:10 p.m.	Kickball
1:15 p.m.	Lunch
2:10–3:10 p.m.	Cabin Break
3:30–4:30 p.m.	Swim Time/Snack
4:50–5:50 p.m.	Cabin Activity
5:50 p.m.	Flag Lowering
6:00 p.m.	Dinner
6:30–7:30 p.m.	Flex Activity
7:30–8:30 p.m.	Evening Program
8:30–9:20 p.m.	Meds and Snacks
9:20–10:30 p.m.	Showers
10:30 p.m.	Lights Out

Figure 2. An example schedule of activities for one day at Camp John Warvel.

Diabetes Association camps serve over 6,000 campers nationwide at more than 70 campsites, with a workforce of nearly 2,500 volunteers. I first learned about this service-learning opportunity through Dr. Emily Israel, who is the faculty advisor for the Pediatric Pharmacy Education Done by Students club at Purdue University. ADA camps have volunteer opportunities for health care students every year, and information about the many different camp options and the staff application process can be found on their website at www.diabetes.org.

COMMUNITY IMPACT

During the time campers spend under the care of medical staff at ADA Camp John Warvel, both tangible and intangible results can be observed. The tangible impact of Camp John Warvel on patient health can be distinguished when looking over patient charts at the end of camp week. By the time campers left to return home, medical staff noted that blood sugar levels for campers stabilized and stayed within normal limits—including in patients that were found to be more challenging to manage earlier in the week. Maintaining blood sugar levels within normal limits helps the campers feel better throughout the day by decreasing the symptoms they experience during episodes of high and low blood sugar. Long-term quality disease management improves patient outcomes and decreases the side effects of diabetes that can occur for patients over the course of their disease. The hope of medical staff is that when the campers see recognizable results of how much better they feel when their blood sugar numbers are within normal limits, they leave camp with the intent to permanently improve their disease management at home.

The most significant and positive impact of camp is the intangible influence that Camp John Warvel leaves on its campers. Campers leave at the end of the week with a greater realization that a diabetes diagnosis does not have to dictate which activities they can participate in. These children gain knowledge related to diet management, counting carbohydrates, recognizing and treating low blood sugar, and dosing insulin, which gives them increased confidence in their ability to manage diabetes independently as they continue to age. They leave camp having made lifelong friends who can relate to the daily challenges that exist for children living with diabetes. This gives campers a stronger support system within the diabetes community, providing a value to mental health that cannot be overstated. On the last day of camp, the campers are moved to tears when leaving these friends with whom they've formed a strong connection. ADA summer camps not only work as a patient education

opportunity, but they also create a sense of community for children living with diabetes that can be almost as important to the child's well-being as controlled blood sugar levels.

With a community project like ADA summer camps, quality education and training for students volunteering as medical staff are essential to allow the camp to run smoothly. The American Diabetes Association is no stranger to this task, and their training materials prepared me impeccably for the week spent as medical staff. Student volunteers are provided with prearrival training packets to review before the full day of training that takes place before campers arrive. After arriving for training, student volunteers receive a basic overview of the camp's treatment protocols, medical staff expectations, and patient chart documentation. Once the general overview is complete, students are split into small groups to work through a handful of stations for training on skills like carbohydrate counting, insulin administration, blood glucose testing, and calculations. This hands-on part of the training in small groups was the portion of training that benefited me the most, and I left the training day feeling much more confident in my ability to care for the campers. Without the help of student volunteers, it is likely that ADA camps would be unable to continue in their current form, so they make training these students a high priority.

Even with excellent training provided for the medical staff on arrival, there will always be challenges that arise when working as a health care professional. At Camp John Warvel, I found that the main organizational difficulty I encountered was difficulty locating a licensed medical staff member for help changing an insulin pump site. This year at camp was the first year that they had campers continue to use insulin pumps instead of switching them to injections for the week, which may have been an underlying reason that it was tough to find a licensed medical staff member in this instance. In the future, I think that camp would benefit from sharing cell phone numbers and daily schedules of the licensed medical staff that were going to be at camp on a given day so that student medical staff could contact them when needed.

Other challenges experienced as medical staff at Camp John Warvel were related to the challenges at play when working with a pediatric patient population. Sometimes children, especially younger children, have a difficult time articulating how they are feeling or they fail to mention that they aren't feeling well, making it difficult for medical staff to treat the cause of their symptoms. Children don't always understand the correlation

between their behavior and the effect that it has on their blood sugar levels, especially with all of the fun activities available at camp. When I had a camper develop low blood sugar that required treatment and rechecking of the blood sugar in 15 minutes, they often wanted to eat their fast-acting carbohydrate treatment and then go right back to playing with the rest of the group. Medical staff sometimes had to be stern and ensure that protocols were followed properly, even if the camper didn't want to listen or didn't understand why they had to follow the protocols. I had a unique challenge with my campers because of their age. Since my campers were all teenagers and had been diagnosed with diabetes for a few years now, there were times that they argued with me or questioned the decisions being made because it wasn't the same way that they manage their diabetes when at home. I had to carefully navigate these situations and explain to my campers that we do things differently at camp so that everyone receives the same standard of care, and that I had no choice but to follow the protocols that are written for camp. The challenges encountered as medical staff at Camp John Warvel allowed students to practice navigating difficult situations in health care, and these troubles were vastly overshadowed by the profound positive impact that camp has on its community, campers, and student volunteers.

STUDENT IMPACT

Volunteering as medical staff at Camp John Warvel gave me the opportunity to put my knowledge from classroom learning to practical use and further prepared me for courses I would take in the future. As medical staff, I practiced using my patient counseling skills and applied my diabetes and point-of-care testing expertise. The College of Pharmacy's Professional Program Lab courses prepared for patient interactions and the use of point-of-care devices, and I received sufficient general diabetes knowledge from our Patient Centered Care course that I was able to understand the necessary information related to diabetes and its treatment at camp. I would have been even more prepared for my role at Camp John Warvel if I had waited until the summer following my second year of professional school to volunteer. At that time, I would have had a full overview of diabetes treatment in my pharmacotherapy course. However, by attending Camp John Warvel the summer following my first year of professional school, I understood the diabetes course material more easily during my second year due to my exposure to the disease at Camp John Warvel.

In addition to applying lessons learned in the classroom at Purdue, serving at an ADA summer camp provided

Figure 3. Emily Harvath and her partner medical staff member, Aly Briggs, outside their cabin at camp.

me with several personal and professional benefits. My clinical diabetes knowledge grew tremendously through learning how to adjust insulin doses, count carbohydrates, treat severe and mild cases of low blood sugar, and work with diabetes products such as insulin pumps and continuous glucose monitors. I was able to practice with an interdisciplinary health care team and learn more about the soft skills a health care worker needs to work with pediatric patients. Professionally, this experience was the first time in my life that I could see myself dedicating my career to practicing in a setting such as this. Personally, I was fortunate to form incredible relationships with my campers, who all hoped that I would return as a medical staff member in the future. Camp John Warvel renewed my passion for the profession of pharmacy, rejuvenated my drive to work hard through my remaining years of school, and solidified my professional goal of specializing in pediatric pharmacy.

Another area of professional growth I experienced at camp involved navigating conflict with coworkers. Division of labor at Camp John Warvel between medical staff and Camp Crosley counselors sometimes

resulted in unintentional frustration and conflict between the two groups. Camp Crosley counselors were responsible for leading their cabin group through the day's activities and adhering to a specifically assigned schedule, which sometimes became difficult if medical staff needed the group to stay in one place while blood sugars were checked or low blood sugar was treated. In my experience, we were able to resolve this conflict early in the week by having an honest discussion where we set expectations for one another and planned a division of labor that would allow for all parties to adequately perform their staff responsibilities. The greatest difficulty I experienced at camp was the challenge of overcoming extreme exhaustion by the end of the week. Sleep deprivation was prominent with the long days and overnight blood glucose checks, and taking more breaks during the day at the beginning of the week would help counter that issue early on. Every aspect of my experience at Camp John Warvel helped me grow both personally and professionally, especially the challenges, and it will hold a special place in my heart forever. Though my plan to return as student medical staff in the summer of 2020 was disrupted by the COVID-19 pandemic, I fully intend to continue to volunteer at ADA summer camps throughout my career in order to give back to the community in a meaningful way.

CONCLUSION

The American Diabetes Association summer camps are an incredible example of a service-learning opportunity for students in a variety of health care professions. The camp environment allows the student the experience of providing health care relatively independently, while still having a safety net of licensed health care professionals who can provide guidance and teach in areas where the student may not yet be proficient. The student volunteers make a significant contribution to the camp environment, and it would be difficult for ADA summer camps to go on without them. I advise any students considering this service-learning opportunity to put themselves out there and try it, even if they feel nervous about the task in front of them. Licensed medical staff at ADA camps train their student volunteers until they feel wholly confident in their abilities, regardless of where they are in their studies. I wrote this article because my experience at Camp John Warvel has continued to shape my life and professional goals well beyond those long summer days, and I couldn't help but jump at the opportunity to share the experience with others and encourage more students to go volunteer for American Diabetes Association summer camps.

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