

## ISPAD Allan Drash Fellowship Report

**Recipient:** Apoorva Gomber

**Year Awarded:** 2020

**Host Center:** Barbara Davis Center for Diabetes, University of Colorado Denver. 1775 Aurora Ct, Aurora, CO 80045, United States

**Mentor:** G. Todd Alonso, MD ([guy.alonso@cuanschutz.edu](mailto:guy.alonso@cuanschutz.edu))

**Duration of the fellowship:** 2<sup>nd</sup> August 2021 – 25<sup>th</sup> September 2021

### Report:

I am grateful and sincerely honored to ISPAD for the excellent opportunity to pursue the Allan Drash Clinical Fellowship under the mentorship of Dr. Guy Todd Alonso at the Barbara Davis Center, University of Colorado. I was awarded the fellowship in 2020, but due to the COVID pandemic and the uncertainties of global lockdown and travel restrictions, my fellowship dates were rescheduled for 2021. I sincerely thank the ISPAD secretariat for their prompt assistance and financial arrangements that were required to help me secure fellowship dates and travel to Colorado amidst the disruptions due to COVID-19.

Fortunately, during this year, I was in the last semester of my Master's in Public Health at Harvard University and was residing in Boston. This proved helpful as I was familiar with the national travel policy and restrictions and could travel to Colorado. I am indebted and grateful for the learnings I received under the mentorship of Dr. Todd Alonso and the entire team at the Barbara Davis Center. The six weeks I spent at the center were a mix of clinical rotations, including observing both in-patient and outpatient clinics, insulin pump training sessions, and getting acquainted with the clinical research trials conducted at the center. This fellowship program was a unique moment in my medical training and one which has prepared me with a multifaceted approach to the management of type 1 diabetes with an extensive dive into the world of technology and automated insulin delivery systems. The following activities summarize my experience over a period of 6 weeks:

#### 1. **Week 1 and 2: State of the art of diabetes care in Colorado**

Dr. Alonso introduced me to the multidisciplinary team in the Pediatric and Adult units at the Barbara Davis Center and prepared a schedule for me to shadow in both in-patient and outpatient clinics during the six weeks of our rotation.

I was fortunate to shadow different pediatric endocrinologists (as their clinical roster days) during the outpatient clinic and inpatient rounds in the Hospital Wards. I spent my initial week of the fellowship understanding the center's layout and the existing protocol routinely followed for newly diagnosed patients, follow-up patients, or those consulted through Tele-consultation.

The importance of a multidisciplinary team was very well emphasized during my training which helped me value the importance of each player in a patient's disease process. However, the most critical part I was impressed with was the “teamwork” and handover process, as all were actively engaged in empowering the life of a patient diagnosed with diabetes. I observed this unique difference from my clinical training in India due to the overburdened health system infrastructure and high patient load hampering us from spending more than 15 minutes with our patients in outpatient clinics. For every newly diagnosed patient at BDC, pre-structured protocols were designed to ensure quality care was being delivered at the center, which involved 1-hour first visit with the psychologist and nurse practitioner explaining the diagnosis process to the patient and his family members, which was later followed by management decisions and insulin therapy discussed with the Pediatric Endocrinologist. Throughout this process, a continuous emphasis on “self-management of diabetes,” patients' understanding of basic diabetes care, and psychosocial support was given much importance. It was impressive to shadow the process, which involved the same patient being clinically seen by an actively engaged multidisciplinary team. It involved spending at least 30 minutes with a diabetes educator, dietician, psychologist, and social worker- all essential parts of the patient's diabetes management. I clearly remember that patients and their families were actively engaged in their management and were trained basics of insulin injections, introducing them to a basket approach of options available for insulin pump therapies, continuous glucose monitoring, and discussing diet and ways for an active lifestyle, in school and at home living with diabetes.

**2. Week 3 and Week 4: Understanding the complexities of Diabetes Care and management. Search for doing much more for those living with diabetes.**

During the rotations, I followed Dr. Alonso's routine, which included activities at the BDC center and inpatient clinic rounds at the University of Colorado Anschutz Hospital. The inpatient rounds helped me interact with other clinical fellows, nurses,

and medical students, evaluating the case and working on the clinical diagnoses of the patients. It was an exhilarating experience to be able to review reports and have an enriching discussion with other students on the case. In addition, I had the opportunity to study and work on patients presenting to the Emergency room with newly diagnosed Type 1 diabetes Ketoacidosis and some presenting with insulin pump failures or technology malfunctions. I also participated in the afternoon sessions where Endocrinology fellows in the program presented different topics on diabetes and other metabolic endocrinopathies. I also had a chance to share some of my past work on the school nurse program at Joslin Diabetes Center, which was done under the mentorship of Dr. Lori Laffel. I also presented at the clinic rounds on my experiences with Type 1 diabetes management and a global health overview of diabetes care in Low and middle-income countries. We had an enriching discussion with the clinic staff comparing the global health systems and access to diabetes healthcare delivery services between developed and developing countries. During this time, I shadowed in the Adult Diabetes clinic with Dr. Viral Shah and the eye clinic with Dr. Bucca to routinely examine retinopathy in Type 1 patients and for their follow-up visits. I also shadowed Dr. Forlenza and accompanied him in evaluating patients who were followed as part of significant type 1 diabetes clinical trials like T1DGC, TrialNet, and TEDDY. Spending time with him gave me a considerable understanding of the study algorithms for hybrid closed-loop insulin delivery systems he had been actively involved with regarding the TANDEM insulin pump and Medtronic pump therapy models.

**3. Week 5 and Week 6: Mastering the art of diabetes and overcoming inequities in care through behavioral approaches, technology, and peer support.**

By the end of my fellowship training, I had developed a good relationship with the clinic staff and had a fair understanding of the work at the clinic. I started sitting during clinic visits and was able to have good conversations with the patients about diagnosis and sharing a beautiful understanding of lived experiences which often was left out. The clinics with Dr. Shideh Majidi and Dr. Andrea Gonzalez were engaging as we discussed diabetes technology and health inequities within the U.S. population. Dr. Gonzalez allowed me to attend Spanish clinics, Diabetes camps, and family sessions which involved great discussions on diabetes care services delivered among the Spanish population and many who had difficulty securing health insurance. I was always

passionate about the intersections of health equity and access to diabetes services. Spending time at the Spanish clinics helped me gain insights into the challenges and integration of understanding social determinants of health in our diabetes training. Spending ample time with nurse practitioners, social workers, psychologists, and diabetes educators helped me develop a panoramic view of the nuances of Type 1 diabetes care which goes way beyond technology and insulin. This encouraged me to spend time with Katie Larson and others on the research team at BDC who were working on the quality control metrics at the clinic to understand the implementation of diabetes services and overall outcomes of quality service delivery of diabetes within Colorado and compare with the 'T1D Exchange' national diabetes quality metrics. Dr. Alonso also encouraged me to work on collecting research data from the center to identify obesity and insulin resistance among youth and adolescents with Type 1 Diabetes. As the world was still battling the COVID pandemic and the subsequent waves of the pandemic, the clinic had switched to a Telemedicine approach of delivering services to patients from different parts of Colorado and Wyoming. Attending telemedicine clinics with Dr. Paul Wadwa helped me innovatively think about service delivery models in diabetes care and opportunities for overcoming health disparities due to the patients' geographical locations. This excellent learning will help me further expand my research and training in diabetes care, especially working in LMICs where access to health services is often tertiary care focused.

I enjoyed the beautiful picturesque state of Colorado, the lovely people, and the friends I made during my time. I even had a chance to spend Halloween and Thanksgiving with the clinic staff and truly cherish the love, long-lasting mentorship, and colleagues I made during my time at BDC.

To summarize, I had an enriching experience working with a dynamic team of professionals sharing the collective narrative of improving the lives of those living with diabetes. I'm incredibly grateful to ISPAD and Dr. Todd Alonso for giving me this opportunity and helping me expand my view on diabetes care and global health.

I feel blessed to continue this fight against diabetes and give hope to millions living with the disease through my work in understanding health inequities in diabetes care. My experiences as a person living with type 1 diabetes and a physician mentored by an

outstanding faculty at Barbara Davis Center for Diabetes have given me the responsibility and skillset to keep improving the lives of those impacted by diabetes globally.

Thank you!

