
BIOGRAPHICAL SKETCH

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NAME: Joel M. Gelfand

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

POSITION TITLE: Professor of Dermatology and Epidemiology (with tenure)

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Tufts University, Medford, MA	B.S.	1989-1993	Biology
Harvard Medical School, Boston, MA	M.D.	1993-1998	Medicine
University of Pennsylvania, Philadelphia, PA	M.S.C.E.	2001-2003	Epidemiology

A. Personal Statement

Dr. Gelfand's research program focuses on observational and experimental studies in patients with psoriasis, a chronic, immune mediated disease of the skin and joints that affects over 125 million people worldwide. His research program has been highly influential (h index 56, i10-index 137, over 16,500 citations) and has led to changes in the standard of care for psoriasis patients. He has established large population-based and multi-centered clinic based cohorts of patients with psoriasis which are the focus of longitudinal studies evaluating cardiovascular risk and the comparative effectiveness of treatment modalities in this population. He is also conducting translational and mechanistic clinical trials to determine how targeted and skin directed treatments impact vascular inflammation and lipid metabolism. He additionally has expertise in atopic dermatitis, cutaneous T cell lymphoma, and hidradenitis research. Dr. Gelfand has extensive experience in team science and has established collaborations with investigators in translational medicine, nuclear medicine, neurology, psychiatry, oncology, hepatology, cardiology, rheumatology, epidemiology, and biostatistics necessary for the success multi-disciplinary studies. He has extensive experience mentoring pre and post-doctoral fellows and candidates in the Master of Science in Epidemiology Program and junior faculty at PENN and institutions across the United States.

B. Positions and Honors

Positions and Employment

1998-1999	Intern in Medicine, Mount Sinai Hospital, New York, NY
1999-2002	Resident Dermatology, Hospital of the University of Pennsylvania, Philadelphia, PA
2002-2003	Epidemiology Fellow, Hospital of the University of Pennsylvania, Philadelphia, PA
2002-2003	Instructor, Department of Dermatology, University of Pennsylvania
2003-2011	Assistant Professor, Department of Dermatology, University of Pennsylvania
2003-2010	Associate Scholar, Center for Clinical Epidemiology and Biostatistics, U of Penn
2010-	Senior Scholar, Center for Clinical Epidemiology and Biostatistics, U of Penn
2010-2011	Assistant Professor of Epidemiology, Department of Epidemiology and Biostatistics, University of Pennsylvania
2012-2016	Associate Professor (with tenure) of Dermatology and Epidemiology, University of Pennsylvania Perelman School of Medicine, Philadelphia PA
2016-	Professor (with tenure) of Dermatology and Epidemiology, University of Pennsylvania Perelman School of Medicine, Philadelphia PA

Other Experience and Professional Memberships

2003-	Member, Cancer Center, University of Pennsylvania
2003-	Medical Director, Clinical Studies Unit, Department of Dermatology, U of Penn

2005-	National Psoriasis Foundation, Selected Member, Medical Board 2005-2010; Selected Member, Grants Review Committee 2007, Scientific Committee 2009-2014
2005-	National Institute of Arthritis, Musculoskeletal and Skin Diseases (NIAMS), Selected Member, NIH/NIAMS Study Section, Contract on Innovative Therapies for Rheumatic and Skin Diseases 2005; Selected Member, Challenge Grant Peer Reviewer July 2009; Selected Member, NIAMS ACTS Study Section on Small Business Applications, October 2009; Selected Member, NIAMS Roundtable on Clinical Trials in Skin Diseases, December 11, 2009; Special Emphasis Panel/ Scientific Review Group- Clinical Trials Planning, Pilot and Research Grants 2011, 2013 NIAMS <i>ad hoc</i> reviewer Loan repayment program
2007-	Member, Institute for Translational Medicine and Therapeutics, U of Penn
2008-	The FDA/CDER Office of Surveillance and Epidemiology, Appointed member, Special Government Employee to the Drug Safety and Risk Management Advisory Committee
2013-	Director, Patient Centered Outcomes Research Track, Masters of Clinical Epidemiology Program (PENN)
2013-	Elected member, American Society for Clinical Investigation
2016-	Vice Chair for Clinical Research Department of Dermatology, PENN.
2017	Ad hoc member, NIAMS AMSC study section

Honors

1991	Hughes Foundation Undergraduate Research Fellow
1993	Thomas and Emily Carmichael Prize Scholarship, for excellence in human physiology
1993	Class of 1947 Victor Prather Prize Scholarship, for excellence in research
1993	<i>Phi Beta Kappa Summa cum laude</i> Tufts University
1996	Carl W. Walter Research Fellowship, Harvard Medical School
1998	<i>Magna cum laude</i> Harvard Medical School
2001	The College of Physicians of Philadelphia Johnson Beerman Award for Research
2001-2003	NIH National Research Service Award for Individual Postdoctoral Fellows (F32)
2002-2006	NIH Clinical Research Medical School Loan Repayment Award
2003	Dermatology Foundation Career Development Award
2004	NIH/NIAMS K23 Mentored Career Development Award in Clinical Research
2011	American Skin Association Achievement Award for Psoriasis
2011	Perelman School of Medicine Bowman New Investigator Research Award
2013	Elected Member, American Society for Clinical Investigation
2013	Elected member, American Dermatological Association
2013-2018	NIH/NIAMS K24 Midcareer Investigator Award in Patient-Oriented Research
2014	The Eugene Farber Lecturer, Society for Investigative Dermatology
2015	Epidemiology Teaching Award, University of Pennsylvania Perelman School of Medicine
2016	American Academy of Dermatology Presidential Citation for Psoriasis Research
2017	Outstanding Educator in Psoriatic Disease Award, National Psoriasis Foundation
2017	Outstanding scientific achievement, National Psoriasis Foundation (inaugural recipient)
2017	Marion B Sulzberger MD Memorial Award and Lectureship, American Academy of Dermatology

C. Contribution to Science

1. *Demonstration of increased cardiovascular risk, diabetes, and kidney disease in patients with psoriasis independent of traditional risk factors.* In 2006 we were the first to demonstrate that psoriasis is an independent risk factor myocardial infarction using modern epidemiological methods. We have since gone on to demonstrate an increased risk of stroke, CV mortality, diabetes, and chronic kidney disease independent of traditional risk factors, culminating in a 5 year reduction in life expectancy for patients with moderate to severe psoriasis. These studies launched a new field of investigation of psoriasis associated co-morbidities and evaluation of psoriasis as a systemic disease. The findings have changed clinical practice with guidelines being issued addressing the need to identify co-morbidities in psoriasis patients. Dr. Gelfand continues to investigate this area as the PI of the first and currently only prospective population-based cohort of approximately 9000 psoriasis patients in which severity has been determined by measurements of body surface area affected (called the incident health outcomes and psoriasis events (iHOPE) study).

- a. Gelfand, JM, Neimann, AL, Shin, DB, Wang, X, Margolis, DJ, and Troxel, AB. The risk of myocardial infarction in patients with psoriasis. *Journal of the American Medical Association*. 2006;296:1735-41.
 - b. Mehta, NN, Azfar, RS, Shin, DB, Neimann, AL, Troxel, AB, and Gelfand, JM. Patients with severe psoriasis are at increased risk of cardiovascular mortality: A cohort study using the General Practice Research Database. *European Heart Journal* 2010;31:1000-6 (PMC 2894736)
 - c. Wan J, Wang S, Haynes K, Denburg MR, Shin DB, Gelfand JM. Risk of moderate to advanced kidney disease in patients with psoriasis: population based cohort study. *BMJ* 2013 Oct 15;347:f5961 (PMC3805477)
 - d. Ogdie A, Yu Y, Haynes K, Love TJ, Maliha S, Jiang Y, Troxel AB, Hennessy S, Kimmel SE, Margolis DJ, Choi H, Mehta NN, Gelfand JM. Risk of Major cardiovascular events in patients with psoriatic arthritis, psoriasis and rheumatoid arthritis: a population-based cohort study. *Annals of Rheumatic Disease* 2015; 74: 326-32 (PMC4341911)
2. *Demonstration of impaired HDL function and increased aortic vascular inflammation in patients with psoriasis compared to patients without psoriasis.* Working in collaboration with Dr. Nehal Mehta, Dr. Gelfand and his team have shown that psoriasis is associated with increased aortic inflammation (measured by FDG-PET/CT) equivalent to a decade of aging and impaired HDL function as measured by cholesterol efflux capacity. Both vascular inflammation and HDL function have been shown to be risk factors for major cardiovascular events and may be part of the mechanism by which psoriasis confers CV risk. These studies formed the basis for multiple ongoing clinical trials (called Vascular Inflammation in Psoriasis) led by Dr Gelfand evaluating the impact of adalimumab, phototherapy, and ustekinumab on vascular inflammation and lipid metabolism (NCT01553058, NCT01866592, and NCT02187172).
- a. Mehta NN, Yu Y, Saboury B, Foroughi N, Krishnamoorthy P, Raper A, Baer A, Antigua J, Van Voorhees AS, Torigian DA, Alavi A, Gelfand JM. Systemic and vascular inflammation in patients with moderate to severe psoriasis as measured by [18F]-fluorodeoxyglucose positron emission tomography-computed tomography (FDG-PET/CT): a pilot study. *Arch Dermatol*. 2011;147:1031-9 (PMC3158301)
 - b. Mehta NN, Li R, Krishnamoorthy P, Yu Y, Farver W, Rodrigues A, Raper A, Wilcox M, Baer A, DerOhannesian S, Wolfe M, Reilly MP, Rader DJ, VanVoorhees A, Gelfand JM. Abnormal lipoprotein particles and cholesterol efflux capacity in patients with psoriasis. *Atherosclerosis*. 2012;224:218-21 (PMC3693845)
3. *Determination of the comparative effectiveness of treatments used for moderate to severe psoriasis.* Evaluating the comparative effectiveness of treatments for moderate to severe psoriasis is a national priority (IOM 2009 Initial national priorities for comparative effectiveness research). Dr. Gelfand created the Dermatology Clinical Effectiveness Research Network (DCERN, www.dermcern.org) in 2010 and conducted a multi-center prospective evaluation of 1800 consecutively seen patients with moderate to severe psoriasis in the routine clinical practice setting. This work demonstrated that biologic treatments are more effective than traditional medications such as methotrexate but that patients are more likely to discontinue these biologics over time due to loss of efficacy. Moreover, we demonstrated that the response rates to biologics in clinical practice are substantially lower than that reported in clinical trials, demonstrating the need for more effective treatments. These data also demonstrated that despite advances in treatment, patients and dermatologists prefer phototherapy as the first line treatment for moderate to severe psoriasis but that patients increasingly are unable to access this treatment. The studies impacted clinical practice as the American Academy of Dermatology has relied on our data to set performance standards for the treatment of moderate to severe psoriasis.
- a. Gelfand JM, Wan J, Callis Duffin, K, Krueger GG, Kalb RE, Weisman JD, Sperber BR, Stierstorfer MB, Brod BA, Schleicher SM, Bebo BF, Troxel AB, Shin DB, Steinemann JM, Goldfarb J, Yeung H, and Van Voorhees AS. Comparative Effectiveness of Commonly Used Systemic Treatments or Phototherapy for Moderate to Severe Plaque Psoriasis in the Clinical Practice Setting. *Archives of Dermatology* 2012;148(4):487-94 (PMC3476943)
 - b. Yeung H, Wan J, Van Voorhees AS, Callis Duffin K, Krueger GG, Kalb RE, Weisman JD, Sperber BR, Brod BA, Schleicher SM, Bebo BF Jr, Shin DB, Troxel AB, Gelfand JM. Patient-reported reasons for the discontinuation of commonly used treatments for moderate to severe psoriasis. *J Am Acad Dermatol*. 2013;68(1):64-72. (PMC3488143)
 - c. Callis Duffin K, Yeung H, Takeshita J, Krueger GG, Robertson AD, Troxel AB, Shin DB, Van Voorhees AS, Gelfand JM Patient satisfaction with treatments for moderate-to-severe plaque psoriasis in clinical practice. *Br J Dermatol*. 2014;170(3):672-80. (PMC4302409)

4. *Validation of electronic medical record data for studying psoriasis and psoriatic arthritis.* We have conducted a series of careful studies demonstrating that electronic codes of psoriasis and psoriatic arthritis reflect the true clinical diagnosis based on the gold standard of querying of the treating physician in two population-based, electronic medical records systems (General Practice Research Database and The Health Improvement Network). These studies have allowed these systems to be used extensively for the study of psoriasis by numerous investigators worldwide.
 - a. Gelfand JM, Weinstein R, Porter SB, Neimann AL, Berlin JA, Margolis DJ. Prevalence and treatment of psoriasis in the United Kingdom: a population-based study. *Arch Dermatol.* 2005 Dec;141(12):1537-41.
 - b. Seminara, N, Abuabara, K, Langan, S, Shin, DB, Kimmel S, Margolis, DJ, Troxel, AB, and Gelfand, JM. Validity of The Health Improvement Network (THIN) for the study of psoriasis. *British Journal of Dermatology* 2011;164(3):602-9 (PMC3064479)
 - c. Ogdie A, Alehashemi S, Love TJ, Jiang Y, Haynes K, Hennessy S, Choi H, Gelfand JM. Validity of psoriatic arthritis and capture of disease modifying antirheumatic drugs in the health improvement network. *Pharmacoepidemiol Drug Saf.* 2014 Sep;23(9):918-22. (PMC4149813)
5. *Training of the next generation of clinical scientists.* Dr. Gelfand is a dedicated mentor with over 20 MD and PhDs having spent at least one full year under his mentorship, 12 of whom have received a Master's degree in clinical epidemiology. His trainees have received numerous grants from the National Psoriasis Foundation, the National Institute for Health Research (United Kingdom), the NIH (F32, T32, K23, and a Lasker Award), the Dermatology Foundation and the American College of Rheumatology. Examples include Andrea Neimann, MD MSCE (Assistant Professor of Dermatology and Director of Dermatopharmacology, NYU), Anokhi Jambusaria MD MSCE (Assistant Professor of Clinical Dermatology Mayo Clinic), Erica Dommasch, MD (Instructor, Dermatology, Harvard), Katrina Abuabara MD MHA (Assistant Professor, Dermatology UCSF), Alexis Ogdie MD MSCE (Assistant Professor of Medicine (Rheumatology, PENN), Daniel Shin MS (PhD candidate in biostatistics, PENN), Joy Wan, MD, T32 recipient and dermatology resident PENN), Nehal Mehta MD MSCE (Section Chief, Inflammation and Atherosclerosis NHLBI), Sinead Langan MB BCH MRCP MSc (Clinical Scientist, London School of Tropical Hygiene), Junko Takeshita MD MSCE PhD (Instructor, PENN), Zelma Chiesa MD MSCE (Instructor Penn), Anita Kumar MD MSCE (Assistant Professor of Medicine- Oncology, Tufts), and Megan Noe MD MPH (Instructor, Dermatology PENN).

Complete List of Published Work in MyBibliography (Over 150 publications):

<http://www.ncbi.nlm.nih.gov/sites/myncbi/joel.gelfand.1/bibliography/41145910/public/?sort=date&direction=ascending>

D. Research Support

Ongoing Research Support

K24-AR064310 (Gelfand)

4/1/13-3/31/18

NIH/NIAMS

Psoriasis and the risk of diabetes

The goal of this project is to evaluate the risk of diabetes and influence of psoriasis treatment on novel biomarkers of diabetes risk in clinic-based, population-based, and randomized controlled trial-based cohorts of psoriasis patients. Additionally, the PI will mentor junior scientists towards careers in independent research.

Role: PI

R-1608-35830 (Gelfand)

4/1/17-3/31/22

PCORI

A pragmatic trial of home versus office based narrow UVB phototherapy for the treatment of psoriasis

The goal of this project is to determine the non-inferiority of office based phototherapy vs home based phototherapy for management of psoriasis stratified by skin type.

Role: PI

Industry Grant (Gelfand)

1/22/16-12/31/19

Novartis

The Vascular Inflammation in Psoriasis – Secukinumab Trial

The goal of this project is to determine the impact of secukinumab, an IL17 inhibitor, and placebo on vascular inflammation and lipid metabolism

Role: PI

Industry Grant (Gelfand) 1/12/17-1/11/20
Celgene
The Vascular Inflammation in Psoriasis Apremilast Trial
The goal of this project is to determine the impact of apremilast, a PDE4 inhibitor on vascular inflammation and lipid metabolism.

Industry Grant (Gelfand) 4/30/13-11/30/24
Abbvie
The Vascular Inflammation in Psoriasis Trial Extension Study
The major goal of this project is to determine the impact of up to one year of treatment of psoriasis with adalimumab, a TNF inhibitor, on vascular inflammation and lipid metabolism.

Role: PI

Industry Grant (PI Gelfand) 6/2/14-6/1/19
Jansen
The Vascular Inflammation in Psoriasis Ustekinumab Trial
The goal of this project is to determine the impact of ustekinumab, an IL12/13 inhibitor, and placebo on vascular inflammation and lipid metabolism.

Industry Grant (Gelfand) 6/1/14-6/30/19
Pfizer
The risk of major medical comorbidities in patients with psoriasis
The major goal of this project is to evaluate cancer, liver, cardiovascular, and infectious outcomes in a large cohort of psoriasis patients using The Health Improvement Network in the United Kingdom and the Incident Health Outcomes and Psoriasis Events study (iHOPE)

Role: PI

Completed Research Support

R01-HL089744 (Gelfand) 3/1/09-2/28/15
NIH/NHLBI
The Risk of Myocardial Infarction in Patients with Psoriasis
The goal of this project is to determine the risk of MI and stroke in patients with psoriasis. AKA the Incident Health Outcomes and Psoriasis Events study (iHOPE)

Role: PI

R01FD004092 (Rook, Gelfand MPI) 9/1/12-9/30/15
Phase I study of resiquimod gel therapy for cutaneous T cell lymphoma
The major goal of this study is to determine the safety, tolerability, and preliminary evidence of efficacy of resiquimod gel for cutaneous T cell lymphoma.

Role: MPI

R01 CA122569 (Rook, Gelfand MPI) 9/1/08-8/31/13
NIH/NCI
Toll Receptor Ligand Therapy in Cutaneous T-Cell Lymphoma
To characterize the safety, efficacy, immune and antitumor effects of a TLR 7/8 agonist in the imidazoquinolone family when used for CTCL

Role: MPI

R01-HL111293 (Gelfand) 2/8/12-11/30/18
NIH/NHLBI
A trial to determine the effect of psoriasis treatment on cardiometabolic disease
The goal of this project is to determine the impact of adalimumab, UVB phototherapy and placebo on vascular inflammation and lipid metabolism. AKA Vascular Inflammation in Psoriasis (VIP) trial

Role: PI