University of California, San Francisco
CURRICULUM VITAE

Name: Aaron Barak Neinstein, MD

Position: Associate Professor of Clinical Medicine, Step 1
Medicine
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EDUCATION

1999 - 2003	Northwestern University, Evanston, IL	B.A.	Honors, American Studies
2003 - 2007	Keck School of Medicine, Los Angeles, CA	M.D	Highest Distinction, AOA
2007 - 2008	University of California, San Francisco	Intern	Internal Medicine
2008 - 2010	University of California, San Francisco	Resident	Internal Medicine
2011 - 2013	University of California, San Francisco	Clinical Fellow	Diabetes, Endocrinology, and Metabolism
2012 - 2013	Oregon Health and Sciences University		Clinical Informatics
2013 - 2013	University of California, San Francisco -- Lean Launchpad for Life Sciences and HealthCare		

LICENSES, CERTIFICATION

2009	Medical licensure, California (A106501) - Exp. 08/31/2020
2010	Board Certified, Internal Medicine
2013	Board Certified, Endocrinology, Diabetes, and Metabolism
2014	Board Certified, Clinical Informatics

PRINCIPAL POSITIONS HELD

07/2010 - 06/2011	University of California, San Francisco	Clinical Instructor	Medicine
7/2013 - 7/2015	University of California, San Francisco	HS Assistant Clinical Professor	Medicine
7/2015 - 11/2015	NorthShore University HealthSystem	Endocrinologist	Medicine
11/2015 - 6/2019	University of California, San Francisco	HS Assistant Clinical Professor	Medicine
7/2019 - present	University of California, San Francisco	Associate Professor of Clinical Medicine	Medicine

OTHER POSITIONS HELD CONCURRENTLY

07/2010 - 06/2011	UCSF Medical Center	Ambulatory Physician Lead, Epic EHR
07/2013 - 07/2015	UCSF Medical Center	Assistant Medical Director of Informatics
07/2013 - 07/2015	UCSF Center for Digital Health Innovation	Lead, Clinical Design and Research
07/2015 - 11/2015	NorthShore University HealthSystem	Associate Medical Director, Health IT
07/2015 - 11/2015	Pritzker School of Medicine	Clinician Educator
11/2015 - present	UCSF Center for Digital Health Innovation	Director of Clinical Informatics

HONORS AND AWARDS

2000	Dean's List	Northwestern University
2001	Dean's List	Northwestern University
2002	Dean's List	Northwestern University
2004	Medical Scholarship	Los Angeles Hillel Council
2005	Dean's Recognition Scholar	Keck School of Medicine
2006	Alpha Omega Alpha	Keck School of Medicine
2007	Dean's Recognition Scholar	Keck School of Medicine

2007	Medical Student Achievement Award	Endocrine Society
2007	Keck Service Spirit Award	Keck School of Medicine
2007	Graduation with Highest Distinction	Keck School of Medicine
2007	Student Internist Award	American College of Physicians
2007	Salerni Collegium Scholarship	Keck School of Medicine
2011	Nominee, Robert Crede Community Service Award	UCSF Division of General Internal Medicine
2012	Clinical Fellow Award	UCSF Division of Endocrinology
2012	Semi-Finalist; Data Design Diabetes Challenge	Sanofi
2013	Nominee, Essential Core Teaching Award	UCSF School of Medicine
2013	FrontLine Scholarship	TEDMED
2014	Helmsley Charitable Trust Abstract Award in Type 1 Diabetes	Endo Society, ICE/ENDO 2014
2014	Patient Safety Award (shared with Office of CMIO and Clinical Systems Team)	UCSF Medical Center
2014	Nominee, Exceptional Physician Award	UCSF Medical Center
2014	Nominee, Essential Core Teaching Award	UCSF School of Medicine
2014	Nominee, Kaiser Award for Excellence In Teaching	UCSF School of Medicine
2015	Excellence in Judgment, Core Value Award	UCSF Clinical Systems Team
2018	Fellow of the American Medical Informatics Association (FAMIA) - Initial year of inductees, FAMIA recognizes AMIA members who apply informatics skills and knowledge within their professional setting, who have demonstrated professional achievement and leadership, and who have a sustained commitment to the betterment of AMIA.	American Medical Informatics Association
2020	[415] Top Doctors	Marin Magazine

KEYWORDS/AREAS OF INTEREST
Digital health, clinical informatics, interoperability, electronic health records, patient-generated health data, EHR integration, diabetes mellitus, type 1 diabetes, quality improvement, clinical decision support, usability, technology evaluation, mHealth, mobile health, health policy.

CLINICAL ACTIVITIES

CLINICAL ACTIVITIES SUMMARY
I am dedicated to the clinical practice of endocrinology, with a focus on clinical diabetes care, diabetes technology, and paired with the introduction and testing of innovative care delivery models into the UCSF Endocrinology practice setting, targeting the influence of care models at UCSF and nationally.

My current clinical activities consist of:
- 4 sessions per month in the UCSF Endocrinology faculty practice, with a focus on type 1 and type 2 diabetes, but also caring for a broad spectrum of Endocrinology patients, including osteoporosis, hyperparathyroidism, hypogonadism, benign thyroid disease, pituitary adenomas, adrenal insufficiency, and pheochromocytoma.
- 2 sessions per month in the Diabetes Clinic, supervising and teaching the Endocrinology fellows, residents, and students.
- 2 weeks per year attending on the Endocrine inpatient consult service at Moffitt-Long Hospital, supervising and teaching the Endocrinology fellows, residents, and students.
- 1 per week (average) online complex care second opinion through UCSF's online second opinion service.

My clinical practice and activities contribute to testing and advancing innovative care models in several ways. First, I support Endocrinology in optimally using the EHR and associated technologies to drive optimal care quality and efficiency, most recently helping enable us to be an entirely virtual practice amidst the pandemic. Recently, I led the Endocrinology practice in being the first ambulatory clinic at UCSF to adopt the Voalte clinical communications tool, enabling on-the-fly secure text communications among providers and staff, many of whom were working from home amidst the pandemic. This enabled seamless video visit care with rapid troubleshooting of Zoom issues for patients. I also led our practice in adopting Docusign for all payor and authorization paperwork, which reduced our document turnaround time from nearly a week to under 1 day, speeding patient care (such as getting their insulin pumps and continuous glucose monitors) and also enabling our practice staff and providers to work entirely remotely. Over the past few years, I led the creation of tools and training in APeX to enable UCSF Endocrinologists to bill for continuous glucose monitoring analysis and interpretation, a CPT code not previously used at UCSF, garnering UCSF hundreds of thousands of dollars in extra revenue, as well as serving many patients by reviewing their CGM data outside of the context of a face-to-face visit. Second, I support our practice in developing Epic orders preference lists, note templates, and other documentation tools, as well as in demonstrating how to solve QI or operational challenges by using the EHR s reporting tools or other EHR functions. I help identify opportunities for improvement and provide regular feedback to the UCSF Health Informatics team and Clinical Systems teams with ideas for EHR workflow improvements, such as displaying a patients Open Orders and insurance information in InBasket, to allow quicker responses to patient questions. Fourth, I serve as an early adopter and clinical champion for numerous care delivery model innovations at UCSF, including telephone visits, video visits, and online second opinions. For each of these programs, I have worked with the program leads to iteratively test concepts and workflows, provide feedback, and then develop best practices for dissemination to our Endocrinology

clinic, and across UCSF Health. Finally, though I see patients with a broad spectrum of endocrine disorders, type 1 diabetes is a clinical focus area and I have attracted a type 1 diabetes patient panel from around the Bay Area. Many of these patients have been attracted by my focus on the use of novel diabetes technologies and telehealth and I increasingly receive referrals from around the Bay Area where patients have specifically sought me for their care. I was honored to be named a 415 Top Doctor by Marin Magazine in 2020. I have been able to iteratively test the use of modern devices, patient-generated health data, and telehealth to create a more patient-friendly, tech-enabled clinical experience. Many of these visits occur with the patient remote, connected via video conference, where the patient has uploaded their diabetes data to a web tool called Tidepool and we use   share screen   to walk through their data collaboratively and identify possible diabetes regimen changes.

As more clinical areas across UCSF and nationally have started taking advantage of patient-generated health data and telehealth, I have tried to disseminate my experiences. For example, in April 2018, I gave a plenary presentation at the Health Datapalooza in Washington DC, accompanied by one of my patients with type 1 diabetes, describing together how we use this care model relying on modern technologies, and how it has positively impacted her life. I have been on panels in June 2019 at the D-Data Exchange, in November 2019 at the UC Telehealth Summit, and in August 2020 at the Virtual COVID Diabetes Summit also describing the use of these technologies. I have done so in writing, publishing the   Top Ten Tips for Diabetes Telehealth   article just as the pandemic was beginning, writing for my personal blog at aaronneinstein.com and at times for Medscape, on Aaron Neinstein on Digital Health, and for other outlets such as CNBC. I was the featured interview guest on the Healthcare Innovator   s podcast, where I discussed my experiences and views on the use of patient-generated health data. My team at CDHI has also worked in national policy fora, including with the Office of the National Coordinator and CMS, to influence how national health IT and reimbursement policies are shaped around the use of telehealth and patient-generated health data.

CLINICAL SERVICES

2010 - 2011	Division of General Internal Medicine, 1701 Divisadero Practice	Three half-days per week
2014 - 2015	Endocrinology Inpatient Consultative Service, Mission Bay Hospital	One month per year
2013 - 2019	Endocrinology Faculty Practice	Six half-days per month (plus one half-day telehealth)
2013 - present	Endocrinology Moffitt-Long Inpatient Consultative Service	Two weeks per year
2019 - present	Endocrinology Faculty Practice	Four half-days per month
2017 - present	Diabetes Clinic	Two half-days per month
2017 - present	UCSF Online Second Opinions Service	

PROFESSIONAL ACTIVITIES

MEMBERSHIPS

2011 - present   American Association of Clinical Endocrinologists (AACE), Member

2012 - present   Endocrine Society, Member

2014 - present   American Medical Informatics Association (AMIA), Member

2014 - present   Bay Area Medical Informatics Society (BAMIS), Member

2015 - present   American Diabetes Association (ADA), Member

2016 - present   Association of Medical Directors of Information Systems (AMDIS), Member

2016 - present   Healthcare Information and Management Systems Society (HIMSS), Organizational Member

SERVICE TO PROFESSIONAL ORGANIZATIONS

2013 - 2013	American Association of Clinical Endocrinologists	Reviewed abstracts for 2013 Annual Meeting
2013 - 2013	International Medical Informatics Association	Reviewed papers for MedInfo 2013 Conference in Denmark
2019 - 2019	Digital Diabetes Congress, Mobile App Competition	Judge
2019 - 2020	UCSF Digital Health Awards	Judge

SERVICE TO PROFESSIONAL PUBLICATIONS

2013 - present   Journal of General Internal Medicine- Reviewer - 2 papers

2013 - present   JAMA Internal Medicine- Reviewer - 5 papers

2013 - present   Journal of Medical Internet Research (JMIR)- Reviewer - 1 paper

2014 - 2016   Journal of Hospital Medicine - Associate Editor

2014 - present   Journal of American College of Cardiology (JACC) - Reviewer - 1 paper

2015 - present   Journal of American Medical Informatics Society (JAMIA) - Reviewer - 8 papers

2015 - present   Journal of Diabetes Science and Technology - Reviewer - 5 papers

2017 - present   Endocrine Practice - Reviewer - 3 papers

2018 - present   Diabetes Care - Reviewer - 2 papers

2020 - present   NEJM Catalyst Innovations in Care Delivery - Reviewer - 1 paper

2020 - present   Diabetes Technology and Therapeutics -Reviewer- 1 paper

2020 - present   NPJ Digital Medicine- Reviewer- 1 paper

INVITED PRESENTATIONS - INTERNATIONAL

2012	mHealth Summit, Washington DC - "GreenDot: Making diabetes data more accessible, intuitive, and actionable"	Panelist
2012	Dreamforce 2012, San Francisco, CA - "GreenDot: Making diabetes data more accessible, intuitive, and actionable"	Panelist
2014	International Society of Endocrinology/Endocrine Society 2014 Annual Meeting, Chicago, IL	Co-Author of Abstract for Invited Presentation
2015	Endocrine Society, 2015 Leadership Council Retreat, Santa Monica, CA - "My Endocrinology Practice in 2025"	Speaker
2016	HIMSS Connected Health Summit, Las Vegas, NV - "A Digital Platform for Health"	Speaker
2019	8th Annual Charles H Best Centre Continuing Health Education Meeting, Toronto, Ontario - "Practical Cases Using CGM and Other Diabetes Technologies"	Speaker
2020	Virtual International Covid 19 and Diabetes Summit -Virtual -"Diabetes Telehealth Amidst the COVID19 Pandemic"	Panelist

INVITED PRESENTATIONS - NATIONAL

2014	Diabetes Technology Meeting, Bethesda, MD - "Diabetes mHealth: The Last Mile"	Speaker
2015	UCSF Informed Health, San Francisco, CA - "EHR Data Integration"	Speaker
2015	Diabetes D-Data Exchange, Palo Alto, CA - "Diabetes and Interoperability"	Panelist
2016	UCSF Informed Health, San Francisco, CA - "Health Information Interoperability"	Panelist
2016	American Medical Informatics Association Annual Symposium, Chicago, IL - "Building a Connected Health Interoperability Platform"	Panelist
2017	Diabetes Digital Congress, San Francisco, CA - "Integration into the EMR: It has to happen"	Panelist
2017	Symposia Medicus, Napa, CA - "Diabetes: Challenging Cases," "Diabetes Technology Update for 2017," "Digital Patient Engagement"	Speaker
2018	Health Datapalooza, Washington, DC - "Data Driven Patient Empowerment: Telehealth and Technology for Type 1 Diabetes Management"	Panelist

2018	National Council of Physician Executives Blue Cross Blue Shield Association Annual Meeting, Chicago, IL - "FDA s Software PreCertification Program and the ADviCE PreCert Collaborative Community"	Speaker
2019	Diabetes D-Data Exchange, San Francisco, CA - "Modern Diabetes Care in the Real World"	Panelist
2019	American Medical Informatics Association Annual Symposium, Washington, DC - "Real World Experiences with Patient-Facing APIs for Interoperability, Access, and Use of Electronic Health Data"	Panelist / Moderator
2019	Beyond Type 1 Knowledge Drop, Facebook Live Series, "The Future of Diabetes Care"	Interviewee
2020	Health Datapalooza, Washington, DC - "Truth or Dare? (The Real Scoop on How ONCs Information Blocking Rule Will Impact Doctors, Patients and Caregivers)"	Panelist
2020	Modern HealthCare, Webinar - "How Innovation is Helping Battle Covid-19"	Panelist
2020	American Medical Informatics Association Clinical Informatics Conference, Virtual - "Speeding Access to Specialty Care with a SMART-on-FHIR Fax-to-Referrals Automation Tool"	Speaker
2020	20th Annual Diabetes Technology, Virtual -Novel Software, Digital Health and Telemedicine- (Upcoming in November)	Speaker

INVITED PRESENTATIONS - REGIONAL AND OTHER INVITED PRESENTATIONS

2010	Medicine Noon Conference, San Francisco VA Medical Center	Speaker
2012	Endocrine Grand Rounds, San Francisco VA Medical Center	Speaker
2013	Endocrine Grand Rounds, UCSF - "The Future of Diabetes Management: Social Networking and New Technologies"	Speaker
2013	UCSF Diabetes Update CME Conference - "The Future of Diabetes Management: Social Networking and New Technologies"	Speaker
2014	UCSF Diabetes Update CME Conference - "Clinical Cases: Diabetes Challenges"	Speaker
2014	UCSF Precision Medicine Interest Group - "The Future of Diabetes Management: Social Networking and New Technologies"	Speaker

2017	UCSF Diabetes Update CME Conference - "Diabetes Technology - 2017 Update"	Speaker
2017	UCSF Research Data Colloquium, San Francisco, CA - "APIs for Research Apps at UCSF"	Speaker
2018	UCSF Diabetes Update CME Conference - "2018 Update: Closed Loop Insulin Delivery and Continuous Glucose Monitoring"	Speaker
2018	UCSF Advanced Management of Diabetes Online CME - "Diabetes Technology Updates: Glucose Monitoring, Apps and Software, Insulin Delivery, and Closed Loop"	Recorded Web Lecture
2018	UCSF Department of Medicine Grand Rounds - "Improving EHRs through integration: Tactics, strategies, and good ADvicE"	Speaker
2018	UCSF Data Colloquium - "EHRs and APIs at UCSF"	Speaker
2018	Office of the National Coordinator for Health IT Innovator's Series - "Improving Diabetes Care with Tidepool"	Webinar Presentation
2019	UCSF Diabetes Update CME Conference - "2019 Update: Closed Loop Insulin Delivery and Continuous Glucose Monitoring"	Speaker
2019	UCSF Division of General Internal Medicine Specialist Co-Management Conference - "Co-Management of Diabetes"	Speaker
2019	UCSF Osher Mini Medical School for the Public, San Francisco, CA - "What's New in Diabetes Technology"	Speaker
2019	UC TV - "What's New With Diabetes Technology in 2019?"	Speaker
2019	UC Telehealth Summit, Sacramento, CA - "Increasing the use of telehealth for diabetes care"	Panelist
2019	UCSF IT Sharecase, San Francisco, CA - "Digital Transformation at UCSF"	Keynote Speaker
2019	UCSD Biomedical Informatics Lecture Series, San Diego, CA - "Progress Toward Digital Transformation: APIs, Virtual Care, and Patient Engagement"	Speaker
2019	UCSD Endocrinology Grand Rounds, San Diego, CA - "Diabetes: An Opportunity to Model Modern Care Delivery"	Speaker
2019	UCSF IT Grand Rounds, San Francisco, CA - "A Full-Stack Approach Toward Digital Transformation"	Speaker
2019	UCSF Endocrinology Grand Rounds, San Francisco, CA - "Diabetes: An Opportunity to Model Modern Care Delivery"	Speaker

2020	UCSF Diabetes Update CME Conference - "Diabetes Data Speaker Rounds: Clinical Cases Interpreting Continuous Glucose Monitoring"

CONTINUING EDUCATION AND PROFESSIONAL DEVELOPMENT ACTIVITIES

2010	International Hospital Diabetes Meeting, San Diego, CA
2010	Epic AMB100: EpicCare Ambulatory Fundamentals, Verona, WI
2010	Epic CLN200: Introduction to Clinical Administration, Verona, WI
2010	Epic CLN300: Staff-Related Administration, Verona, WI
2010	Epic AMB400: Ambulatory Administration, Verona, WI
2011	Diabetes Technology Meeting, Burlingame, CA
2011	UCSF Endocrinology Fellowship weekly lecture series, San Francisco, CA
2012	Update on Osteoporosis, Oakland, CA
2012	Diabetes Update and Advances in Endocrinology and Metabolism, San Francisco, CA
2012	American Association of Clinical Endocrinologists Annual Meeting, Philadelphia, PA
2013	Endocrine Society Annual Meeting, San Francisco, CA
2013	Diabetes Technology Meeting, Burlingame, CA
2014	UCSF Endocrinology Grand Rounds, San Francisco, CA
2014	Endocrine Society Annual Meeting, Chicago, IL
2014	Epic User Group Meeting, Verona, WI
2014	Diabetes Technology Meeting, Bethesda, MD
2016	HIMSS (Healthcare Information and Management Systems Society) Annual Meeting, Las Vegas, NV
2016	American Medical Informatics Association, Annual Symposium, Chicago, IL
2016	mHealth Connect, Palo Alto, CA
2017	OHSU Data Analytics course (online)
2017	HIMSS (Healthcare Information and Management Systems Society) Annual Meeting, Orlando, FL
2017	HIMSS Northern California ePatient Summit, San Jose, CA
2018	HIMSS (Healthcare Information and Management Systems Society) Annual Meeting, Las Vegas, NV
2018	Health Datapalooza, Washington DC

2018	American Medical Informatics Association, Annual Symposium, San Francisco, CA
2019	Diabetes Mine DData Exchange, San Francisco, CA
2019	Diabetes Digital Congress, San Francisco, CA
2019	UCSF-Stanford Clinical Informatics Joint Symposium Series
2019	American Diabetes Association 79th Scientific Sessions, San Francisco, CA
2019	American Medical Informatics Association, Annual Symposium, Washington, DC
2020	American Medical Informatics Association, Clinical Informatics Conference, Virtual
2020	American Diabetes Association 80th Scientific Sessions, Virtual

GOVERNMENT AND OTHER PROFESSIONAL SERVICE

2012 - 2014	Healthcare Technology Action Group	Leadership Council
2018 - present	Diabetes Technology Clinicians, Facebook Group	Co-Founder

UNIVERSITY AND PUBLIC SERVICE

SERVICE ACTIVITIES SUMMARY

Since 2015, my service activities have focused on leading UCSF Health s digital transformation, including the development of shared tools, infrastructure, and processes to aid innovators and researchers aiming to use digital health to improve care delivery. These activities, described below, include the Digital Diagnostics and Therapeutics Committee, a Digital Hub at Parnassus working group, UCSF Health strategic plan committees, IT governance committees, and the Digital Patient Experience program.

Starting in 2018, my team at CDHI launched and has been leading the UCSF Health Digital Patient Experience program. This large, multi-year, multi-stakeholder, healthsystem-wide, program aims to "Create a unified digital experience incorporating existing and new technologies to enable UCSF Health patients and consumers to easily and efficiently access and interact with care delivery in a way that is empathic, delightful, personalized, and modern." Our initial capital investment from UCSF Health was $5.5M in 2019. Some of the program s successes to date have included the development and launch of: 1) a fax-to-referrals automation tool that created >40% efficiency gains in our Access Centers; 2) MyChart self-scheduling for imaging studies (now accounting for 10% of all imaging scheduling); 3) a new patient self-scheduling mobile web solution piloted in the Orthopedics Institute; 4) UCSF s first automated virtual care chatbot program in Lung Transplant (enrolling more than 400 patients and collecting weekly home spirometry); 5) Salesforce Marketing Cloud and sending out UCSF Health email newsletters to more than 400,000 patients in multiple languages; 6) becoming the only major US health system to support ONC s interoperability rules; 7) a MyChart Flu/COVID patient self-triage tool used more than 5,000 times; 8) an employee daily COVID screener tool used by more than 10,000 employees daily and saving thousands of hours of staff time; 9) an employee mental health digital cope tool; 10) a DocuSign e-Sign solution reducing faxed paperwork turnaround time by several days and allowing staff and providers to work from

home; 11) a UCSF Health Ambulatory Recovery Dashboard in Tableau; 12) MyChart appointment self-scheduling and referral template redesign; and more. These projects are driving significant improvements in operational efficiency and speed, enabling virtual care delivery, and better new patient services and patient engagement for UCSF Health.

Through 2018-2019, I co-chaired a working group tasked by the Provost with developing a proposal for a Digital Hub at Parnassus Heights, a space for the many informatics and digital health focused groups on campus to work and collaborate. I have served since 2018 on the UCSF IT Governance Committee on Technology and Architecture, which focuses on thinking holistically about how the technology architecture for UCSF can best support all aspects of the university s mission including education, patient care, public service, research, and advancing health worldwide. I have also served as co-chair of the MyChart Steering Committee since 2019, and in 2019-2020 co-chaired the Digital First working group of the UCSF Health 2025 Strategic Plan. In 2020, since the COVID pandemic hit, I have served on the UCSF Health Digital Recovery Solutions working group, which assesses and coordinates the technology resources of UCSF Health against the most urgent challenges.

Starting in 2017, we launched the Digital Diagnostics and Therapeutics Committee, a sub-committee to the UCSF Care Technology Governance Committee, and perhaps the first of its kind in the US. The DD&T Committee's objective is to promote the safe and effective development, deployment, use, and prescription of digital tools for research and care delivery at UCSF Health, often through the use of APIs (application programming interfaces). DD&T has now put reviewed more than 40 projects with more than 15 of them connected to our Production EHR environment via API. The projects span a wide clinical spectrum, from a mix of internal innovators, research projects, and external vendor projects. The projects and tools have included clinical decision support tools, care automation tools, digital therapeutics, and dashboard tools. DD&T's processes account for issues relating to clinical benefit, workflow, privacy, security, legal, risk, usability, intellectual property, technical integrity, and compliance. As part of DD&T, we also created an EHR Innovation Sandbox to help projects iteratively test their software concepts. We have published in the peer reviewed literature and spoken at conferences about the DD&T concept, disseminating this to a national audience.

From 2010-2015, my service work at UCSF focused on the initial implementation and optimization of our Epic EHR (APeX), including training, design and build, workflow optimization, quality improvement, clinical content development and monitoring, and leading important projects like the integration of Quest and Labcorp lab orders and results into the APeX EHR. I served on or chaired many committees and was responsible for helping lead all aspects of the initial APeX build and rollout across the ambulatory practices.

The above programs are all done in collaboration with many groups on campus, including Clinical Systems, Health Informatics, Center for Clinical Informatics and Improvement Research, Clinical Innovation Center, Bakar Computational Health Sciences Institute, and more.

I actively participate in other UCSF service activities such as interviewing and helping with admissions for the Clinical Informatics fellowship program, Endocrinology fellowship program, and Internal Medicine residency program, and serving on search committees for numerous faculty and leadership positions.

UNIVERSITY SERVICE
UC SYSTEM AND MULTI-CAMPUS SERVICE

2010 - 2011	University of California EHR Consortium	Member
2019 -	UC Health Diabetes Care Initiative	UCSF Site Lead

UCSF CAMPUSWIDE

2009 - 2009	UCSF AntiCoagulation Safety Project	Presented to Patient Safety Committee
2010 - 2011	UCSF Fellows and Residents Advisory Group	Member/Attendee and Presenter
2010 - 2011	UCSF Clinical Content Editorial Board	Board Member
2010 - 2015	UCSF Physicians Advisory Group	Member/Attendee and Presenter
2010 - 2015	UCSF Office of the CMIO Meeting	Member/Attendee
2011 - 2011	UCSF APeX SuperUser Training	Created curriculum and taught course
2013 - 2015	APeX Workgroups: Orders Team, Ambulatory Team, Clinical Documentation Team, Inpatient Clinical Workgroup	Member/Physician Guide
2013 - 2015	UCSF Fellows and Residents Advisory Group	Co-Chair
2013 - 2015	APeX Ambulatory Specialist Physician SuperUser Group	Founder and Chair
2013 - 2015	APeX Reporting Workgroup	Member/Attendee
2013 - 2015	APeX Clinical Content Committee	Section Leader ("Sherpa")
2013 - 2015	APeX Ambulatory Governance Committee	Member/Attendee
2013 - 2015	ICD-10 Project Workgroup	
2013 - 2015	Enterprise Content Management Project	Clinical Lead
2013 - 2015	Quest and Labcorp - APeX Interface Project	Clinical Lead
2014 - 2015	UCSF Endocrine/Diabetes Hospital Formulary Committee	Member
2014 - 2015	UCSF Good Physician Documentation Project	Writing Group Leader
2014 - 2015	UCSF Resource Allocation Program - Digital Health	Selection Committee Member
2016 - 2019	Digital Diagnostics and Therapeutics Committee	Co-Chair
2019 - present	Digital Diagnostics and Therapeutics Committee	Member

2018 - present	UCSF Health Digital Patient Experience - Working Group	Lead
2018 - present	IT Governance Committee on Technology and Architecture	Member
2018 - 2019	Parnassus Digital Hub Space Working Group	Co-Chair
2019 - 2020	UCSF Health Vision 2025: Innovation at Scale Working Group	Member
2019 - 2020	UCSF Health Vision 2025: Digital Health Working Group	Co-Chair
2019 - present	MyChart Steering Committee	Co-Chair
2019 - present	UCSF Digital Collaborative	Founder, Co-Chair
2020 - present	UCSF Health Digital Recovery Solutions Working Group	Member

SCHOOL OF MEDICINE

2013 - 2015	UCSF SOM Technology Transformation Grant	Committee Member
2014 - 2014	UCSF SOM Technology in Education Retreat	Retreat Participant
2016 - 2020	Clinical Informatics fellowship program Admissions Committee	Committee Member
2016 - present	Clinical Informatics fellowship program Curriculum Committee	Committee Member

DEPARTMENTAL SERVICE

2014 - 2015	Mission Bay Specialty Consult Coverage	Divisional representative
2014 - 2015	Internal Medicine Residency Program	Prospective resident interviewer
2015 - 2015	MyChart Task Force	Committee member
2016 - 2019	Endocrinology and Metabolism Fellowship Program, Admissions Committee	Committee member
2018 - 2019	Diabetes Teaching Center Director, Search Committee	Committee member
2018 - 2019	Division of Endocrinology Division Chief, Search Committee	Committee member
2019 - 2019	Clinical Informatics Program Director, Search Committee	Committee member
2019 - present	Madison Clinic for Pediatric Diabetes, Director, Search Committee	Committee member

2019 - present   UCSF Department of Medicine Grant Reviewer   Grant reviewer

SERVICE AT OTHER UNIVERSITIES

2018 - 2018	Disrupt Diabetes event - Mentored team of undergraduates to design a new diabetes concept (our team won the competition)	Stanford University, Palo Alto, CA
2019 - 2019	Stanford University external grant reviewer - Reviewed one grant application	Stanford University, Palo Alto, CA

COMMUNITY AND PUBLIC SERVICE

2010 - 2010	Northwestern University	Alumni Day Mentor
2010 - 2011	Clinica Martin Baro, San Francisco, CA	Volunteer Preceptor

CONTRIBUTIONS TO DIVERSITY

CONTRIBUTIONS TO DIVERSITY
Throughout my career at UCSF, I have both mentored and hired people from groups traditionally under-represented in the medical fields. I have served as research mentor for many women   including 4th year medical student Caroline Godfrey (2017), MBA student Sarah Schewe (2017-2018), Pediatric Endocrine fellow Dr. Jenny Zabinsky (2018), Pediatric Endocrine fellow Dr. Fatema Abdulhussein (2019), medical student Amna Rasheed (2020), and have been the primary research mentor for Endocrine Fellow, Dr. Tejaswa Kompala (2019-present). Dr. Kompala has served as first-author on numerous peer-reviewed manuscripts with me as senior author, with more in review. I also published a paper where Dr. Sukhmani Singh, another female fellow in Endocrinology, served as first author.

The team of faculty and staff that I employ at the Center for Digital Health Innovation is diverse and since I began my current role in 2015, has included people from the following under-represented classes: African-American, Latino, legally-blind, as well as people with a wide variety of backgrounds including religion, primary language, and country of origin or even location within the US. Our team has a relatively even distribution of men versus women. The work that we do related to informatics and technology also has the ability to impact diversity, equity, and inclusion, and we bring this front and center. Our software development team does user testing and measures Accessibility scores, as well as making multiple languages a development priority, ensuring that our software is accessible by diverse populations. In our team   s work to advance national capabilities in digital health and health policy, we frequently focus attention on issues related to diversity and equal opportunities with use of new technology. In several of our comment letters written to federal agencies such as FDA, we have specifically called out these areas as important to the safe and effective development and use of novel digital health technologies. We are a leader in the Gravity Project, which is working to bring forward social determinants of health into electronic health records. As we develop a new Digital Patient Experience for UCSF Health, we are engaging with a wide variety of Patient and Family Advisory Councils, as well as with the Diverse eCohort group, toward development of digital patient experience guiding principles.

TEACHING AND MENTORING

TEACHING SUMMARY

Similar to my clinical, service, and research portfolios, my teaching activities focus on clinical informatics, endocrinology, diabetes, and the overlap and intersection between these areas. I actively participate in the educational mission of UCSF by doing formal lectures, small groups, informal teaching and precepting, formal precepting, and mentoring, to a mix of medical students, residents, fellows, attending physicians, and community members.

Informatics Teaching

I have supervised several students and trainees for extended rotations related to informatics, detailed below in the Mentorship Activities section. I am an active program participant in the Clinical Informatics fellowship program, including meeting regularly with each UCSF Clinical Informatics fellow to help mentor them on their projects and career choices, participating in many informatics related meetings where the trainees are receiving hands on education, participating in our curricular evaluations and reviews, and in our program evaluations and improvement processes. I frequently meet with students and trainees from UCSF and from other institutions to help advise them on careers in informatics and digital health, even writing a long blog post to try to help people going forward. From 2013 to 2015, I chaired the APeX Fellows and Resident Advisory Group, helping to teach interested trainees about informatics and the EHR as well as soliciting feedback and program input.

Clinical Teaching

Since 2013, I have led small groups each year as part of the Metabolism and Nutrition block for first year medical students, receiving very high ratings and multiple nominations for teaching awards.

- In 2013, I was nominated for an Essential Core Teaching Award, with an average rating of 4.90 (vs a 4.24 small group leader average).
- In 2014, I was nominated for both an Essential Core Teaching Award and the Kaiser Teaching Award, with an average rating of 5.0 (vs a 4.41 small group leader average).
- In 2015, my average rating was 4.88 (vs small group leader average of 4.47).
- I missed 2016 due to having temporarily left UCSF and 2018 due to scheduling conflict.
- In 2017 my average rating was 4.91.
- In 2019, my average rating was 4.50.

My other clinical teaching activities include:
- Creating and leading a monthly conference started in 2019 called Diabetes Data Rounds, teaching our Endocrinology trainees to review and interpret data downloads on insulin pumps and continuous glucose monitors.
- 2 weeks each year attending on the inpatient Endocrinology consult service, supervising and teaching the Endocrinology fellows.
- 2 sessions per month attending in the Diabetes Clinic (a teaching clinic), supervising the Endocrinology fellows and teaching medical and pharmacy students, residents, and fellows during the post-clinic teaching conference.
- Approximately 4 hours per year in the intern workshops for Surgery and Medicine to teach them about inpatient diabetes management
- Lectures to various professionals, professional students, and community members, including annual lectures given at the UCSF Diabetes CME course, lectures on diabetes technology to

UCSF nurse practitioner students, recorded online lectures for the UCSF Clinical Management of Diabetes online course, UCSF Osher Mini Medical School, and others.
- Mentoring and teaching our Clinical Informatics fellows, with an average rating from three years of fellows of 5.6 out of 6.0.

FORMAL TEACHING

	Academic Yr	Course No. & Title	Teaching Contribution	School	Class Size
	2009 - 2010	IDS131: Foundations in Patient Care	Precepted and instructed a first year medical student in my primary care clinic through the entire year.	Medicine	1
	2011 - 2011	APeX Physician SuperUser Training	Developed curriculum and led courses for APeX physician SuperUsers.		
	2011 - 2011	Health Systems and Leadership Pathway	Gave one hour lecture to medical residents on healthcare technology.		
	2013 - 2013	IDS103: Metabolism and Nutrition	Led four small group sessions for two hours each.	Medicine	13
	2013 - 2013	N296A: Advanced Clinical Management of Pediatric Diabetes	Taught a one hour lecture on type 1 diabetes technology.	Nursing	25
	2013 - 2014	CP150: Pharmaceutical Care Pathway Project	Mentored two 4th year pharmacy students through their year-long research project.	Pharmacy	2
	2014 - 2014	IDS103: Metabolism and Nutrition	Led four small group sessions for two hours each.	Medicine	13
	2014 - 2014	Radiology 170.07 Current Issues in Medical Informatics	Taught one hour informatics seminar.	Medicine	4
	2015 - 2015	IDS103: Metabolism and Nutrition	Led two small group sessions for two hours each.	Medicine	13
	2017 - 2017	REGulatioN	Led two small group sessions for two hours each.	Medicine	15
	2017 - 2017	N296C: Behavioral Approaches to Diabetes Across the Lifespan	Taught a one hour lecture on diabetes technology	Nursing	20

	Academic Yr	Course No. & Title	Teaching Contribution	School	Class Size
	2017 - 2017	Med198: Independent Study	Mentored student for four week independent study program	Medicine	1
	2018 - 2018	FS in F2: Diabetes	Taught a two hour small group session	Medicine	10
	2019 - 2019	REGulatioN	Led three small group sessions for five total hours	Medicine	13
	2020 - 2020	REGulatioN	Led three small group sessions for five total hours	Medicine	13

INFORMAL TEACHING

2007 - 2011   Pre-clinic conference, Division of General Internal Medicine: Presented educational topics at conference twice yearly.

2010 - 2011   Resident clinic precepting, Division of General Internal Medicine, Parnassus: Supervised residents one half-day per week in their continuity clinic practice.

2011 - 2012   Internal Medicine residency curriculum instructor: Taught small groups in case-based series in thyroid disease management and inpatient insulin management, each for two hours.

2011 - 2012   Pre-clinic conference, Division of Endocrinology: Gave weekly one hour presentations on topics in Endocrinology to the Divisional faculty and trainees at the various sites: SFGH, Parnassus, and SFVA.

2011 - 2013   Teaching on the wards and in Endocrinology clinic: Informal teaching of all residents and medical students who rotated through the Endocrinology service.

2012 - 2013   Journal club, Division of Endocrinology: Gave 3 presentations on current journal article to divisional trainees.

2011 - present   Participate annually in teaching of medical and surgical interns about inpatient diabetes management, leading small group sessions. (2-4 hours per year)

2015 - present   Participate in Endocrine-related case and tumor board conferences, eg Adrenal, Parathyroid, Nuclear Medicine (5-10 hours per year)

2015 - present   Teach Endocrine fellows on the inpatient Endocrine consultative service (2 weeks per year).

2017 - present   Teach Endocrine fellows in Diabetes clinic, including post-clinic conference (1 afternoon per month)

2017 - present   Health Informatics Works-in-Progress: Monthly conference where academic projects are discussed with informatics faculty and trainees

2019 - present   Diabetes Data Rounds, started and run a once monthly post-Diabetes clinic conference focused on teaching skills in review and interpretation of continuous glucose monitoring and insulin pump data

MENTORING SUMMARY

My mentorship activities are focused on providing project and career guidance to medical students, graduate trainees, and other faculty who are interested in careers in informatics, digital health, and entrepreneurship. I have met with at least 40 such individuals since 2015, most for one or two sessions, and some for more intensive ongoing mentorship, including ongoing mentorship with regular meetings with the UCSF Clinical Informatics fellows. Most recently, I have started some mentoring for junior faculty in informatics.

Other deeper mentoring has included:
- I have been the primary fellowship research mentor for Dr. Teja Kompala since July 2019, and have been the career mentor for Dr. Paras Mehta, also an Endocrinology fellow.
- Our team at the Center for Digital Health Innovation takes on students and trainees to mentor them on a variety of projects, since 2019 including 1 undergraduate student, 2 medical students, and 1 resident physician.
- I have served on the Scholarship Oversight Committee for multiple Pediatric Endocrinology fellow projects.
- From October 2017 through March 2018, I hosted an MBA student at Harvard Business School as a product management intern with CDHI, supervising her work creating a strategy and business case for UCSF to develop an EHR Innovation Sandbox.
- In October 2017, I mentored a UCSF MS4 on her independent study month, where she researched opportunities for using big data to better understand type 1 diabetes clinical course and pathophysiology.
- In May 2017, I hosted a visiting Informatics fellow from Children   s Hospital of Philadelphia for 4 weeks on a rotation with CDHI (he was the first ever visiting clinical informatics fellow at UCSF), supervising his project looking at laboratory result interoperability between health IT systems.
- In 2015, I served as a mentor for the Thiel Fellowship, a highly competitive two-year program for students under the age of 20 that provides them with flexible resources to pursue any innovative project. I mentored the project of Adithya Ganesh, a young man working to build a new software application to provide remote care for diabetes management.

PREDOCTORAL STUDENTS SUPERVISED OR MENTORED

Dates	Name	Program or School	Mentor Type	Role	Current Position
2009 - 2010	David Suarez	UCSF Medical Student (MS1)	Co-Mentor/Clinical Mentor	Clinical supervision/instruction	
2013 - 2013	Alex Altman	Penn State Medical School (MS1)	Co-Mentor/Clinical Mentor	Have student shadow me in clinic weekly	

Dates	Name	Program or School	Mentor Type	Role	Current Position
2013 - 2013	Stephanie McClymont	UCSF Medical Student (MS2)	Co-Mentor/Clinical Mentor	Student shadowed me in clinic on several occasions.	
2014 - 2015	Adithya Ganesh	Thiel Fellowship	Project Mentor	Met every 1-2 months to discuss project progress	Student, Stanford University
2017 - 2017	Caroline Godfrey	UCSF Medical Student (MS4)	Research/Scholarly Mentor	Supervised Med198 Independent Study month	Resident, Vanderbilt University
2017 - 2018	Sarah Schewe	Harvard Business School (MBA student)	Research/Scholarly Mentor	Supervised 6 month internship developing product plan for EHR Innovation Sandbox	
2020 - 2020	Amna Rasheed	Touro University	Project Mentor	Supervised research projects for summer internship	Medical Student

POSTDOCTORAL FELLOWS AND RESIDENTS MENTORED

Dates	Name	Fellow	Mentor Role	Faculty Role	Current Position
2010 - 2011	Josh Lakin, MD	Resident, Internal Medicine	Project Mentor	Research advisor	Instructor, Harvard Medical School
2010 - 2011	Nathaniel Gleason, MD	Resident, Internal Medicine	Career Mentor	Career advisor	Assistant Professor of Medicine, UCSF
2016 - 2018	Michael Wang, MD	Fellow, Clinical Informatics	Career Mentor	Meet 2-3 times yearly to discuss career and project plans	Assistant Professor of Medicine, UCSF
2016 - 2018	Steven Chan, MD MBA	Fellow, Clinical Informatics	Career Mentor	Meet 2-3 times yearly to discuss career and project plans	Faculty, Santa Clara VA

Dates	Name	Fellow	Mentor Role	Faculty Role	Current Position
2017 - 2017	Marc Tobias MD	Fellow, Clinical Informatics (Univ of Penn)	Project Mentor	Supervised Dr. Tobias during one month visiting informatics rotation at UCSF	Research Scientist, Childrens Hospital of Philadelphia
2018 - present	Jenny Zabinsky MD	Fellow, Pediatric Endocrinology	Research/Scholarly Mentor	Member of Dr. Zabinsky's fellowship project Scholarship Oversight Committee	
2019 - present	Fatema Abdulhussein MD	Fellow, Pediatric Endocrinology	Research/Scholarly Mentor	Member of Dr. Abdulhussein's fellowship project Scholarship Oversight Committee	
2019 - present	Teja Kompala	Fellow, Endocrinology	Research/Scholarly Mentor	Will be primary mentor for her Endocrinology fellowship scholarly work	
2020 - present	Anoop Muniyappa	Fellow, Clinical Informatics	Career Mentor	Career Advisor	Resident Physician
2020 - present	Colin Purmal	Fellow, Clinical Informatics	Career Mentor	Career Advisor	Resident Physician
2020 - present	Paras Mehta	Fellow, Endocrinology	Career Mentor	Career Advisors	
2020 - present	Martin Shapiro	Resident, Family Med Program	Career Mentor	Career Advisor	Resident Physician

RESEARCH AND CREATIVE ACTIVITIES

RESEARCH AND CREATIVE ACTIVITIES SUMMARY
As Director of Clinical Informatics for the UCSF Center for Digital Health Innovation, I lead a portfolio of programs aimed at 1) developing and implementing care delivery innovations, 2) lowering the barriers to innovation at UCSF, and 3) lowering the barriers to innovation at scale. My team consists of a mix of faculty and staff, where I oversee 8 direct reports and manage a team of approximately 35 individuals.

Our team leads the UCSF Health Digital Patient Experience program, aiming to create a unified digital experience incorporating existing and new technologies to enable UCSF Health

patients and consumers to easily and efficiently access and interact with care delivery in a way that is delightful, personalized, and modern. Our Steering Committee comprises the most senior executives at UCSF Health, and the program is a critical component in the Vision 2025 UCSF Health strategic plan. Working groups comprised of individuals from across UCSF Health have had ongoing input into the program roadmap and project deliverables.

Some of the DPE program s successes to date have included the development and launch of: 1) a fax-to-referrals automation tool that created >40% efficiency gains in our Access Centers; 2) MyChart self-scheduling for imaging studies (now accounting for 10% of all imaging scheduling); 3) a new patient self-scheduling mobile web solution piloted in the Orthopedics Institute; 4) UCSF s first automated virtual care chatbot program in Lung Transplant (enrolling more than 400 patients and collecting weekly home spirometry); 5) Salesforce Marketing Cloud and sending out UCSF Health email newsletters to more than 400,000 patients in multiple languages; 6) becoming the only major US health system to support ONC s interoperability rules; 7) a MyChart Flu/COVID patient self-triage tool used more than 5,000 times; 8) an employee daily COVID screener tool used by more than 10,000 employees daily and saving thousands of hours of staff time; 9) an employee mental health digital cope tool; 10) a DocuSign e-Sign solution reducing faxed paperwork turnaround time by several days and allowing staff and providers to work from home; 11) a UCSF Health Ambulatory Recovery Dashboard in Tableau; 12) MyChart appointment self-scheduling and referral template redesign; and more. These projects are driving significant return-on-investment for UCSF Health, including improvements in operational efficiency and speed, enablement of virtual care delivery, and dramatic improvements in new patient services and patient engagement for UCSF Health. Our poster at the 2018 UCSF Health Improvement Symposium was named one of the Highest Rated Improvement Initiatives.

Our CDHI team has worked on other health-system improvement software projects including the development of CareWeb, a collaborative communications tool, with IP licensed to Voalte, and leading the VoalteStory pilot study at UCSF.

In 2011, I co-founded a non-profit called Tidepool, developing an open-source cloud platform and applications for helping patients, parents, and providers manage type 1 diabetes. The platform integrates diabetes device data from the majority of vendors who make glucose meters, insulin pumps, and CGM devices, representing a paradigm shift from the previously silo'ed marketplace where each device only allowed data to be viewed through proprietary software. We published about this paradigm shift in 2015 in the premier informatics journal, JAMIA, achieving an Altmetric score of 23. Tidepool's software is in use by thousands of patients and physicians in dozens of clinics across the US and is used by numerous researchers as a data gathering tool for clinical trials. It is widely considered to be one of the industry leading platforms for clinical management of diabetes device data. In 2017, Tidepool launched its Big Data Donation project, allowing patients with type 1 diabetes to donate their data for scientific use, with thousands of data sets collected. Tidepool has employed a staff nearing 40 people and remains self-sustaining via grant funds from JDRF, Helmsley Trust, and other non-profits, as well as revenue for hosting data and supporting clinical research studies.

Tidepool has received significant attention for its work in advancing the fields of diabetes and precision medicine. In 2012, we were a semi-finalist in the Sanofi Data Design Diabetes Competition and also received a UCSF T1 Digital Catalyst Development award. Tidepool has received substantial press coverage in healthcare technology and diabetes blogs, in the popular press including the Wall Street Journal and Popular Science, and presents regularly at conferences such as ATTD and the Diabetes Technology Conference. Tidepool's CEO,

Howard Look, was invited to participate on a panel moderated by President Obama at the White House Precision Medicine event in 2016, after also being invited to the White House Precision Medicine event in 2015. In 2017, Tidepool was selected to be one of nine companies (the list includes Apple, J&J, Roche, Samsung, and Google Verily) to participate in FDA's Digital Health PreCertification Pilot program, helping the FDA create a new model for how healthcare software is regulated. In 2019, Tidepool announced that it would develop the first interoperable smartphone app for closed-loop insulin delivery, Tidepool Loop, in partnership with the insulin pump maker, Insulet. I was heavily involved in all aspects of creating and developing Tidepool from 2011 through 2014, and have since remained very active since 2014 as a Medical Advisor.

Our CDHI team's projects aimed at lowering the barriers to innovation at UCSF are described above in the Service Activities section.

With respect to lowering barriers to innovation at scale, I lead several programs and efforts. I lead UCSF's efforts in advancing the national narrative toward a more connected health record system and learning health system. We work at the federal health policy level, including many meetings with the Office of the National Coordinator and with our team serving on numerous very high-impact and high-visibility federal health policy advisory committees (detailed on our website at https://www.centerfordigitalhealthinnovation.org/cdhi-on-the-national-digital-health-policy-stage). These include the Trusted Exchange Framework TaskForce, the FHIR at Scale Taskforce, and the Health Equity and Accountability Act Community Working Group, among others. We have written numerous public comment letters on draft federal policies in the area of health IT interoperability, patient-generated health data, virtual care, health equity, and patient data access and use, as well as a number of influential blog posts in the Health Affairs Blog on these topics. We work with the technical standards development organizations including HL7 and the Argonaut project, as well as the non-profit Health Services Platform Consortium, and with advocacy groups like the CARIN Alliance, which is advocating for patient-directed health data exchange. Our team writes blog posts, speaks at conferences, serves on boards, does media interviews, and does research, all with the goal of advocating for and advancing toward a more interoperable, open health IT ecosystem where patients have access to health data, where virtual care leverages patient-generated health data, and where third party software applications can be easily used. Our work receives media coverage including in outlets such as Politico's Morning eHealth, HIStalk, Fierce Healthcare, and Beckers.

We have also created the "ADviCE" (Accelerated Digital Clinical Ecosystem) Consortium, engaging with the FDA and several other prominent health systems across the country. Our goals include creating a national "common application" for startup vendors working with health systems, creating a national data sharing registry for digital health outcomes data, and creating a "collaborative community" to drive real-world data collection for digital tools.

Our team has been a direct recipient and/or participant in grants for projects from Commonwealth Fund (patient facing APIs research), FDA (ADviCE), Office of the National Coordinator (API measurement), and Blue Shield of CA (Gravity Project).

RESEARCH AWARDS - CURRENT

| 1. A128938 | Co-Investigator | 85 % effort | Blum (PI) |

Cisco Systems Inc · 02/02/2017

Digital Health Innovation · $ 10,878,000 total

Support the work of the Center for Digital Health Innovation ("CDHI") and support CDHI's effort to conduct research related to digital health.

I am program lead for the Health Stack program, which is the primary program using these grant funds. I manage the team, budget, scope, and deliverables for the program.

2.	Co-Investigator	2% % effort	Auerbach (PI)

UCSF-Stanford Center of Excellence in Regulatory Science and Innovation (CERSI) · 09/01/2018 · 08/31/2019

Catalyzing the FDA PreCertification Program Through Creation of a Collaborative Community: The Accelerated Digital Clinical Ecosystem (ADviCE) · $ 76,000 direct/yr 1 · $ 76,000 total

The overall goal of this program is to create the governance and technical standards required to develop ADviCE as a   Collaborative Community , and in turn provide a blueprint for other Communities we anticipate arising in the coming year. Although our proposal is not hypothesis-driven, what we propose is a necessary precondition for future studies examining SAMD in clinical care, and, as such, critical for the evolution and effective adoption of SAMD into clinical practice.

Active participant in all aspects of the program. Will also work to identify external stakeholders and develop and refine our governance strategies so that SAMD innovators are active participants in ADviCE.

3.	Principal Investigator	3% % effort	Neinstein (PI)

Commonwealth Fund · 05/15/2018 · 03/14/2019

Early Experiences with Patient-Facing API's · $ 45,000 direct/yr 1 · $ 45,000 total

This is a rapid-cycle, small-scale study that will generate early insights into how patient-facing APIs are being implemented across the nation. Our project will provide a foundational understanding of patient-facing API strategies in their early phase of implementation, identifying missed opportunities, challenges, and best practices in order to speed their spread. Our findings will come at a critical time as provider organizations across the nation pursue patient-facing APIs to meet federal requirements, allowing them to benefit from inter-organizational learning. Most importantly, our findings may lead to greater implementation speed and success of patient APIs and therefore act as an accelerant to digital health development, use and patient access to their electronic health data.

I oversee all project tasks and work in close collaboration with the project team. I lead the selection of interview participants, the selection of interview questions, leading a subset of interviews, data analysis, and the final deliverables. I work with the research team to produce all project deliverables and be the primary contact for the Commonwealth Fund.

4. P0524385 (R01)	Co-Investigator	0% % effort	Schmajuk (PI)

AHRQ · 04/01/2018

Incorporating PRO Data into RA Clinical Encounters using Health-IT, "PACT"

Rheumatoid arthritis is unique among chronic diseases for having a robust, validated set of patient reported outcomes (PROs) that have been shown to improve outcomes when used to guide clinical care. Clinicians need easy-to-use tools to display and utilize measures efficiently in practice (Aims 1 and 2), and there is a critical need to document the effectiveness of these tools in improving communication and outcomes across health systems and in the safety net setting (Aim 3). We will develop a PRO application to be used at the point of care so that real-time conversations can occur between patients and clinicians; such conversations are critical to improving the health outcomes of the 1.3 million patients with RA, improving shared decision making, and reducing the disparities in outcomes that exist today.

I will assist with design of the PRO application, with particular attention to how the application will interact with the EHR and its Application Programming Interfaces (APIs).

RESEARCH AWARDS - PAST

1.   Co-Investigator   Adi (PI)

Sanofi Data Design Diabetes Competition   03/01/2012   07/01/2012

GreenDot Diabetes $ 20,000 direct/yr 1 $ 20,000 total

Creation of an open platform enabling patients and providers to collect, aggregate, store, analyze, and display diabetes-related data wirelessly and in real-time to better control blood sugars.

2.   Co-Investigator   Sun (PI)

T1 Catalyst Digital Health Development Award   07/01/2012   06/30/2013

GreenDot Diabetes $ 20,000 direct/yr 1 $ 20,000 total

Empowering patients and clinicians to manage diabetes based on real-time wireless data transfer, an intuitive visual interface, and intelligent analysis of data from multiple devices.

3.   Co-Investigator   Adi (PI)

Digital Health Research Award   07/01/2014   06/30/2015

A pilot study of a novel application, blip, for collection, integration, and visualization of data from patients with type 1 diabetes $ 30,000 direct/yr 1 $ 30,000 total

PEER REVIEWED PUBLICATIONS

1. Kaufman FR, Austin J, **Neinstein A**, Jeng L, Halvorson M, Devoe DJ, Pitukcheewanont P. Nocturnal hypoglycemia detected with the Continuous Glucose Monitoring System in pediatric patients with type 1 diabetes. J Pediatr. 2002 Nov; 141(5):625-30. PMID: 12410189

2. **A Neinstein**, A Philis-Tsmikas, C Walker, "Nurse Management of Diabetes Mellitus in Low-Income Population (Project Dulce) Improved Clinical Outcomes and Standards of Care, Endocrine Practice, Jan 3, 2003

3. **Neinstein A**, Cucina R. An analysis of the usability of inpatient insulin ordering in three computerized provider order entry systems. J Diabetes Sci Technol. 2011 Nov; 5(6):1427-36. PMID: 22226260

4. **Neinstein AB**. From "pull" to "push": a transformation in medicine. Comment on "Participatory surveillance of hypoglycemia and harms in an online social network." JAMA Intern Med 2013 Mar 11;173:352-353. PMID: 23400521

5. **A Neinstein**, HW Macmaster, RJ Rushakoff, VJuttukonda, "Insuline and Supplies from Inpatient to Outpatient: Ensuring Safe Transition," Diabetes 64, A642-A642

6. **Neinstein A**, MacMaster HW, Sullivan MM, Rushakoff R. "A detailed description of the implementation of inpatient insulin orders with a commercial electronic health record system." J Diabetes Sci Technol. 2014 Jul; 8(4):641-51. PMID: 24876450

7. Wong JC, **Neinstein AB**, Spindler M, Adi S. , "A Minority of Patients with Type 1 Diabetes Routinely Downloads and Retrospectively Reviews Device Data." Diabetes Technol Ther. 2015 Aug; 17(8):555-62. PMID: 26133226.

8. **Neinstein A**, Wong J, Look H, Arbiter B, Quirk K, McCanne S, Sun Y, Blum M, Adi S. A case study in open source innovation: developing the Tidepool Platform for interoperability in type 1 diabetes management. J Am Med Inform Assoc. 2015 Sep 2. PMID: 26338218.

9. **Neinstein A**, Shoback D. Medical Management of Primary Hyperparathyroidism. Textbook of Endocrine Surgery. 2016 Jan 1; 707-707.

10. Wong JC, **Neinstein AB**, Look H, Arbiter B, Chokr N, Ross C, Adi S. Pilot Study of a Novel Application for Data Visualization in Type 1 Diabetes. J Diabetes Sci Technol. 2017 Jul; 11(4):800-807. PMID: 28617628. PMCID: PMC5588832

11. Auerbach AD, **Neinstein A**, Khanna R. Balancing Innovation and Safety When Integrating Digital Tools Into Health Care. Ann Intern Med. 2018 May 18;168(10):733-734. PMID: 29582072

12. Wong JC, Izadi Z, Schroeder S, Nader M, Min J, **Neinstein AB**, Adi S. A Pilot Study of Use of a Software Platform for the Collection, Integration, and Visualization of Diabetes Device Data by Health Care Providers in a Multidisciplinary Pediatric Setting. Diabetes Technol Ther. 2018 Nov 21. PMID: 30461307

13. Kompala T, **Neinstein A**. A new era: increasing continuous glucose monitoring use in type 2 diabetes. Am J Manag Care. 2019 03; 25(4 Spec No.):SP123-SP126. PMID: 30933461

14. Singh S, Rushakoff R, **Neinstein A**, A Case Report of Diabetic Ketoacidosis with Combined Use of a Sodium Glucose Transporter 2 Inhibitor and Hybrid Closed-Loop Insulin Delivery, Journal of Diabetes Science and Technology, Apr. 2019. https://doi.org/10.1177/1932296819838875

15. Crossen S, Raymond J, **Neinstein AB**. Top Ten Tips for Successfully Implementing a Diabetes Telehealth Program. Diabetes Technol Ther. 2020 Mar 19. PMID: 32191141

16. **Neinstein AB**, Blum M, and Masharani U. Self-Reported Wearable Heart Rate Data May Be Useful in the Diagnosis and Treatment of Hyperthyroidism. Clinical Thyroidology. 2020; 32(5).

17. **Neinstein A**, Thao C, Savage M, Adler-Milstein J. Deploying Patient-Facing Application Programming Interfaces: Thematic Analysis of Health System Experiences. J Med Internet Res. 2020 Apr 03; 22(4):e16813. PMID: 31983680. PMCID: PMC7165308

18. Judson TJ, Odisho AY, **Neinstein AB**, Chao J, Williams A, Miller C, Moriarty T, Gleason N, Intinarelli G, Gonzales R. Rapid Design and Implementation of an Integrated Patient Self-Triage and Self-Scheduling Tool for COVID-19. J Am Med Inform Assoc. 2020 Apr 08. PMID: 32267928. PMCID: PMC7184478

19. Kompala T; **Neinstein A.** Accelerating Transformation to a Digital-First Diabetes Care Model, Journal of Diabetes Science and Technology, May 29, 2020.

20. Judson TJ, Odisho AY, Young JJ, Bigazzi O, Steuer D, Gonzales R, **Neinstein AB**. Case Report: Implementation of a Digital Chatbot to Screen Health System Employees during the COVID-19 Pandemic. J Am Med Inform Assoc. 2020 Jun 12. PMID: 32531066. PMCID: PMC7313990

NON-PEER REVIEWED PUBLICATIONS

1. **Neinstein A**, "What's the Health IT Buzzword of 2015?," Medscape Experts and Viewpoints, May 2015.

2. **Neinstein A**, "Can 3D Sculpture Help Patients Grasp Diabetes Data?," Medscape Experts and Viewpoints, September 2015.

3. **Neinstein A**, "Eight Tips for Patient-Centered EHR Use," Medscape Experts and Viewpoints, October 2015.

4. Jasik C and **Neinstein A**, "A Health Tech Holiday Wish List," Medscape Experts and Viewpoints, December 2015.

5. **Neinstein A**, "The Case for a Patient-Centered EHR: My Dad," Medscape Experts and Viewpoints, January 2016

6. **Neinstein A**, "Diabetes Patients Design Their Own Artificial Pancreas," Medscape Experts and Viewpoints, April 2016.

7. **Neinstein A**, "Diabetes Technology: Fear Not," Medscape Experts and Viewpoints, June 2017.

8. Savage M, Martin C, Blum M, and **Neinstein A**; "Comments on the Nationwide Interoperability and Trusted Exchange Framework." Submitted to the National Coordinator for Health Information Technology, August 25 2017.

9. Savage M, Martin C, Blum M, and **Neinstein A**; "Comments on the 2018 Interoperability Services Advisory." Submitted to the National Coordinator for Health Information Technology, November 20 2017.

10. Savage M, Martin C, Blum M, and **Neinstein A**; "Comments on ONC's Draft Trusted Exchange Framework." Submitted to the National Coordinator for Health Information Technology, February 20 2018.

11. Savage M, Martin C, Blum M, and **Neinstein A**; "Comments on ONC's Draft US Core Data for Interoperability and Proposed Expansion Process." Submitted to the National Coordinator for Health Information Technology, February 20 2018.

12. Savage M, Auerbach A, Callcut R, and **Neinstein A**; "Comments on FDA's Draft Software PreCertification Program Working Model, File No. FDA-2017-N-4301-0001." Submitted to the US Food and Drug Administration, May 31 2018.

13. Savage M and **Neinstein A**; "Comments on CMS's Proposed Amendments to Medicare and Medicaid Electronic Health Record Incentive Programs (Promoting Interoperability Programs), File No. CMS-1694-P." Submitted to the Secretary of US Department of Health and Human Services and Administrator for Centers of Medicare and Medicaid Services, June 25 2018.

14. Savage M, **Neinstein A**, Auerbach A, Callcut R; "Comments on Version 0.2 of FDA's Draft Software PreCertification Program Working Model, File No. Submitted to the US Food and Drug Administration, FDA-2017-N-4301-0001, July 19, 2018

15. Savage M and **Neinstein A**: Comments on CMS's Proposed Amendments to the Quality Payment Program's Advancing Care Information Performance Category, File No. CMS-1693-P." Submitted to the Secretary of US Department of Health and Human Services and Administrator for Centers of Medicare and Medicaid Services, September 7 2018.

16. **Neinstein A**, "A Clinician's Guide to the Latest Diabetes Devices," Medscape Experts and Viewpoints, September 2018.

17. Longhurst C and **Neinstein A**, "Empowering UC Health Patients with Apple Health Records," University of California IT Blog, January 16 2019.

18. Savage M and **Neinstein A**; "Comment to ONC on Draft Strategy on Reducing Regulatory and Administrative Burden Relating to the Use of Health IT and EHRs." Submitted to the Secretary of US Department of Health and Human Services, Administrator for Centers of Medicare and Medicaid Services, and National Coordinator for Health Information Technology, January 28 2019.

19. **Neinstein A**, "By 2025, a lot more people will be tracking their blood sugar," Commentary, CNBC, February 1 2019.

20. Savage M, Auerbach A, and **Neinstein A,** "Comments on Version 1.0 of FDA's Draft Software Precertification Program Working Model, File No. FDA-2017-N-4301-0001," Submitted to the US Food and Drug Administration, March 8 2019.

21. **Neinstein A**, "A moment six years in the making: Data interoperability in diabetes care," Tidepool Blog, March 13 2019.

22. Savage M, Blum M, Martin E, and **Neinstein A**, "Comments on Proposed Regulations to Implement 21st Century Cures Act's Provisions on Interoperability, Information Blocking, and Application Programming Interfaces," File No. RIN 0955-AA01, Submitted to the National Coordinator for Health Information Technology, May 24 2019.

23. Savage M, Blum M, Martin E, and **Neinstein A**, "Comments on Proposed Regulations to Implement 21st Century Cures Act's Provisions on Interoperability and Patient Access," File No. CMS-9115-P, Submitted to the Administrator for Centers of Medicare and Medicaid Services, June 3 2019.

24. Savage M, Blum M, Martin E, and **Neinstein A**, "Comments on ONC's Trusted Exchange Framework Draft 2, Submitted to the National Coordinator for Health Information Technology, June 17 2019.

25. Savage M, Odisho A, Gleason N, Martin E, and **Neinstein A**, "Comments on Integrating Patient-Generated Health Data into Electronic Health Records," File No. CMS-1715-P, Submitted to the Administrator for Centers of Medicare and Medicaid Services, September 27 2019.

26. Savage M and **Neinstein A**, "Cures 2.0 - Suggestions for Digital Health and Shared Care Planning Provisions," Submitted to Congresswoman DeGette and Congressman Upton, December 16 2019.

27. Savage L, **Neinstein A**, Savage M. "ONC Should Not Delay the Release of Its Rule." Health Affairs Blog. Feb 10 2020.

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29. Savage, M, **Neinstein, A,** Adler-Milstein J. "Measure The Impact Of The ONC s New Interoperability Rules Now", Health Affairs Blog, July 7 2020.

30. J Hollander**, A Neinstein.** "Maturation from Adoption-Based to Quality-Based Telehealth Metrics." NEJM Catalyst, Sept 9 2020.

BOOKS AND CHAPTERS

1. **Neinstein A.** and Woeber K. (2009). Thyroid disease. Chiovaro J, Durand K, and Kneeland P (Ed.), UCSF Outpatient Medicine Pocket Preceptor (pp. 58-62). San Francisco, CA. University of California, San Francisco.

2. **Neinstein A.** and Shoback D. Medical Management of Primary Hyperparathyroidism. In Clark OH, Duh QY, Kebebew E, Gosnell JE, Shen WT, editors. Textbook of endocrine surgery. JP Medical Ltd; 2016 Feb 29.

OTHER PUBLICATIONS

1. Good, Travis and Neinstein, Aaron, "Emerging Healthcare Data Challenges from Patient Centric Technologies," Healthcare Innovators Podcast, Datica, August 30 2017.

SIGNIFICANT PUBLICATIONS

1. **Neinstein A**, Wong J, Look H, Arbiter B, Quirk K, McCanne S, Sun Y, Blum M, Adi S. A case study in open source innovation: developing the Tidepool Platform for interoperability in type 1 diabetes management. J Am Med Inform Assoc. 2015 Sep 2. PMID: 26338218.

2. Auerbach AD, **Neinstein A**, Khanna R. Balancing Innovation and Safety When Integrating Digital Tools Into Health Care. Ann Intern Med. 2018 Mar 27. PMID: 29582072

3. Crossen S, Raymond J, **Neinstein AB**. Top Ten Tips for Successfully Implementing a Diabetes Telehealth Program. Diabetes Technol Ther. 2020 Mar 19. PMID: 32191141

4. **Neinstein A**, Thao C, Savage M, Adler-Milstein J. Deploying Patient-Facing Application Programming Interfaces: Thematic Analysis of Health System Experiences. J Med Internet Res. 2020 Apr 03; 22(4):e16813. PMID: 31983680. PMCID: PMC7165308

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standards of care." American Association of Clinical Endocrinologists (AACE) Annual Meeting, Orlando, FL, June 2005.

2. Lopresti J, **Neinstein A**, Saw A and Malone W. "Clinical Response To Intravenous L-thyroxine in Myxedema Coma." Endocrine Society Annual Meeting, San Francisco, CA, June 2008.

3. Pierce R, Osterhoff R, Vidyarthi A, Blumenthal E, Kalanithi L, Keet K, Kern R, Kneeland P, Mikosz C, **Neinstein A**, Ponce P, Thakur N, Yong C. "Teaching Leadership and Quality Improvement: A Resident-Led Initiative to Improve Anticoagulation Safety at UCSF Medical Center." American Association of Medical Colleges (AAMC) Integrating Quality Meeting, Chicago, IL. June 2009.

4. **Neinstein A.** and Cucina R. "The usability of inpatient insulin ordering in various Computerized Provider Order Entry (CPOE) systems." International Hospital Diabetes Meeting, San Diego, CA, October 2010.

5. Lakin J, **Neinstein A**, Pierce R.   Dynamic Advance Directive Documentation: Improving Visibility During Care Transitions.   University of California Quality and Safety Symposium, San Francisco, CA, 2011.

6. Wong JC, Spindler M, and **Neinstein A**. "A minority of caregivers of children with type 1 diabetes (T1D) download and review device data." American Diabetes Association Annual Meeting, San Francisco, CA, June 2014.

7. Wong JC, Spindler M, and **Neinstein A**. "Few adults with type 1 diabetes (T1D) download and retrospectively review their diabetes device data." Endocrine Society Annual Meeting, Chicago, IL, June 2014.

8. Mongan J, **Neinstein A**, Jovais C, and Behr S. "Computerized Provider Order Entry (CPOE) as a Cause of Errors in Imaging Requests: What a Difference a Space Makes." Radiological Society of North America Annual Meeting, Chicago, IL, Dec 2014.

9. MacMaster H, **Neinstein A**, Rushakoff R. "Insulin and Supplies from Inpatient to Outpatient: Ensuring a safe transition." American Diabetes Association Annual Meeting, Boston, MA. June 2015.

10. Tobias M; Grundmeier RW ; Mandel JC; **Neinstein A**; DeVault P; "Building Software Platforms that Integrate with the EHR: Implementations, Frameworks, and Industry Experiences" American Medical Informatics Association, 2016. https://publons.com/publon/33259663

11. Wong J, **Neinstein A**, et al. "Pilot Study of Tidepool s Blip Application for Data Visualizaion in Type 1 Diabetes (T1D)." American Diabetes Association Scientific Sessions. New Orleans, LA. June 2016.

12. Wong J, **Neinstein A**, et al. "Use of the Tidepool Platform to Collect, Integrate, and Visualize Diabetes Device Data in a Pediatric Clinic Setting." American Diabetes Association Scientific Sessions. Orlando, FL. June 2018.

13. **A Neinstein**, Julia Adler-Milstein, W Morris, E Sweeney Anthony, Anil Sethi, "Real World Experiences with Patient-Facing APIs for Interoperability, Access, and Use of Electronic Health Data." American Medical Informatics Association, 2019.

14. Lui, H; Yerramsetty, R; Gleason, N; Martin, E; Young, J; Blum, M; **Neinstein AB**; Odisho, A. Automated, EHR-Integrated Referral Processing Information Extraction From Faxed Images to Improve Patient Access to Urologic Care. The Journal of Urology. 2020.

15. Kompala T, Fu P, Folick A, Babey M, Koh E, Mehta P, Fisher L, Masharani U, and **Neinstein A**. "Standardized Assessment of Diabetes Distress in Routine Type 1 Diabetes Care." American Diabetes Association Scientific Sessions. Virtual. June 2020.

16. Kompala T and **Neinstein A** (on behalf of UC-wide Diabetes Consortium). "University of California Diabetes Initiative: A Multi-Institution Collaboration to Improve Diabetes Care." American Diabetes Association Scientific Sessions. Virtual. June 2020.

OTHER CREATIVE ACTIVITIES

1. I have a very active web and social media footprint in digital health and healthcare innovation. Since 2012, I have kept a blog called "Redesigning HealthCare" that explores digital health, diabetes technologies, and other healthcare innovation (individual blog posts not listed in my CV). The blog has received more than 55,000 page views through 2019. My Twitter account has nearly 2000 followers, primarily engaging around diabetes and digital health. I have also been invited by Medscape to be a continuing blogger on their site with a column, "Aaron Neinstein on Digital Health," and have been invited to write blog posts for other outlets such as the UCOP IT blog and CNBC.com. I also blog, as does my team, on our UCSF Center for Digital Health Innovation website (https://www.centerfordigitalhealthinnovation.org/blog-comment-letters).

2. My team's work in health policy and technology leadership has received media attention from numerous outlets significant in the health IT space, including: Politico, the Advisory Board, Techcrunch, FierceHealthcare, Healthcare IT News, Becker's Hospital Review, HISTalk, National Law Review, MedCity News, and others.

   Some of these mentions are:
   07/13/2020 **EHR Intelligence** - Health Pros: Do Not Wait to Measure ONC Interoperability Rule - https://ehrintelligence.com/news/health-pros-do-not-wait-to-measure-onc-interoperability-rule

   5/20/2020 **Techcrunch** - Conversa pitches its modified chat-based tool monitor employee health in the wake of Covid-19 https://techcrunch.com/2020/05/20/conversa-pitches-its-modified-chat-based-tool-to-monitor-employee-health-in-the-wake-of-covid-19/

   05/6/2020 **Advisory Board** - How UCSF created an app to monitor staff for Covid-19 and support their mental health - https://www.advisory.com/daily-briefing/2020/05/06/ucsf-health

   4/4/2020 **Modern Healthcare** - Automated chatbots screen patients, employees for COVID-19 - https://www.modernhealthcare.com/operations/automated-chatbots-screen-patients-employees-covid-19

   4/1/2020 **Healthcare IT News** - Northwell, UCSF, UNC using chatbot and related tech to manage COVID-19 patients - https://www.healthcareitnews.com/news/northwell-ucsf-unc-using-chatbot-and-related-tech-manage-covid-19-patients

3/31/2020 **Medscape Medical News** - Top 10 Tips for Diabetes Telehealth Prophetic in Face of COVID-19 - https://www.medscape.com/viewarticle/927845

3/18/2020 **Politico Morning eHealth** - https://www.politico.com/newsletters/morning-ehealth/2020/03/18/telehealth-and-coronavirus-786169

2/24/2020 **AMIA Washington Download** - ONC Should Not Delay the Release of its Rule

2/20/2020 **EHR Intelligence** - Debate Over ONC Interoperability Rule Roils Onward - https://ehrintelligence.com/news/debate-over-onc-interoperability-rule-roils-onward

2/18/2020 **Politico Pro eHealth** - UCSF Health becomes rare hospital favoring ONC rule - https://subscriber.politicopro.com/article/2020/02/ucsf-health-becomes-rare-hospital-favoring-onc-rule-3976734

2/11/2020 **Fierce HealthCare** - ONC's Rucker calls out hospital leaders who signed Epic's opposition letter - https://www.fiercehealthcare.com/tech/onc-s-donald-rucker-says-epic-hospitals-need-to-walk-walk-to-protect-patient-privacy

2/10/2020 **EHR Intelligence** - Health Pros: ONC Should Publish Interoperability Rule Immediately - https://ehrintelligence.com/news/health-pros-onc-should-publish-interoperability-rule-immediately

1/17/2020 **Beyond Type 1** - Everyone with Diabetes Should Have Access to CGM: Dr. Aaron Neinstein's Take - https://beyondtype1.org/aaron-neinstein-interview

6/18/2019 **Fierce HealthCare**- 4 problems industry groups have with the ONC's Trusted Exchange Framework -https://www.fiercehealthcare.com/tech/onc-s-trusted-exchange-framework-still-lacks-clarity-details-implementation-industry-groups

6/4/2019 **Fierce HealthCare**- Here's what former national coordinators, health IT groups had to say on ONC's information blocking rules - https://www.fiercehealthcare.com/tech/former-national-coordinators-health-it-groups-sound-off-onc-information-blocking-rules

6/4/2019 **Modern Healthcare**- Developers, providers question ONC's stance on data-sharing fees -https://www.modernhealthcare.com/information-technology/developers-providers-question-oncs-stance-data-sharing-fees

5/31/2019 **Healthcare Innovation** -UCSF Execs to ONC: Require "Write" Access for FHIR APIs: -https://www.hcinnovationgroup.com/interoperability-hie/standards/news/21082859/ucsf-execs-to-onc-require-write-access-for-fhir-apis

03/19/2018 **Heath IT Analytics**- Should Connectivity, Not Comprehensiveness, be the EHR Goal?- https://healthitanalytics.com/news/should-connectivity-not-comprehensiveness-be-the-ehr-goal

03/15/2018 **Heathcare IT**-UCSF researcher take issue with Epic's "CHR" definition, offer

alternate meaning - https://www.healthcareitnews.com/news/ucsf-researchers-take-issue-epics-chr-definition-offer-alternate-meaning

3/14/2018 **Becker's Hospital Review** - UCSF researchers: Forget electronic or comprehensive health records, it's time for a connected health record - https://www.beckershospitalreview.com/white-papers/ucsf-researchers-forget-electronic-or-comprehensive-health-records-it-s-time-for-a-connected-health-record.html

3/14/2018 **Fierce Healthcare** - Health IT roundup   Remote monitoring company settles with DOJ for $550K; EHR rebrand   misses the point   - https://www.fiercehealthcare.com/tech/bromedicon-doj-settlement-ucsf-ehr-duke-aha-ai

3/14/2018 **HIStalk**- Electronic Health Record?Comprehensive Health Record? Connected Health Record! https://histalk2.com/2018/03/13/news-3-14-18/

3. I do advisory and consulting work for a number of companies looking for insights and strategic help around diabetes technology and healthcare technology, including pharmaceutical companies, digital health companies, and venture capital firms. I continue to be a medical advisor to the non-profit, Tidepool, of which I was on the founding team. I have been a Consultant or on Advisory Boards for the following: Steady Health (developing a virtual diabetes clinic); Eli Lilly - Connected Care, Population Health, and Telehealth; Medtronic - Continuous Glucose Monitoring; Roche - Technology Advisory Board; Intuity Medical - Medical Advisory Board.

4. While at NorthShore University HealthSystem, I helped devise a digital health strategy, focused on improving the patient experience and patient engagement with the health system, including launching the first NorthShore Mobile App Catalog, curated mobile health apps recommended by NorthShore to its patients. I led the NorthShore Provider Digital Health Committee, a group of physicians and administrators making recommendations about digital health to the entire NorthShore Medical Group of nearly 1000 physicians. I served on the NorthShore Epic Optimization Committee and Physicians Advisory Council, both groups working toward improving the use of the Epic EHR at NorthShore. I worked on devising strategies for NorthShore to begin collecting patient-generated health data into the EHR from patients to utilize in clinical care.

5. As a member of Tidepool, I participated in the three month Lean Launchpad class put on by the UCSF Entrepreneurship Center in 2013. This was an intensive hands-on course where each healthcare related project or business was encouraged to talk to as many potential customers as possible to help refine and develop a scalable and repeatable business model. The Tidepool team was featured several times on the personal blog of the course instructor, Steve Blank, a well-known Silicon Valley entrepreneur.

ADDITIONAL RELEVANT INFORMATION
In 2015, for family reasons, we moved to Chicago and I took a job at NorthShore University HealthSystem. While at NorthShore University HealthSystem, I helped devise and lead digital health strategy.

However, after five months working at NorthShore, I was recruited back to UCSF in order to become Director of Clinical Informatics at the UCSF Center for Digital Health Innovation, and specifically, in order to lead a large, multi-year collaboration and co-development project with Cisco.