

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Milstein, Arnold

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

POSITION TITLE: Professor of Medicine, Stanford School of Medicine, Director at Stanford Clinical Excellence Research Center

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
Harvard University (Cambridge, MA)	BA	1967	Economics
Tufts University (Boston, MA)	MD	1971	Medicine
Internship (Mt. Zion Hospital SF CA)	N/A	1972	Medicine and Psychiatry
Residency (Mt. Zion Hospital SF CA)	N/A	1974	Psychiatry
Univ. of California, Berkeley	MPH	1975	Health Care Evaluation

**A. Personal Statement**

I direct Stanford's Clinical Excellence Research Center. The Center engages faculty and students from Health, Computer, and Social Sciences in the discovery and scaling of innovative health care delivery methods that safely lower per capita health care spending for high quality care domestically and internationally.

Before joining Stanford's faculty, I applied at multi-state scale research scaled to improve private and public-sector healthcare delivery and policy. I co-founded the Leapfrog Group in partnership with the Business Roundtable in 1998 to create market demand for adoption of evidence-based patient safety practices. Appointed to consecutive terms as a Congressional MedPAC Commissioner, I originated two subsequently enacted legislative changes to improve the value of US healthcare.

I was selected for the highest annual award of the American College of Medical Quality. Elected to the Institute of Medicine (now, NAM) of the National Academy of Sciences, I chaired the planning committee of its workshop series on best methods to lower per capita health care spending and improve clinical outcomes.

**B. Positions and Honors****Positions and Employment**

1965-1967	Research Assistant, Department of Economics, Harvard University, Cambridge, Massachusetts
1974-1988	Inpatient and office-based psychiatric care for safety net populations
1976-1984	Program Consultant, Division Director, then Chief Medical Advisor, Health Care Financing Administration, Region IX

1984-2010	Founder and President, National Medical Audit, a global healthcare evaluation firm acquired by Mercer Consulting
1986- 2010	Worldwide Partner and U.S. Health Care Thought Leader, Mercer Consulting
2010-current	Professor of Medicine and Clinical Excellence Research Center Director, Stanford University

### **Other Experience and Professional Memberships**

1986-2010	Associate Clinical Professor, University of California at San Francisco
1987-1993	Medical Director, Department of Defense CHAMPUS prepaid psychiatric quality monitoring project
1988-1990	Member, Committee on Utilization Management, National Academy of Medicine, National Academy of Sciences
1988-	Founding staff member and Medical Director, Pacific Business Group on Health, the largest U.S. regional health care purchasers' coalition
1993	Advisor, White House Health Care Reform Task Force
1993-1998	Editorial Board, <u>Medical Outcomes and Guidelines</u> , Faulkner & Gray
1994-1997	Lead Consultant, ambulatory and inpatient care redesign, the Permanente Medical Group
1995-2005	Member, NCQA Committees on Performance Measurement and Accreditation
1996-1997	Member, University of California Commission on the Future of Medical Education
1996-1998	Board Member, The Medical Quality Commission
1997-2007	Founding Board Member, The Leapfrog Group
1997-	Reviewer, <u>New England Journal of Medicine</u> , <u>Journal of the American Medical Association</u> , <u>Health Affairs</u> , and multiple National Academy of Medicine reports
1998-1999	Member, Committee on Children's Health Insurance, National Academy of Medicine, National Academy of Sciences
1998-	Speaker, meetings on health care efficiency improvement, health care value improvement, health care information technology, volume-outcome relationships, engineering applications in health care, alternative medicine, and federal health research priorities, National Academy of Medicine and National Academy of Engineering
1998-	Health care strategy advisor, Boeing, Lowe's and multiple other large U.S. health care purchasers
1999-2000	Member, Performance Measures Coordinating Council, JCAHO/NCQA/AMA
1999-	Co-founder, The Leapfrog Group, and Chair, Leaps and Measures Measurement Committee
1999-	Expert testimony in seven U.S. Senate and House hearings on U.S. health care performance improvement
2001-2005	Member, National Advisory Council, RWJ/IHI <u>Pursuing Perfection</u> initiative
2001-2005	Member, National Quality Forum Strategic Advisory Council and Measures Priority Workgroup
2001-	Chair and co-founder (2001), Steering Committee for IHA California-wide Physician Group Pay-for-Performance Program
2001-	Co-founder and Medical and Scientific Director, Consumer-Purchaser Disclosure Project
2003-	Expert Advisory Board, Harvard Partners Center for Information Technology Leadership
2003-2004	Expert Testimony, Federal Trade Commission, three hearings on competition in health care
2003-2005	Founding Board Member, Bridges-to-Excellence national physician pay-for-performance program
2003-2007	Policy Advisory Committee Member, Rand ACOVE Study
2004-	Advisor to the President of the United States, health care information technology policy
2004-2010	Commissioner, United States Congress Medicare Payment Advisory Commission (MedPAC)
2004-2015	Board Member, AHRQ HCUP quality measures advisory board,
2005-2009	Member, National Quality Forum, Ambulatory Care Measures Committee
2006-2015	Member, National Advisory Council, RWJF Aligning Forces for Quality Initiative
2008-2010	Member, Health economics advisory committee, White House Office of Health Reform
2009-2010	Chair, Planning Committee, National Academy of Medicine series on improving the efficiency of U.S. care delivery
2009-	Board Member, ThedaCare Center for Healthcare Value, Appleton
2010-2011	Workgroup Member, National Academy of Medicine/ National Academy of Engineering Initiative to Apply Systems Engineering to Health Care

2010- Physician Advisor, Mercer Health & Benefits  
 2011-2012 Contributing Member, US Department of Health and Human Services (HHS) Multiple Chronic Conditions (MCC) Expert Steering Committee  
 2011- Board Member, Intermountain Health Care, Salt Lake City  
 2012- Board Member, Institute for Healthcare Improvement  
 2013-2015 Co-Chair, National Academy of Medicine, Advisory Group to GAO on Use of Clinical Registries to Improve Physician Performance  
 2015- Advising Board Member, Fred Hutchinson Cancer Center Research Institute  
 2017- California Future Health Workforce Commission  
 2017- Governor's Precision Medicine Advisory Committee

## **Honors**

1964 Honorary Harvard College Scholarship  
 1964 Graduation with honors, Harvard College  
 1972 National Institute of Mental Health Career Development Fellowship  
 1974 Mount Zion Hospital Mark Berke Prize, the house officer best exemplifying the qualities of the complete physician.  
 1980 U.S. Public Health Service Plaque  
 1981 U.S. Public Health Service Commendation Medal  
 1998 Rosenthal Lecturer, National Academy of Medicine, National Academy of Sciences, 'accelerating health care performance improvement...'  
 2004 Annual Keystone Award Winner, World at Work, '...for innovation and effectiveness in improving the value of U.S. health care...'  
 2005 National Business Group on Health, '...for tireless pursuit of health system improvements, defining the leading edge while making things happen in the real world...'  
 2006 Elected to National Academy of Medicine, National Academy of Sciences  
 2009 Annual Founders' Award, American College of Medical Quality, '...in recognition of national leadership and exceptional ability to bring constituencies together to improve care quality for populations...'  
 2009 Annual Elliott M. Stone Award for excellence in national health data leadership, National Association of State Health Data Organizations, 'For charting the rough seas of health care performance transparency'  
 2013 Annual Kassirer Lecturer, Tufts University School of Medicine  
 2013-18 Visiting Scholar, Center for Advanced Study in the Behavioral Sciences  
 2018 Annual Vaughn Lecturer, Brigham and Women's Hospital, Harvard Medical School

## **C. Contributions to Science**

1. Original investigation to discover factors associated with the effectiveness and efficiency of healthcare delivery and healthcare management innovations.
2. Demonstration and evaluation of market and regulatory initiatives to apply evidence on such factors generated by health services researchers
3. Congressional testimony, publication and successful advocacy to encourage the application by public and private policy-makers of sound scientific evidence on factors associated with healthcare effectiveness and efficiency
4. Computer vision research to increase healthcare productivity by automating the discernment and prevention of imminent health crises for medically fragile populations in hospital and home settings.

## **Complete List of Published Work in MyBibliography:**

<https://www.ncbi.nlm.nih.gov/myncbi/1xQbit-Ltfbl4r/bibliography/public/>

## **D. Additional Information: Research Support and/or Scholastic Performance**

### **Ongoing Research Support**

National Science Foundation

09/01/2020-08/31/2024

Exploring a rapidly progressing human-technology frontier: learning systems that enable health care workers to perfect safety-critical work

Role: COI

The Commonwealth Fund Identifying Attributes of High-Performing Primary Care Practices Serving Different Subgroups of High-Need Patients Role: COI	01/01/2019-10/31/2021
 <b><u>Completed Research Support</u></b>	
Stanford ChEM-H Addressing Loneliness and Social Isolation among Family Caregivers due to COVID-19 Role: PI	08/15/2020-08/14/2021
 Peter G. Peterson Foundation Applications for High Need Patients and End of Life Role: COI, PI	 02/01/2017-10/31/2020
 Gordon and Betty Moore Foundation Stanford PAC Conference with Nature Goal: Host Frontier of AI-assisted Care Scientific Symposium Role: PI	 02/06/2018-02/05/2020
 National Science Foundation Frontier in AI Assisted Care symposium Goal: Host Frontier of AI-assisted Care Scientific Symposium Role: PI	 08/15/2019-07/31/2020
 Peter G. Peterson Foundation Performing Primary Care Practices Serving Different Subgroups of High-Need Patients Goal: Discover care delivery attributes distinguishing high-value clinical teams serving high-cost populations. Role: PI	 11/15/2018 -07/31/2020
 Peter G. Peterson Foundation Better Care for High Need, High Cost and Late Life Populations Goal: Discover care delivery attributes distinguishing high-value clinical teams serving high-cost populations. Role: PI	 02/01/2017 -07/31/2020
 The Centers for Medicare and Medicaid Services / American College of Physicians TCPI Support and Alignment Network Goal: Distribute and assess impact of evidence-based best practices in high-value care Role: PI	 04/01/2016-09/28/2019
 The Robert Wood Johnson Foundation / Network for Regional Healthcare Improvement Organization Practice Transformation: Organizing HealthDoers for Action Goal: Scale and assess impact of evidence-based best practices in high-value care. Role: PI	 01/09/2017 -03/31/2018
 Blue Shield of California Primary Care Provider Improvement Pilot Goal: Design an evidence-based plan to accelerate quality improvement by poorly performing primary care sites. Role: PI	 n.d.
 Peter G. Peterson Foundation AMVC Specialty Manuscript development	 05/01/2016 -03/31/2017

Goal: Prepare a publishable manuscript summarizing recent evidence on attributes of high value care in endocrinology, general cardiology and nephrology.

Role: PI

Peter G. Peterson Foundation

01/01/2014 -03/31/2016

American Idol in Medicine

Goal: Discover care delivery attributes distinguishing high value primary care sites serving commercially insured populations.

Role: PI

Gordon and Betty Moore Foundation

12/01/2014-12/20/2016

Improving Outcomes, Affordability and Experience for Intensive Care Units (ICUs) in Community Hospitals

Goal: Discover care delivery attributes distinguishing high value ICUs.

Role: PI

Peter G. Peterson Foundation

03/01/2015 -06/30/2016

America's Most Valuable Care -Primary Care Dissemination Planning and Evaluation

Goal: Test the transferability to average primary care teams of high-value care delivery attributes of high performing primary care teams.

Role: PI

Partnership to Fight Chronic Disease

03/01/2016 -06/30/2016

Bright Spots in Chronic Disease Management

Goal: Discover care delivery attributes distinguishing high value chronic disease self-management.

Role: PI

Stanford Cyber Initiative

05/01/2016 -04/30/2017

Advancing AI Research to Help Policymakers Affordably Improve Life's Starts and Finishes

Goal: Apply neural network technology to create an algorithm that detects imminent health crises among home-bound seniors.

Role: PI

The Robert Wood Johnson Foundation

06/15/2016 -10/15/2017

Converting Savings from High Value Care into Health and Income for Low-Wage Households

Goal: Prove that health benefits plan sponsors are willing to share savings from more cost-effective care with low-income insureds.

Role: PI

Genentech Foundation

01/07/2017 -12/31/2017

Translating Freshly Discovered Attributes of High Value Cancer Care to Community Practices

Goal: Distribute and assess the uptake of high-value oncology care by US community oncologists in diverse US locations.

Role: PI