BIOGRAPHICAL SKETCH

NAME: **David Matthew Maahs**

eRA COMMONS USER NAME (credential, e.g., agency login): Maahs.D

POSITION TITLE: Lucile Salter Packard Professor of Pediatrics & Chief of Endocrinology, Stanford University

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Kansas, Lawrence, KS	B.A.	06/1988	English
University of Kansas, Lawrence, KS	M.A.	06/1990	English
University of New Mexico, Albuquerque, NM	M.D.	06/1997	Medicine
University of New Mexico, Albuquerque, NM	Residency	06/2000	Pediatric Resident
University of Colorado Denver, Denver, CO	Fellowship	06/2006	Pediatric Endocrinology
University of Colorado Denver, Denver, CO	PhD	06/2010	Epidemiology

A. Personal Statement

I am a physician–scientist with over two decades of experience leading clinical and translational research to improve care and outcomes for people with type 1 diabetes. Specifically, my research has extended from epidemiologic studies to identify gaps in care to development of hypotheses to test interventions in clinical trials. My early work, supported by an NIDDK K12 then K23, focused on cardiovascular and kidney complications. My research increasingly focused on diabetes technology to improve quality of life and glycemic outcomes with an emphasis on translating this research to the clinic to reduce variability in care. I have served as an investigator and leader in landmark studies and consortia including CACTI, SEARCH, T1DX, PERL, FLEX, ECHO Diabetes, and artificial pancreas research with funding from NIDDK, NSF, Breakthrough T1D, and the Helmsley Charitable Trust. These experiences built the foundation for my current focus on translating diabetes technology into clinical practice. A central achievement is the *4T (Teamwork, Targets, Technology, Tight Control) Study*, an award-winning program that successfully emphasized teamwork to integrate continuous glucose monitoring combined with remote patient monitoring to improve outcomes. 4T has translated into routine diabetes care at Stanford. This study exemplifies my operational expertise in leading multidisciplinary teams to move technology- and AI-enabled interventions from research to the clinic, while addressing disparities in access and outcomes.

I have held numerous leadership roles—including President and Secretary-General of the International Society of Pediatric and Adolescent Diabetes (ISPAD), Associate Director of the Stanford Diabetes Research Center (SDRC), and Associate Chair and Associate Dean roles at Stanford School of Medicine—underscoring my commitment to mentoring physician–scientists and building sustainable infrastructure that advances both science and clinical care. I was co-PI with Dr. Klingensmith on the Barbara Davis Center T32 and K12 training grants in Pediatric Endocrinology and co-author with Dr. Chase on the 12th and 13th editions of *Understanding Diabetes*, or Pink Panther education books. I currently serve co-PI of the Stanford T32 'Training Grant for Diabetes Research,' PI of the Stanford K12 'Training Research Leaders in Type 1 Diabetes," and corresponding MPI for the National K12 DiabDocs Training program.

Ongoing and recently completed projects that I would like to highlight include:

Ongoing Research Support

MPI Maahs (contact) and DiMeglio, K12DK133995 07/2022 - 06/2027
Diabetes-Docs: Physician-Scientist Career Development Program (DiabDocs)
Goals: The education and training of Pediatric and Adult endocrinologists for academic research careers with a focus on Type 1 Diabetes. Role: PI

MPI Maahs (contact) and DiMeglio, Helmsley Charitable Trust 07/2023-6/2026
Diabetes-Docs: Physician-Scientist Career Development Program (DiabDocs), supplement

Goals: The education and training of Pediatric and Adult endocrinologists for academic research careers with a focus on Type 1 Diabetes.

1R18DK122422 (PI D Maahs) 02/2019 - 01/2026
Teamwork, Targets, Technology, and Tight Control in Newly Diagnosed Pediatric T1D: 4T Study
Goal: To implement proven methods and emerging diabetes technology into our clinical practice to sustain tight glucose control from the onset of Type 1 Diabetes and optimize patient reported and psychosocial outcomes. Role: PI

PI Johari, co-I Maahs, Prahalad, Fox, Scheinker NSF, 2205084 09/2022 - 08/2026
SCH: Improving patient health and equity through the digital transformation of diabetes care delivery
Goals: The focus of this proposal is the data-driven digital transformation of diabetes care, by combining novel sources of sensor data with dashboards and visualizations that improve patient health while more efficiently allocating scarce provider resources. Role: co-I

PI Guestrin, co-I Maahs, Fox, Johari, Prahalad, Rose, **Stanford HAI** 09/2022 - 08/2026
EAE Scores: A Framework for Explainable, Actionable and Equitable Risk Scores for Healthcare Decisions
Goals: Optimize care using advanced techniques in statistics, machine learning and operations research.

American Diabetes Association, (Walker, PI) 07/2025 – 06/2027
Extension for Community Healthcare Outcomes (ECHO) Diabetes for Federally Qualified Health Centers
Goal: Improve diabetes care at FQHCs. Role: co-I

1P30DK11607401 (PI-S. Kim, Co-PI D. Maahs) 07/2017 - 06/2027
Stanford Diabetes Research Center
Goal**:** To foster discovery, application and translation of scientific knowledge about diabetes and its complications to innovate advances in diabetes research and improved diabetes care. Role: Associate Director

1K12DK122550-01 (PI D. Maahs) 07/2019 - 06/2026
Training Research Leaders in Type 1 Diabetes
Goal: The education and training of researchers for academic careers in Pediatric and Adult Endocrinology with a specific focus on T1D. Role: PI

T32DK007217, PI Annes, co-PI Maahs 7/01/1976-6/30/2028
T32 Training grant for diabetes research
Goal: Prepare qualified predoctoral and/or postdoctoral trainees for careers with significant contributions to diabetes research.

Recent Citations to Highlight:

1) Addala A, Auzanneau M, Miller K, Maier W, Foster N, Kapellen T, Walker A, Rosenbauer J, **Maahs DM**, Holl RW. A Decade of Disparities in Diabetes Technology Use and HbA_{1c} in Pediatric Type 1 Diabetes: A Transatlantic Comparison. Diabetes Care. 2021 Jan;44(1):133-140. doi: 10.2337/dc20-0257. PMID: 32938745; PMCID: PMC8162452.
2) Prahalad P, Ding VY, Zaharieva DP, Addala A, Johari R, Scheinker D, Desai M, Hood K, **Maahs DM**. Teamwork, Targets, Technology, and Tight Control in Newly Diagnosed Type 1 Diabetes: the Pilot 4T Study. J Clin Endocrinol Metab. 2022 Mar 24;107(4):998-1008. PMCID: PMC8947228.
3) Prahalad P, Scheinker D, Desai M, Ding VY, Bishop FK, Lee MY, Ferstad J, Zaharieva DP, Addala A, Johari R, Hood K, **Maahs DM**. Equitable implementation of a precision digital health program for glucose management in individuals with newly diagnosed type 1 diabetes. Nat Med. 2024 Jul;30(7):2067-2075. PMCID: PMC11847559.
4) Ebekozien O, Mungmode A, Sanchez J, Rompicherla S, Demeterco-Berggren C, Weinstock RS, Jacobsen LM, Davis G, McKee A, Akturk HK, **Maahs DM**, Kamboj MK. Longitudinal Trends in Glycemic Outcomes and Technology Use for Over 48,000 People with Type 1 Diabetes (2016-2022) from the T1D Exchange Quality Improvement Collaborative. Diabetes Technol Ther. 2023 Nov;25(11):765-773. PMID: 37768677

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2025-present Associate Dean for Academic Affairs, School of Medicine, Stanford University
2023-2024 Associate Dean for Research, School of Medicine, Stanford University
2021-present Associate Chair for Academic Affairs, Department of Pediatrics
2021-present Lucile Salter Packard Professor of Pediatrics (Endowed Chair)
2022-2024 President, ISPAD, Executive Board 2021-25
2021-2025 Human Studies of Diabetes and Obesity **(HSDO), NIDDK, study section member.**
2020-2025 Observational Study Monitoring Board for NIDDK funded "Glycemic Observation and Metabolic Outcomes in Mothers and Offspring" (GO MOMs) study, Chair.
2019-2021 Clinical and Integrative Diabetes and Obesity **(CIDO), NIDDK, study section member**.
2018-present Courtesy appointment, Health Research and Policy (Epidemiology), Stanford University
2017-2020 Editorial Board, Journal of Pediatrics
2017-2019 Professional Practice Committee, American Diabetes Association
2017-2019 Associate Editor, Diabetic Medicine
2016-present Professor and Division Chief, Pediatric Endocrinology, Stanford University
2016-present Associate Director, NIDDK P30 funded Stanford Diabetes Research Center
2016-2020 Secretary-General, ISPAD
2016-2018 Editor in Chief, ISPAD Clinical Practice Consensus Guidelines
2016 Professor, Pediatric Endocrinology, BDC, UCD
2015 Secretary-General elect, International Society of Pediatric and Adolescent Diabetes (ISPAD)
2014-2015 ADA Scientific Sessions Planning Committee, Clinical Diabetes/Therapeutics YOUTH
2014-2015 Scientific Advisory Board, International Society for Pediatric and Adolescent Diabetes
2013-2020 Editorial Board, Diabetes Technology and Therapeutics
2013-2018 Type 1 Diabetes Exchange, Steering Committee
2013-2016 Type 1 Diabetes Exchange, Co-Chair for Publications and Protocol Development
2012-2014 Committee Member/Editorial team member, ISPAD Guidelines
2011-2016 Associate Professor, Pediatric Endocrinology, BDC, UCD
2011-2016 Secondary Appointment in Division of Renal Diseases and Hypertension, UCD
2011-2016 Secondary Appointment in Dept of Epidemiology, Colorado School of Public Health, UCD
2011-2013 Associate Editor, Diabetes Technology and Therapeutics
2006-2011 Assistant Professor, Pediatric Endocrinology, Barbara Davis Center (BDC) for Childhood Diabetes, University of Colorado Denver (UCD)
2003-2006 Fellow, Pediatric Endocrinology, U of Colorado Health Sciences Center, Denver, CO
2001-2003 Medical Director, Pediatric Sub-Acute Unit, UNM Hospital, Albuquerque, NM
2000-2003 Clinical Assistant Professor of Pediatrics, UNM Hospital, Albuquerque, NM
1997-2000 Pediatric Resident, University of New Mexico (UNM) Hospital, Albuquerque, NM
1991-1992 Instructor in English, U.S. Peace Corps, Ecole Normale Superieure, Bangui, Central African Republic
1990-1991 Instructor in English, U.S. Peace Corps, Ecole Normale Superieure, Sousse, Tunisia

Awards and Honors

2025 Top 10 Clinical Research Achievement Awardee, Clinical Research Forum
1999-2000 Chief Resident for Education, University of New Mexico Department of Pediatrics
2000 Outstanding Teacher Award, Pediatric Residency Program, Albuquerque, NM
1994 Summer Research Grant, Department of History and Philosophy of Medicine, University of Kansas School of Medicine, Kansas City, KS

C. Contributions to Science

1. **Cardiovascular (CVD) and Renal Complications of T1D:** CVD is the leading cause of death for people with T1D and renal disease continues to cause early morbidity and mortality and increase health costs for people with T1D. I have worked with national groups (SEARCH, PERL) to investigate early CVD/renal disease and their risk factors in people with T1D, including being 1st author on an AHA Scientific Statement on CVD risk factors in youth with diabetes.

a. **DM Maahs**, L Ogden, G L. Kinney, P Wadwa, J Snell-Bergeon, J Hokanson, D Dabelea, J Ehrlich, RH Eckel, M Rewers. Low Plasma Adiponectin Levels Predict Progression of Coronary Artery Calcification, *Circulation.* 2005;111:747-753. PMID: 15699257.
b. **DM Maahs**, BM Snively, G Imperatore, R Bell, EJ Mayer-Davis, L Dolan, DJ Pettitt, I Hirsch, B Rodriguez, B Linder, S Marcovina, D Dabelea. Prevalence and Determinants of Elevated Albumin to Creatinine Ratio in Youth with Diabetes: The SEARCH for Diabetes in Youth Study, *Diabetes Care*. 2007;30:2593-8. PMID: 17630264.
c. **DM Maahs**, Chair; S Daniels, SD deFerranti, HL Dichek, J Flynn, BI Goldstein, AS Kelly, KJ Nadeau, P Martyn-Nemeth, S Osganian, L Quinn, AS Shah, E Urbina, Co-Chair, on behalf of the Atherosclerosis, Hypertension & Obesity in Youth Committee of the Cardiovascular Disease in the Young Council of the American Heart Association. AHA Scientific Statement. Cardiovascular Disease Risk Factors in Youth with Diabetes: A Scientific Statement From the American Heart Association. *Circulation*. 2014 Oct 21;130:1532-58.
d. Doria A, Galecki AT, Spino C, Pop-Busui R, Cherney DZ, Lingvay I, Parsa A, Rossing P, Sigal RJ, Afkarian M, Aronson R, Caramori ML, Crandall JP, de Boer IH, Elliott TG, Goldfine AB, Haw JS, Hirsch IB, Karger AB, **Maahs DM**, McGill JB, Molitch ME, Perkins BA, Polsky S, Pragnell M, Robiner WN, Rosas SE, Senior P, Tuttle KR, Umpierrez GE, Wallia A, Weinstock RS, Wu C, Mauer M; PERL Study Group. Serum Urate Lowering with Allopurinol and Kidney Function in Type 1 Diabetes. N Engl J Med. 2020 Jun 25;382(26):2493-2503. PMCID: PMC7375708.

2. **Epidemiologic/Registry of T1D:** National and international studies (including in a T1DX leadership role) have *identified shortcomings in current T1D care* and contributed to changes in guidelines and development of clinical trials to test interventions to improve care for people with T1D.
   a. Wood JR, Miller KM, **Maahs DM**, Beck RW, DiMeglio LA, Libman IM, Quinn M, Tamborlane WV, Woerner SE; T1D Exchange Clinic Network. Most youth with type 1 diabetes in the T1D Exchange Clinic Registry do not meet American Diabetes Association or International Society for Pediatric and Adolescent Diabetes clinical guidelines. Diabetes Care. 2013 Jul;36(7):2035-7. doi: 10.2337/dc12-1959. PMID: 23340893; PMCID: PMC3687259.
   b. **DM Maahs**, JM Hermann, SN DuBose, KM Miller, B Heidtmann, LA DiMeglio, B Rami-Merhar, RW Beck, E Schober, WV Tamborlane, TM Kapellen, and RW Holl for the DPV Initiative and the T1D Exchange Clinic Network. Contrasting the Clinical Care and Outcomes of 2,622 Children with Type 1 Diabetes less than 6 Years of Age in the United States T1D Exchange and German/Austrian DPV Registries. *Diabetologia*. 2014;57:1578-85. PMID: 24893863.
   c. KM Miller, NC Foster, RW Beck, RM Bergenstal, SN DuBose, LA DiMeglio, **DM Maahs**, and WV Tamborlane for the T1D Exchange Clinic Network. Current state of type 1 diabetes treatment in the US: Updated data from the T1D Exchange Clinic Registry. *Diabetes Care*. 2015;38:971–978.
   d. Foster NC, Beck RW, Miller KM, Clements MA, Rickels MR, DiMeglio LA, **Maahs DM**, Tamborlane WV, Bergenstal R, Smith E, Olson BA, Garg SK. State of Type 1 Diabetes Management and Outcomes from the T1D Exchange in 2016-2018. Diabetes Technol Ther. 2019 Feb;21(2):66-72. PMID: 30657336; PMCID: PMC7061293.

3. **Behavioral & Nutritional Challenges of T1D:** The day-to-day management of T1D imposes tremendous burden on people with T1D and their families. These psychosocial challenges require advances in clinical care to reduce the burden of care and improve patient outcomes. Therefore, work in this area has spanned from epidemiologic investigations (CACTI, T1DX) to being a PI of the FL3X study.
   a. N Gendelman, JK Snell-Bergeon, K McFann, G Kinney, RP Wadwa, F Bishop, M Rewers, **DM Maahs**. Prevalence and Correlates of Depression in Persons with and without Type 1 Diabetes. *Diabetes Care* 2009;32:575-579. PMC2660458.
   b. PM Trief, D Xing, N Foster, **DM Maahs**, JM Kittelsrud, BA Olson, LA Young, AL Peters, RM Bergenstal, KM Miller, RW Beck, RS Weinstock, for the T1D Exchange Clinic Network. Depression in Adults in the T1D Exchange Clinic Registry. *Diabetes Care*. 2014;37:1563-72. PMID: 24855157.
   c. G Spiegel, A Bortsov, FK Bishop, D Owen, GJ Klingensmith, EJ Mayer-Davis, **DM Maahs**. Randomized Nutrition Education Intervention to Improve Carbohydrate Counting in Adolescents with Type 1 Diabetes Study: Is More Intensive Education Needed? *J Acad Nutr Diet*. 2012; 112:1736-46. PMC3487717.

d. Mayer-Davis EJ, **Maahs DM**, Seid M, Crandell J, Bishop FK, Driscoll KA, Hunter CM, Kichler JC, Standiford D, Thomas JM; FLEX Study Group. Efficacy of the Flexible Lifestyles Empowering Change intervention on metabolic and psychosocial outcomes in adolescents with type 1 diabetes (FLEX): a randomised controlled trial. Lancet Child Adolesc Health. 2018 Sep;2(9):635-646. Epub 2018 Jul 30. PMCID: PMC6260973.

4. **Diabetes Technology and Glucose Control**: My research has focused on the development of diabetes technology and increasingly on its translation to clinical use. Improved glucose control is the best proven method to prevent the complications of T1D and to reduce the burden of care of diabetes. I collaborate with clinical, engineering, and psychosocial collaborators on JDRF, NIDDK, and NSF funded studies.
   a. **Maahs DM**, Calhoun P, Buckingham BA, Chase HP, Hramiak I, Lum J, Cameron F, Bequette BW, Aye T, Paul T, Slover R, Wadwa RP, Wilson DM, Kollman C, Beck RW; In Home Closed Loop Study Group. A randomized trial of a home system to reduce nocturnal hypoglycemia in type 1 diabetes. Diabetes Care. 2014 Jul;37(7):1885-91. PMCID: PMC4067393.
   b. Breton MD, Cherñavvsky DR, Forlenza GP, DeBoer MD, Robic J, Wadwa RP, Messer LH, Kovatchev BP, **Maahs DM**. Closed-Loop Control During Intense Prolonged Outdoor Exercise in Adolescents With Type 1 Diabetes: The Artificial Pancreas Ski Study. Diabetes Care. 2017 Dec;40(12):1644-1650. PMID: 28855239; PMCID: PMC5711335.
   c. DiMeglio LA, Acerini CL, Codner E, Craig ME, Hofer SE, Pillay K, **Maahs DM**. ISPAD Clinical Practice Consensus Guidelines 2018: Glycemic control targets and glucose monitoring for children, adolescents, and young adults with diabetes. *Pediatr Diabetes*. 2018 Oct;19 Suppl 27:105-114. PMID: 30058221
   d. Prahalad P, Addala A, Scheinker D, Hood KK, **Maahs DM**. CGM Initiation Soon After Type 1 Diabetes Diagnosis Results in Sustained CGM Use and Wear Time. Diabetes Care. 2020 Jan;43(1):e3-e4. PMID: 31558548; PMCID: PMC7011198.

5. Reducing Variability in Diabetes Care: My experience with patient care and national/international research groups has made obvious the variabilities in diabetes care in the US exacerbated by barriers to diabetes technology. Our work aims to identify and then address this variation to provide the best care to all.
   a. Miller KM, Beck RW, Foster NC, **Maahs DM**. HbA1c Levels in Type 1 Diabetes from Early Childhood to Older Adults: A Deeper Dive into the influence of technology and socio-economic status on HbA1c in the T1D Exchange Clinic Registry Findings. *Diabetes Technol Ther*. 2020 Sep;22(9):645-650. PMID: 31905008. PMCID: PMC7640747
   b. AF Walker, KK Hood, MJ Gurka, SL Filipp, C Anez-Zabala, N Cuttriss, MJ Haller, X Roque, D Naranjo, G Aulisio, A Addala, J Konopack, S Westen, K Yabut, E Mercado, S Look, B Fitzgerald, J Maizel, **DM Maahs**. Barriers to Technology Use and Endocrinology Care for Underserved Communities with Type 1 Diabetes. *Diabetes Care.* 2021 Jul;44(7):1480-1490. PMCID: PMC8323174
   c. A Addala, S Hanes, D Naranjo, **DM Maahs**, KK Hood. Provider Implicit Bias Impacts Pediatric Type 1 Diabetes Technology Recommendations: Findings from The Gatekeeper Study. *J Diabetes Sci Technol* 2021 Sep;15(5):1027-1033. PMCID: PMC8442183
   d. Addala A, Hanes S, Naranjo D, **Maahs DM**, Hood KK. Provider Implicit Bias Impacts Pediatric Type 1 Diabetes Technology Recommendations in the United States: Findings from The Gatekeeper Study. J Diabetes Sci Technol. 2021 Sep;15(5):1027-1033. PMID: 33858206; PMCID: PMC8442183.

Complete List of Published Work in MyBibliography:
http://www.ncbi.nlm.nih.gov/pubmed?otool=uchsclib&term=maahs%20d&cmd=search