

[REDACTED]

Promotion Narrative: Assistant Professor to Associate Professor, Clinician Scientist Pathway, Department of Pediatrics

Teaching Academia provides the opportunity to combine my interests in patient care, research, and teaching. Being raised in a family of educators, I envisioned myself as an educator from a young age. My passion for science developed later and I came to understand that practicing in the academic setting provided the optimal environment for me.

The criteria for academic advancement from assistant to associate professor in the area of teaching requires demonstration of knowledge and competence in teaching as evidenced by learner and peer evaluation and support of innovative and effective teaching methods implementing them into course and curriculum development. It also requires mentoring relationships of students and junior staff. I have met all of these criteria as evidenced by the evaluations of learners demonstrating my effectiveness as a teacher implementing effective teaching strategies in the clinical correlation session that I direct as well as in the clinical setting. I have mentored four students, three fellows, and a graduate student in their academic pursuits. The specifics for meeting each of these criteria are outlined below.

Classroom Teaching

I direct and lead a 3 hour clinical correlation session for first year medical students providing clinical perspective to the pathophysiology of type 1 diabetes mellitus. The session is innovative in that it combines my expertise with student exposure to diabetes educators and actual patients and their families. In the first hour, I lecture on the pathophysiology of type 1 diabetes. During the second hour, one of our certified diabetes educators gives a presentation on diabetes self-care and management. The last hour of the lecture is devoted to interaction with 2-3 patients and their families who are affected by type 1 diabetes. The patients have the opportunity to share their story with the medical class, and the students have the opportunity to ask questions to patients with the disease that they are studying. This has been well received by the students as evidenced by some of the comments that are provided below. Evaluations from the lecture last year showed that 87% of the respondents strongly or moderately agreed that I was an effective teacher with this statement. Below are a few comments from the evaluation:

“She was very clear on her delivery. She also gave one of the best clinical correlations ever. It involved succinct time at the mic for our panelists, while she guided content. Further, she allowed time for interaction from the students. 6 out of 4 stars. Keep coming back.”

“[REDACTED] was very energetic and made me want to learn more. This clinical correlation was one of the best that we have had and I think that is largely due to her ability to moderate the session without it getting out of control or going too long.”

Mentoring

Since joining faculty, I have served as a mentor to 8 clinical fellows. Much of the activity has been through supervision and guidance during inpatient rotations as well as clinical rotations specifically in the Turner Syndrome Clinic, which I head. I have served as a co-mentor for research projects as well as mentor on several clinical presentations. I have served within the department of pediatrics and the college of medicine as a mentor to residents for future career advice and planning. I participated in the American Medical Women's Association (AMWA) speed mentoring program for undergraduate and medical school women.

The projects that I have supervised have led to 17 abstracts being accepted for either oral or poster presentation, 5 at national meetings, 4 at a regional meeting. I have high expectations for my mentees and ensure that they have products to present at meetings. Additionally, I expect them to act as junior investigators encouraging them to get grant funding and so far 2 of the pediatric endocrine fellows I have mentored have been successfully awarded grants from the Endocrine Fellows Foundation (EFF) to fund their scholarly work.

A full accounting of my mentor activities can be found on pages 14 and 15 of my CV. Noteworthy mentoring experiences are highlighted below.

I currently serve as a co-mentor and member of Kruti Shah's scholarship oversight committee. Under my mentorship, she has received one external and one internal grant to support her research. Her research has been presented at one national and one international meeting as well as several local and regional meetings. She has received a second place award for oral presentation at the Harold Hamm Research Symposium.

██████████, intern in the pediatric residency program, is a mentee as well. We meet individually at least twice per year to discuss her progress in residency and future career goals. I also attend the conferences established by the pediatric residency program to focus on the mentor/mentee relationship.

During his pediatric research rotation, I served as the research mentor for ██████████. As result of this work, he presented abstracts at local (Pediatric Research Day) and national (Pediatric Academic Societies Annual Meeting) venues. His abstract was selected by the Pediatric Endocrine Society Obesity Special Interest Group for a moderated poster session. Upon completion of pediatric residency, ██████████ will begin fellowship in pediatric endocrinology and continue to work in my lab.

Clinical Teaching

The majority of my teaching is clinical. I serve as the consulting physician for pediatric endocrinology for inpatients two months of the year leading a team consisting of a fellow and pediatric intern. Using a patient/case-based approach, I help the learner apply what they have learned through didactics into real-world scenarios. Based on 44

fellow evaluations with a 5 point Likert scale the average response is outlined in Table 1.

Table 1. Fellow evaluations of teaching January 2016 - December 2017

Stimulates learning behavior to assimilate knowledge related to patients' health	5.00
Teaches evidence based medicine	5.00
Demonstrates up to date knowledge of pediatric endocrinology	5.00
Motivates fellows and enjoys teaching	5.00
Teaches clinical problem solving	5.00

Fellow evaluations of teaching January 2015- December 2015

Stimulates learning behavior to assimilate knowledge related to patients' health	4.91
Teaches evidence based medicine	4.64
Demonstrates up to date knowledge of pediatric endocrinology	4.82
Motivates fellows and enjoys teaching	4.82
Teaches clinical problem solving	4.91

Following are a few excerpts from the evaluations: “She also takes time out when possible to teach her trainees, which is greatly appreciated. I enjoyed the experience immensely and see her clinic as a valuable learning environment” and “she is a very good teacher and is always available for help. Even when things are very busy she takes time to listen to our presentation and give good feedback and teach us.”

Evaluations gathered from 28 pediatric residents on a 10 point Likert scale are summarized in Table 2.

Table 2. Pediatric Residents evaluations of teaching January 2017- December 2017

Demonstrates basic science and up-to-date clinical knowledge	8.86
Critically evaluates scientific literature	9.00
Commitment to teaching	8.43
Demonstrates effective teaching	8.57
Providing feedback	8.57

Pediatric Residents evaluations of teaching January 2016 – December 2016

Demonstrates basic science and up-to-date clinical knowledge	9.00
Critically evaluates scientific literature	9.00
Commitment to teaching	8.50
Demonstrates effective teaching	8.17
Providing feedback	8.50

Pediatric Residents evaluations of teaching January 2015 – December 2015

Demonstrates basic science and up-to-date clinical knowledge	9.25
Critically evaluates scientific literature	8.75
Commitment to teaching	8.50
Demonstrates effective teaching	8.25
Providing feedback	8.25

In 2017, I was ranked 17/134 pediatric faculty compared to 53/133 in 2016 and 58/144 in 2015. I have consistently improved or maintained my clinical teaching as evidenced by the learner evaluations.

Following are excerpts from the resident evaluations: “Dr. [REDACTED] was amazing to work with. She was incredibly confident in her medical knowledge and clinical abilities, and all of her patients benefited from seeing her. She was never overwhelmed, even on the craziest days. She was a good teacher, making sure to teach topics relevant to patients we were seeing, even if it made rounds take longer. She gave good feedback, and was overall one of the best attendings I’ve worked with.” Also, “It was an honor and privilege to work with Dr. [REDACTED]! She is a great teacher and a physician. I was glad to learn about really interesting endocrine topics while on the rotation. I hope to continue reading about endocrinology topics. Thanks!”

Other section based teaching:

Pediatric Diabetes/Endocrine Fellows’ Journal Club: I coordinate this bi-monthly event.

Endocrine Themes: I give one lecture per year for fellows.

Board review: I attend this monthly event reviewing questions with the fellows and providing interpretation of the answers

Scholarship

The criteria for advance to associate professor for tenure track faculty in the area of scholarship requires the candidate to secure extramural funding, present research findings at more than one regional meeting per year, publish more than one manuscript per year with at least two articles as first or last author, and review scholarly material. Additionally, the candidate should maintain certification and teach in continuing education programs at least once per year while maintaining a scholarly focus maintaining a regionally recognized scientific competence. While I am not on the tenure track, I have exceeded the expectations for promotion to associate professor on the tenure track. I have received extramural funding as a K23 and Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) study from National Institutes of Health (NIH), presented 34 posters and 3 oral presentations at local, regional, and national meetings, published 19 manuscripts with 9 as first author, and reviewed for 17 journals in addition to reviewing abstracts for national meetings. I have lectured at Continuing Medical Education (CME) events, maintained certification, and have been recognized for my scientific competence by being invited to chair sessions at national meetings. For the specifics of each of these criteria, please see below.

Arterial Compliance in Youth with Obesity and Type 2 Diabetes Mellitus (T2DM)

During fellowship training in pediatric endocrinology, my work focused on the impact of obesity and T2DM on vascular health in youth. This project was funded through grants from the Endocrine Fellows Foundation (EFF) and the Pediatric Endocrine Society (PES), and I continued data analysis with relevant publications into the first years of my faculty appointment. I found that vascular compliance was increased in youth with obesity and T2DM which is opposite to that observed in adults. The increased compliance was related to fat mass. We also saw that the compliance tended to decrease with age suggesting that the vasculature in the adolescent with obesity or T2DM may be maturing faster predisposing them to earlier cardiovascular disease. These findings along with sub analyses by mentees were presented at several national meetings (see CV pages 5-6) and resulted in eight publications with six first-author publications. (Table 1) I have published in some of the top journals in my field including The Journal of Clinical Endocrinology and Metabolism and Pediatric Diabetes. The publication on arterial elasticity in youth has been cited in over 50 other publications. The experience in vascular research has positioned me for future contributions in the TODAY study as outlined below.

Table 1. Vascular Publications

Author and Title	Source	Impact Factor	Total Citations
██████████. Obese children have higher arterial elasticity without a difference in endothelial function: the role of body composition.	Obesity 2012	3.873	53
██████████ Sex differences in vascular compliance in normal-weight but not obese boys and girls: the effect of body composition.	International Journal of Pediatrics 2012	0.86	6

Table 2. miRNA in Fetal Programming

Author and Title	Source	Impact Factor	Total Citations
[REDACTED] Influence of gestational diabetes mellitus on human umbilical vein endothelial cell miRNA.	Clinical Science 2016	4.936	6
[REDACTED] Role of microRNA-130b in placental PGC-1 α /TFAM mitochondrial biogenesis pathway.	Biochemical and Biophysical Research Communications 2017	2.446	
[REDACTED] Effects of maternal diabetes and fetal sex on human placenta mitochondrial biogenesis.	Placenta 2017	2.759	1

Using the preliminary data generated through the grants and publications above, I was awarded a K23 Mentored Patient-Oriented Research Career Development Award from NIDDK with the NIH September 12, 2016. This award is a 4 year grant with total direct and indirect funding of \$618,000. The project, “*In utero* exposure to diabetes and future cardiometabolic risk: the role of miRNA”, builds upon our previous work with the major goal of the project to determine the mechanism of action for certain microRNAs and the microRNAs’ impact on metabolism tissues while acquiring skills to establish as an independent researcher. My effort on this project is currently 75%. Currently we have one manuscript in preparation that will be submitted Fall 2018. Work from this project has been presented at five national meetings and 7 regional meetings. From the data currently being generated, an R03 will be submitted in Fall 2018 with an R01 planned for Spring 2020.

TODAY study

In addition to the above, I serve as the site co-Principle Investigator for the TODAY study. TODAY initially examined optimum treatment modalities for youth with T2DM. Funding by NIDDK continues in order to assess the evolving comorbidities of T2DM in youth. I serve on the cardiovascular subcommittee within the larger Comorbidity Assessment Committee. Given my interest in cardiometabolic effects of diabetes, this was a natural fit for me. Since joining the study group, I have been a co-author on 3 publications and first author on a peer-reviewed review article from the study (Table 3). I have also been an author on three presentations at the American Diabetes Association at the national level.

Table 3. TODAY publications

Author and Title	Source	Impact Factor	Total Citations
[REDACTED] Complications and comorbidities of T2DM in adolescents: findings from the TODAY clinical trial.	Journal of Diabetes and Its Complications 2015	2.734	40
[REDACTED] Benefits and barriers to participating in longitudinal research of youth-onset type 2 diabetes: Results from the TODAY retention survey.	Clinical Trials 2016	2.715	4
[REDACTED] Cardiac Biomarkers in Youth with Type 2 Diabetes Mellitus: Results from the TODAY Study.	The Journal of Pediatrics 2018	3.874	1
[REDACTED] Barriers and strategies for oral medication adherence among children and adolescents with Type 2 diabetes.	Diabetes Research and Clinical Practice 2018	3.639	

Future plans in TODAY: I am currently the writing group chair for a manuscript assessing markers of vascular adhesion. I serve as a writing group member of 3 manuscripts in progress and serve as the co-writing group chair for pregnancy outcomes. A competitive renewal with NIH/NIDDK to continue to follow this cohort for comorbidities will be submitted June 2019.

Clinical and Case Presentations

I have two publications detailing a patient with arhinia and hypogonadotropic hypogonadism, one of which was published in Nature Genetics in 2017. This case report identified a novel mutation previously unknown to be associated with arhinia.

As member of the Disorders of Sexual Development (DSD) multidisciplinary team, I have been a co-author on 2 manuscripts that were aimed to provide a guideline for the care and treatment of youth with CAH and XY DSD. These manuscripts serve as the model for health care delivery in these unique patient groups. The manuscript on CAH has been cited 26 times, and the manuscript on XY DSD has been cited 27 times.

Service

The criteria for promotion from assistant professor to associate professor, on the clinician scientist pathway, in the realm of service performance requires that the candidate excel in clinical care, demonstrate involvement in university committees, and maintain membership in appropriate professional societies. I have met this requirement through my clinical efforts serving as the director of the Turner Syndrome clinic and winning two awards for patient satisfaction. I serve on two committees within our section as well as the Advisory Board for Camp Blue Hawk (Pediatric Diabetes Camp) and am a member of the American Diabetes Association and Pediatric Endocrine Society. I additionally serve through other means such as free medical clinics and medical mission trips. For complete details of these activities, please see below.

“To lead is to serve.”

Clinical Service

My goal is to provide patient-centered care based on medical evidence. I currently spend one full day per week in outpatient care. In the last year, I saw 586 patients for about 15 patients per clinic in our outpatient clinic. In addition to seeing diabetes and general endocrine patients, I am the director of the comprehensive Turner Syndrome Clinic. I founded this clinic as a fellow and have continued to develop it during my time as faculty. This clinic meets once every other month and has grown to serve approximately 60 girls and young adults with Turner Syndrome from Oklahoma, Texas and Arkansas. Within the clinic, I coordinate endocrinology, genetic counseling, and behavioral health services. The second year pediatric endocrine fellows rotate through the Turner Syndrome Clinic, and I serve as their mentor during this rotation and experience. I additionally serve as contract health employee for the Chickasaw Nation and travel to the Chickasaw Medical Center in Ada one day per month to hold clinic at their facility. In the last year, I saw 146 patients in Ada for about 12 patients per clinic. Additionally I cover about 2 months per year on the inpatient service at the Children’s Hospital. In recognition of my efforts in clinical patient care, I received the OU Medicine Award for Outstanding Patient Service for 2015-2016 and 2016-2017 for achieving the top 90th percentile nationally in the Physicians Communications and Overall Doctor Rating from CGCAHPS. Below are a few comments that have been made by patients or their families.

“██████████ is excellent. I can think of no one better.”

“I would highly recommend ██████████ to anyone needing a pediatric Endo.”

“I trust her direction completely. She has a great relationship and understanding of my daughter.”

“██████ is, in my mind, my partner in caring for my T1D child. She shows genuine knowledge about the care of my daughter. She takes her time to review her camp documents in order to be well versed in my child's management. I feel she takes great care in her health.”

Service to the University

I have served on several committees within the department of pediatrics and my section of diabetes/endocrinology. I have been a member of the Women in Pediatric Medicine. I serve on both the Pediatric Endocrinology Core Competency Committee and the Pediatric Diabetes and Endocrinology Fellowship Program Evaluation Committee within the section of Diabetes/Endocrinology for our fellowship program. I also serve as a member of the pediatric endocrine fellowship applicant review committee that interviews all potential applicants for the pediatric endocrine fellowship program here at OU. I am also a member of the Camp Blue Hawk (Pediatric Diabetes Camp) Advisory Committee.

Additionally, I have served as judge and reviewer for several groups on campus. I have served as a poster and abstract reviewer for Pediatric Research day within the department to pediatrics for 3 years, and as a judge for the Harold Hamm Research Symposium for 2 years. I have reviewed research proposals for the OSCTR Pilot Project Program.

Professional Service

Since joining faculty, I have reviewed manuscripts for 19 journals as an ad hoc reviewer including the Journal of Pediatrics, Diabetologia and The Lancet Diabetes and Endocrinology.

For the past 2 years I have reviewed abstracts for the American Diabetes Association Scientific sessions. I have served as a moderator for oral abstract presentations at the 2017 meeting and will moderate a symposium session at the 2018 meeting. I have reviewed abstracts and workshop proposals for the Pediatric Academic Society (PAS) for 5 years. This past year I also reviewed abstracts for the International Pediatric Endocrine Society Meeting.

The Pediatric Endocrine Society of Texas, Oklahoma, Louisiana, and Arkansas (PETOLA), is comprised of the pediatric endocrinologist in this section of the country. I currently serve this group as a board member. I have spoken at our annual meetings, and the board serves as the planning committee for these annual meetings as well.

Community Service

I feel very strongly that it is important to give back to your community and others. Since 2014, I have served one Saturday per month at the Lighthouse medical clinic. This is a free clinic serving pediatric patients in the Capital Hill area of Oklahoma City. The Harold Hamm Diabetes Center sponsors a camp every summer for youth with type 1 diabetes. For the past 2 years, I have devoted my time as medical staff for the camp. I also have participated in international medical missions. For the past 3 years, I have gone to Chichicastenango, Guatemala to provide medical care for the Mayan descendants who are underserved. I also have been to the country of Haiti in 2012 to serve children in orphanages in that country.