

STAN NEIL FINKELSTEIN, M. D.

PART I: GENERAL INFORMATION

OFFICE ADDRESSES:

Massachusetts Institute of Technology
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Harvard Medical School
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PLACE OF BIRTH:

Wilkes-Barre, Pennsylvania

EDUCATION:

1971 S.B. Chemical Engineering Massachusetts Institute of Technology
1971 S.M. Chemical Engineering Massachusetts Institute of Technology
1975 M.D. Harvard Medical School

POSTDOCTORAL TRAINING:

1975 - 1980 Clinical Fellow (Medicine), Massachusetts General Hospital
1976 - 1977 Mellon Postdoctoral Fellow (Political Science), Massachusetts Institute of Technology
1977 - 1978 Whitaker Postdoctoral Fellow (Management), Massachusetts Institute of Technology

LICENSURE:

Licensed to practice medicine in Massachusetts 1976 - date

CLINICAL ACTIVITIES:

None

ACADEMIC APPOINTMENTS:

Massachusetts Institute of Technology

1977 - 1994 Senior Lecturer, Associate Professor, Assistant Professor, MIT Sloan School of Management
1995 - 2005 Senior Research Scientist, MIT Sloan School of Management
2005 - Senior Research Scientist, Engineering Systems Division and HST

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Harvard Medical School/Harvard-MIT Division of Health Sciences & Technology

1983 - HMS/HST Affiliated Faculty
1983 - 1989 HSDM Faculty Research Preceptor in Dental Services
2003 - HMS Senior Lecturer, Department of Health Care Policy
2005 - Senior Research Scientist, HST
2008 - Faculty, Division of Clinical Informatics, Department of Medicine, HMS and BIDMC
2009 - Associate Professor of Medicine

OTHER PROFESSIONAL POSITIONS AND MAJOR VISITING APPOINTMENTS:

1977 - 1978 Physician Veterans Administration Health Management Center
1979 - 1982 Consultant to the Director National Heart, Lung and Blood Institute, NIH
1982 - 1983 Visiting Faculty (Spring) Stanford Graduate School of Business
1982 - 1984 Research Associate National Bureau of Economic Research
1985 - 1988 Medical Director (Part Time) New York State Center for Assessing Health Services
2008 - Visiting (Full) Professor University of Minho, Portugal

MAJOR ADMINISTRATIVE RESPONSIBILITIES:

Harvard Medical School

2005 - Director, MD/MBA Joint Program

MASSACHUSETTS INSTITUTE OF TECHNOLOGY:

1982 - 1990 Director, MIT Doctoral Program in Health Policy and Management
1991 - 2008 Managing Co-Director, Program on the Pharmaceutical Industry (POPI)
(Alfred P. Sloan Foundation Funded Industry Research Center)

MAJOR COMMITTEE ASSIGNMENTS:

Harvard Medical School/Harvard-MIT Division of Health Sciences & Technology

1999 - 2005 HST, M.D. Curriculum Committee
2002 - 2004 Chair, HMS/HBS MD/MBA Task Force
2003 - HST, M.D. Admissions Committee (Subcommittee chair since 2007)

Massachusetts Institute of Technology

1970 - 1971 Committee on the Use of Humans as Experimental Subjects (IRB)
1972 - 1974 Faculty Committee on Educational Policy
1975 - 1977 Freshmen Advisory Board
1980 - 1988 Sloan School Undergraduate Committee
1982 - 1988 Premedical Advisory Council
1983 - 1985 Medical Administrative Board
1983 - 1987 Sloan School Ph.D. Program Committee
2001 - Biomedical Enterprise Program (HST/Sloan School) Steering Committee

NATIONAL/INTERNATIONAL:

1983 - 1987 National Oversight Committee on Medical Applications of Research, NIH
1995 - 2000 U.S. Pharmacopeia Drug Utilization Review Expert Panel
2000 - 2005 U.S. Pharmacopeia Therapeutic Decision-Making Expert Panel
2004 - 2005 Medicare Part D. Model Guidelines Expert Committee (CMS/U.S. Pharmacopeia)
2005 - U.S. Pharmacopeia International Health Panel

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COMMUNITY SERVICE:

1981 - 1986 Human Services Advisory Committee, Lexington, MA
1986 - 1993 Board of Health (Member/Chair), Lexington, MA

EDITORIAL BOARDS AND AD HOC EDITORIAL REVIEW:

1991 - Ad Hoc Reviewer Health Affairs
1994 - Ad Hoc Reviewer Journal of Clinical Psychiatry
1994 - Ad Hoc Reviewer Annals of Internal Medicine
1995 - Ad Hoc Reviewer Journal of Occupational and Environmental Medicine
2001 - 2006 Board Member Pharmaceutical Discovery
2004 - Board Member Biotechnology Healthcare
2008 Ad Hoc Reviewer New England Journal of Medicine

GRANT REVIEW PANELS:

2001 - National Institute of Mental Health
2005 - Agency for Healthcare Quality and Research
2006 - Centers for Disease Control and Prevention

AWARDS AND HONORS:

1976 - 1977 Mellon Postdoctoral Fellow at MIT
1983 - 1984 J.W. Kieckhefer Career Development Chair, MIT

PART II: TEACHING, RESEARCH AND MENTORING CONTRIBUTIONS

A. TEACHING:

Harvard Medical School/Harvard-MIT Division of Health Sciences & Technology

1995 - Introduction to Health Care Management (Course Numbers HC.706 and HST.905)

Introduced (with Peter Slavin, M.D.) the first HMS class on health care management. Since the late 1990's, the course has satisfied the HMS Social Medicine requirement for first year medical students and is now a required course in the combined MD/MBA program. The course draws approximately 30 medical students each year, mostly from HMS I, but also some from years II and IV. The class meets weekly for two hours in the Spring semester.

2005 - Medicine and Management (HMS Course Number IN.601.0)

Developed with Richard Bohmer, M.D. and Charles Safran, M.D., this course is a requirement in HMS III for students pursuing combined MD/MBA degrees and is open to other HMS students with interests in health care management related issues. The class is now offered weekly for three hours from September – December each fall, in conjunction with one or more of the HMS teaching hospitals. Enrollment is limited to 25 students. The class evolved from a special section of Patient Doctor II Patient Doctor III, and adopts a “clinical organization” focus in addressing managerial and social issues associated with making the transition from student to a practicing professional in medicine.

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Massachusetts Institute of Technology

1975 - 1983 Seminar in Health Management (Subject Numbers 15.121 and 15.122)

Developed and introduced MIT's first seminar class in health management with Professor Edward B. Roberts (MIT Sloan School of Management) and Dr. Norman S. Stearns (Tufts University School of Medicine). The seminar class met weekly for two hours throughout the academic year and typically attracted forty students from throughout MIT's graduate programs and also numerous cross-registrants from Harvard.

1975 - 1990 Comparative Health Systems (Subject Number 15.141J)

Developed and introduced MIT's first seminar class in health policy with Professor Harvey M. Sapolsky (MIT Political Science). This seminar class met weekly for two hours for one semester each academic year and typically attracted thirty students from throughout MIT's graduate programs and also numerous cross registrants from Harvard.

1991 - Principles and Practice of Drug Development (Subject Numbers 15.136J, 10.547J, 7.547J, HST.920 and BCMP.230)

This joint MIT/Harvard class evolved from an earlier offering entitled, "Seminar on the Pharmaceutical and Biotechnology Industry". It is currently co-directed with Professors Thomas Allen (MIT Sloan School of Management), Charles Cooney (MIT Chemical Engineering), Anthony Sinskey (MIT Biology) and Dr. Robert Rubin (HMS/HST). The class meets for three hours weekly during the Fall semester and attracts 50-100 enrollees from throughout MIT, HST, HMS, HSPH and FAS.

1995 - 2006 HST Clinical Investigator Training Program Seminars

2007 - Seminar in Health Care Delivery Systems Innovation (Subject number ESD.940)
(New Subject)

Health care has been characterized as in crisis, or at least in need of repair to address critical performance issues in the United States and globally. *Seminar on Health Care Systems Innovation* applies a systems perspective to understand health care delivery today, its stakeholders and problems as well as opportunities. Students will be introduced to the 'systems perspective' that has been used successfully in industries that include automobile manufacturing, air traffic control, telecommunications, utilities, etc, to address the introduction of new processes, technologies and strategies to improve overall health outcomes. This seminar will incorporate a multidisciplinary approach that will integrate medicine, social and behavioral sciences, operations research and management as well as engineering perspectives to stimulate new thinking in the practice, process and delivery of health care.

Harvard Medical School/Harvard-MIT Division of Health Sciences & Technology

1995 - Introduction to Health Care Management (Course Numbers HC.706 and HST.905)

Introduced (with Peter Slavin, M.D.) the first HMS class on health care management. Since the late 1990's, the course has satisfied the HMS Social Medicine requirement for first year medical students and is now a required course in the combined MD/MBA program. The course draws approximately 30 medical students each year, mostly from HMS I, but also some from years II and IV. The class meets weekly for two hours in the Spring semester.

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Harvard Medical School/Harvard-MIT Division of Health Sciences & Technology (continued)

2005 - Medicine and Management (HMS Course Number IN.601.0)

Developed with Richard Bohmer, M.D. and Charles Safran, M.D., this course is a requirement in HMS III for students pursuing combined MD/MBA degrees and is open to other HMS students with interests in health care management related issues. The class is now offered weekly for three hours from September – December each fall, in conjunction with one or more of the HMS teaching hospitals. Enrollment is limited to 25 students. The class evolved from a special section of Patient Doctor II Patient Doctor III, and adopts a “clinical organization” focus in addressing managerial and social issues associated with making the transition from student to a practicing professional in medicine.

Continuing education/CME

Organized the Following Four-Day to Week Long Programs:

1979 - 1987 Management of Medical Technology (joint with Tufts University School of Medicine, Division of Continuing Medical Education)

1988 Quality Measurement in Healthcare

1992 - 1998 Management for Physicians and Scientists in the Pharmaceutical Industry

2000 Technology Driving Change in Drug Discovery and Development

B. MENTORING:

▪ POSTDOCTORAL FELLOWS:

<u>NAME</u>	<u>YEARS</u>	<u>ACADEMIC FIELDS</u>	<u>RESEARCH AREA</u>
Sarah C. Stallings, Ph.D.	2000 - 2005	Biophysics; Molecular Genetics	Economics of Personalized Medicine
Thomas G. Roberts Jr., M.D., MSocSci	2003 - 2005	Clinical Oncology	Evolution of Drug Development in Clinical Oncology
Asher D. Schachter, M.D., MMSc, MS, FRCPC	2004 - 2006	Pediatric Nephrology; Informatics	Predictive Modeling of Drug Candidates
Jessica L. Kosa, Ph.D.	2004 - 2006	Molecular Genetics	Role of Genomic Data Commons in Drug Development
1982 - 1990	Academic advisor and career mentor to students as director of MIT’s Doctoral Program in Health Policy and Management. (All students were concurrent medical or dental students or had completed M.D. degrees).		

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Names of Students:

Oren Grad, M.D., Ph.D.
Kenneth Kiar, M.D.
Glenn Laffel, M.D., Ph.D.
Mark McClellan, M.D., Ph.D.
Anne Molkapetris, M.D.
Cary Sennett, M.D., Ph.D.
Andrew Tager, M.D.
Robert Wacloff, M.D., Ph.D.
Susan Yavner, D.M.D., Ph.D.

1983 - 1989 Research preceptor to Postdoctoral Fellows at HSDM who were selected as members of the Robert Wood Johnson Foundation's Dental Scholars Program. (3 trainees)

2005 - Academic advisor to Harvard Medical students who are members of the HMS/HBS combined MD/MBA degree program. (54 students to date)

C. THESIS SUPERVISION (active and direct involvement in research):

▪ **Ph.D. CANDIDATES:**

Jack B. Homer	Emergence of Medical Technology	1983
Mark Segal (Political Science)	Salt and Public Policy	1983
Oren Grad, M.D.	The Political Rationality of American Science	1990
Cary Sennett, M.D.	Medical Technology and Declining Utilization of the Hospital	1990
Robert Wacloff, Ph.D.	Health Care Self-Selection in a Multiple Option Corporate Benefit Program	1990
Glenn Laffel, M.D.	Heart Transplantation-Is There a Relation between Experience and Outcome?	1991
Susan Yavner, D.M.D.	Managing Professionals in Health Care Organizations: Implications from a Study of Dental Franchises	1991
Frank Basa	Pharmaceutical R&D Project Management	1995
Stefano Bertozzi	The Economics of HIV Testing in Africa	1995
Michael Miller	Multiple Sequential Trials of a New Pharmaceutical	1996
Arni Hauksson	Technology Transfer from Universities to Industry	1998
Karima R. Nigmatulina	Modeling Pandemic Influenza	2009

▪ **MASTER OF SCIENCE CANDIDATES:**

Takanori Sato	The Impact of the Internet on Pharmaceutical Marketing A Comparison of Japan and the USA	2003
Michael Brand	A Study of the Hospital Utilization of Clinical Laboratory Tests	1979
Cecilia R. D'Oliveira	Development and Analysis of an Epidemiology Model Influenza	1979
Martin Flax	A Study of the Hospital Utilization of Clinical Laboratory Tests	1979
Andrew M. Gralla	A Decision Support System for Analyzing Alternative Public Influenza Vaccination Programs	1979
Robert A. Kazdin	Hospital Cost Inflation: Economic Approaches for Policy Analysis	1979
Linda Schindler	Locus of Innovation for Process Machinery	1979
Jeffery R. Scott	Innovation within a Large Teaching Hospital	1979
Charles R. Smart	A Decision Support System for Analyzing Alternative Public Influenza Vaccination Programs	1979
James F. Gammill	Analysis of a Medical Problem: An Application of Portfolio Theory	1980
A. Joseph Kleinmann	Projecting the Impact of a Radical New Health Technology	1980
Suzanne C. Friedley	Electronic Fetal Monitoring: Diffusion of Medical Technology and Cost Benefit Analysis	1981
Pamela de Smidt	Improving Operating Room Scheduling	1981
William H. Straub	Health Care Costs of the Midland Division of the Dow Chemical Company: Past Experiences (1976-80) and the Future Strategies for Cost Control	1981
Dana L. Gilbert	Medical Evidence and Clinical Policy: Some Cases in the Abandonment of Drugs	1982
Michael Kasinkas	Study of Cardiac Pacemakers	1982
Elizabeth A. Zinser	Industry-Academia Relationships in Research and Innovation: The Case of Molecular Biology	1982
Kenneth A. Isaacson	Medicare Reimbursement for Emerging Medical Technologies: The Decision Making Process and It's Impact	1983
Harvey Jones	Case Studies of Medical Technology Transfer	1983

▪ **MASTER OF SCIENCE CANDIDATES:** *(continued)*

Olivier L. Brasseur	A Strategic Planning Approach to Public Health Problems in Developing Countries	1984
Richard S. Livingston	Third Party Reimbursement: An Element of Corporate Strategy For Medical Product Companies	1984
Mark F. Hayward	The Impact of Prospective Payment on the Medical Product Industry: A Preliminary Study	1985
William J. Culp	The Effect of Market Structure on Hospital Development: Competition and Cost in Health Care	1986
Greg W. Thornburg	Management Considerations for Successful Joint Ventures Between Hospitals and Physicians	1986
Michelle S. Wolfe	AZT and Burroughs-Wellcome: Hero or Villain?	1988
David L. Becker, M.D.	Adaptive Responses by the Pharmaceutical Industry to a Changing Competitive Environment	1989
Lyndon David Braun	The Lifecare Industry: A Strategic Analysis	1989
Christa Mayer	Our Newest Environmental Hazard: Evolving Concern about the Management of Infectious Waste	1989
Stephen F. Murphy	Market Assessment of a Graphic User Interface Adaptive Device for Blind Computer-Users	1991
Paul Hsu	Measurement of Price-Quality Relationship in Antihypertensive Drugs Using Hedonic Price Analysis: A Feasibility Study	1992
Eyal Meltzer	Order of Entry Effects on Market Share for Anti-Ulcer Drugs	1992
Tetsuya Araki	Japan's Pharmaceutical Industry: Transformation in Response to Recent Environment Changes	1993
Peter G. Bittinger	The Effects of Profit Regulation on the International Competitiveness of the Pharmaceutical industry	1993
Steven W. Lipari	A Medical Device as a New Business Opportunity	1993
Bonnie Scouler	A Sequential Analysis of the Ulcer Drug Market	1993
Hyun-Sook Woo	The Effect of Project Management on New Drug Development	1993
Itteri Harel	Technology Strategy Analysis of Microbiological Diagnostic for the Food Industry	1994
Yuko Hayashi	Japanese Government Policy on Innovative R&D in the Pharmaceutical Industry	1994

▪ **MASTER OF SCIENCE CANDIDATES:** *(continued)*

Peter W. Latham	The Impact of Price Controls on the Future Development of Parkinson's Disease Therapeutics	1994
Trevor Moody	Strategic Analysis of Emerging Cardiovascular Technology	1994
Paolo F. Radaelli	Biotech-Pharmaceutical Industry Interface: Corporate Alliances	1994
Ira Adelman	Non-Integrated Employee Assistance Program Utilization Pre- and Post-Implementation of a Managed Behavioral Healthcare "Carve-Out" Benefit at a Major Utility	1995
Thomas R. Flanagan	Structuring Research Partnerships in the Biomedical Industry: Variation in the Pattern of Partnership Task Coordination	1995
Karin Knoll	Modeling the Market for Cardiac Arrhythmia Monitors	1995
François Thomas	Outsourcing Research in the Pharmaceutical Industry	1995
Reiko M. Akiike	Kirin Brewery Company, Limited's Diversification Strategy Focusing on the Foundation of Kirin-Amgen, Inc.	1996
Donald C. Simonson	Utilizing Administrative Databases for Health Care Management Decisions	1997
Pedro E. Huertas	A Study on the Economic Costs of Neurocognitive Dysfunction	1998
Ernique O. Ibarrola	The Mexican Pharmaceutical Industry: Public Policy and Market Structure	1999
Hirsohi Suzuki	The Globalization of R&D Activities in the Pharmaceutical Industry	1999
Hiroaki Sato	Using Human Metabolic Enzyme Profiling as an Innovative Technology in the Drug Development Process	2000
Yoshihito Takahashi	New Value Chain in the Prescription Drug Industry: A Mandate To Change	2000
Yoshifumi Togo	Science and Technology Driving Change in Drug R&D: Some Lessons for the Japanese Pharmaceutical Industry	2000
Koji Nose	Adoption of Hospital Information Technology	2001
Martin Nufer	Assessment of Primary Care Physicians' Laboratories in Switzerland	2001
Israel Ruiz	Pharmaceutical Technology Innovation: The Development of AIDS Drugs	2001

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▪ **MASTER OF SCIENCE CANDIDATES:** *(continued)*

Sinichi Sato	The Effect of Break-Through Therapies on Cost Structure of Conventional Therapies	2001
Craig D. Sunada	Adoption of Hospital Information Technology	2001
Patrick G. Teung	Examination of the Bio-Manufacturing Opportunities within the Biopharmaceutical Industry: A Comparative Case Study of the Leading Manufacturing Technologies	2002

D. INVITED TEACHING AND PRESENTATIONS:

Prior to 2000 (selected list):

UNIVERSITIES, RESEARCH INSTITUTES AND PROFESSIONAL SOCIETIES:

Stanford University School of Medicine
Stanford University Graduate School of Business
University of Pennsylvania Leonard Davis Institute
University of Minnesota School of Medicine
Tufts University School of Medicine
Cambridge University (UK), Institute for Manufacturing
London School of Economics (UK)
Northeastern University School of Management
York University (UK)
University of Sussex (UK)
Institute of Medicine
Institute for Management Sciences
International Institute of Applied Systems Analysis (Austria)
International Health Economics Association
International Center for Research on the Management of Technology International Conference
RAND Corporation
American Economics Association
National Depressive and Manic Depressive Association
United States Pharmacopeia
Sloan Foundation Industry Centers Academic Conferences

2001- 2009:

INTERNATIONAL:

Cambridge University (UK), Judge Institute of Management (2001)
“Technology Driving Change in Drug Development and the Marketplace for Pharmaceuticals”

University of Siena (Italy) (2002)
“Illness, Treatment and Productivity in the Workplace”

International Society for Pharmacoeconomics and Outcomes Research (Netherlands) (2002)
“Impact of Migraine on Absenteeism and Productivity in an Employee Population”

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INTERNATIONAL: *(continued)*

Cambridge University (UK)/MIT Institute (2005)

“Economic Considerations in the Evaluation of Medical Technology”

INFARMED (Portugal drug registration agency) (2007)

“Technology Assessment for Third Party Coverage as a Barrier to Clinical Innovation”

Instituto Superior Technico (Portugal) (2007)

“Drug Regulation and Payment for Pharmaceuticals in the US”

University of Minho (Portugal) (2008)

“Valuing Biomedical Devices”

Imperial College (UK), Tanaka School of Business (2008)

“A Systems View of Health Care Innovation”

University of Coimbra (Portugal), Center for Neuroscience and Cell Biology (2009)

“Economic History of the Pharmaceutical Industry”

University of Zaragoza (Spain), Zaragoza Logistics Center (2009)

“Reasonable RX: Solving the Drug Price Crisis”

NATIONAL/REGIONAL:

Sloan Foundation Industry Centers Academic Conference (2001, 2003)

“The Case for Development of New Antibiotics” (2001)

“An Economic Framework for Evaluating the Impact of Personalized Medicine” (2003)

University of Connecticut Health Center (2002)

“Illness, Treatment and Productivity in the Workplace”

Columbia University, Japan Program (2002)

“Impact of National Markets on Global Drug Innovation”

Personalized Medicine Coalition (2005)

“An Economic Framework for Evaluating the Impact of Personalized Medicine”

American Medical Informatics Association Workshop (2007)

“Using Secondary Data to Examine Health and Productivity at Work”

North Shore Long Island Jewish Health System (2007)

“US Health Care Policy—What to Look For over the Next Five Years”

Institute for Operations Research and Management Science (INFORMS) (2008)

“Role of Non-Pharmaceutical Interventions in Reducing the Impact of a Flu Pandemic”

E. OTHER EDUCATIONAL LEADERSHIP:

MAJOR MULTIDISCIPLINARY RESEARCH SYMPOSIA CHAIRED:

Future of the Pharmaceutical Industry (1991)
Cross National Comparison of Economic Regulation of Pharmaceuticals (1993)
The Pharmaceutical Industry in the 21st Century (1995)
Technology Driving Change in Drug Development and the Business of Pharmaceuticals (1997)
How New and Emerging Technologies are Revolutionizing Drug Discovery, Development,
Manufacturing and Evaluation (1999)
Integrating New Drug Discovery and Development Technology with Complex Biological Systems
Research (2001)
Pharmacogeomics, Drug Development and the Cost of Health Care (2003)
Addressing 21st Century [Pharmaceutical] Good Manufacturing Practices (2005)
Information and Technology Enabled Health Care Process Improvement (2006)

F. BIBLIOGRAPHY:

▪ ORIGINAL REPORTS:

1. Sapolsky H M and Finkelstein SN. Blood Policy Revisited – A New Look at The Gift Relationship. *Public Interest* 1977; 46:15-17.
2. Frias JL, Felman AH, Rosenbloom AL, Finkelstein SN, Hoyt WF, Hall BD, and Opitz JM. Normal Intelligence in Two Children with Carpenter Syndrome. *Amer J Med Genetics* 1978;2:191-9.
3. von Hippel E, Finkelstein SN. Analysis of Innovation in Automated Clinical Chemistry Analyzers. *Sci Pub Pol* 1979;6:24-37.
4. Finkelstein SN, Sapolsky HM. Controlling Post-Transfusion Hepatitis: A Proposal to Publicize Hepatitis Rates on Transfusion Facilities. *Amer J Law & Med* 1979;5:1-9.
5. Farber ME, Finkelstein SN. A Cost-Benefit Analysis of a Mandatory Premarital Rubella-Antibody Screening Program. *N Engl J Med* 1979; 300:856-9.
6. Finkelstein SN. An Approach to Studying the Cost Behavior of Changing Utilization of a Hospital Laboratory. *Hum Pathology* 1980;11:435-9.
7. Finkelstein SN. Technological Change and Clinical Laboratory Utilization. *Medical Care* 1980;18:1048-56.
8. Finkelstein SN, von Hippel E, Scott JR. Projecting the Impact of the 1976 Medical Device Amendments on Innovation in Clinical Chemistry. *Tests J Tech Transfer* 1981;5:1-9.
9. Finkelstein SN, Smart CN, Gralla AM, d'Oliveira CR. A Two-Stage Model for the Control of Epidemic Influenza. *Management Sci* 1981;27:834-46.
10. Finkelstein SN, Isaacson KA, Frishkopf JA. The Process of Evaluating Medical Technologies for Third-Party Coverage. *J Health Care Tech* 1984;1:89-102.

▪ **ORIGINAL REPORTS:** *(continued)*

11. Finkelstein SN, Gilbert, DL. Scientific Evidence and the Abandonment of Medical Technology: A Study of Eight Drugs. *Res Pol Special Issue on Innovation in Medical Technology* 1985;14:225-33.
12. Finkelstein SN, Hutton J, Persson J. Assessing Technology for Rehabilitation--Three Cases and Three Countries. *Int J of Tech Assessment Health Care* 1987; 3:375-85.
13. Laffel GL, Barnett AI, Finkelstein SN, Kaye MP. The Relation Between Experience and Outcome in Heart Transplantation. *N Engl J Med* 1992;327:1220-5.
14. Greenberg PE, Stiglin LE, Finkelstein SN, and Berndt ER. Depression: A Neglected Major Illness. *J Clin Psychiatry* 1993;54:419-24.
15. Greenberg PE, Stiglin LE, Finkelstein SN, Berndt ER. The Economic Burden of Depression in 1990. *J Clin Psychiatry* 54(11):405-418, November 1993.
16. Neels K, Finkelstein SN, Douglass C. Medical Cost Savings from Pentoxifylline Therapy in Chronic Occlusive Arterial Disease. *Pharmacoeconomics* 1994;5:130-40.
17. Greenberg PE, Finkelstein SN, Berndt ER. The Economic Consequences of Illness in the Workplace. *Sloan Rev* 1995;36:26-38.
18. Finkelstein SN, Berndt ER, Greenberg PE, Parsley RA, Russell JM, Keller MB, The Chronic Depression Study Group. Improvement in Subjective Work Performance After Treatment of Chronic Depression: Some Preliminary Results. *Psychopharm Bull* 1996;32:33-40.
19. Berndt ER, Finkelstein SN, Greenberg PE, Howland RH, Keith A, Rush AJ, Russell JM, Keller MB. Workplace Performance Effects from Chronic Depression and its Treatment. *J Health Econ* 1998;17:511-35.
20. Greenberg PE, Sisitsky T, Kessler RC, Finkelstein SN, Berndt ER, Davidson JRT, Ballenger JC, Fyer AJ. The Economic Burden of Anxiety Disorders in the 1990s. *J Clin Psychiatry* 1999;60(7):427-35.
21. Cockburn IM, Bailit HL, Berndt ER, Finkelstein SN. Loss of Work Productivity Due to Illness and Medical Treatment. *J Occu Environ Med* 1999;41:948-53.
22. Cremieux P-Y, Finkelstein SN, Berndt ER, Crawford J, Slavin MB. Cost-Effectiveness, Quality-Adjusted Life Years, and Supportive Care: Recombinant Human Erythropoietin as Treatment of Cancer-Associated Anemia. *Pharmacoeconomics* 16(5 pt 1):459-472 1999.
23. Berndt ER, Koran LM, Finkelstein SN, Gelenberg AJ, Kornstein SG, Miller IM, Thase MT, Trapp GA, Keller MB. Lost Human Capital from Early-Onset Chronic Depression. *Amer J Psychiatry* 2000;157:940-7.
24. Berndt ER, Bailit HL, Keller MB, Verner JC, Finkelstein SN. Health Care Use and At-Work Productivity Among Employees with Mental Disorders. *Health Affairs* 2000;19:244-56.

▪ **ORIGINAL REPORTS:** (*continued*)

25. Stafford RS., MacDonald ES, Finkelstein SN. National Patterns of Medication Treatment for Depression, 1987 to 2001. *J Clinical Psychiatry* 2001;3:232-5.
26. Wan GJ, Crown WH, Berndt ER, Finkelstein SN, Ling DCY. Treatment Costs of Venlafaxine or Selecting Serotonin-Reuptake Inhibitors for Depression and Anxiety. *Managed Care Interface* 2002;15:24-30.
27. Wan GJ, Crown WH, Berndt ER, Finkelstein SN, Ling.DCY. Healthcare Expenditures in Patients Treated with Venlafaxine or Selective Serotonin Reuptake Inhibitors for Depression and Anxiety. *Int J Clin Practice* 2002;56:434-9.
28. Crown WH, Finkelstein SN, Berndt ER, Ling DCY, Poret AW, Rush AJ, Russell RW. The Impact of Treatment-Resistant Depression on Health Care Utilization and Costs. *J Clin Psychiatry* 2002;63:963-71.
29. Stafford RS, Ma J, Finkelstein SN, Haver K, Cockburn IM. National Trends in Asthma Visits and Asthma Pharmacotherapy, 1978 – 2002. *J Allergy Clinical Immunol* 2003;111:729-35.
30. Ma J, Stafford RS, Cockburn, IM, Finkelstein SN. A Statistical Analysis of the Magnitude and Composition of Drug Promotion in the United States in 1998. *Clin Therapeut* 2003;25:1503-17.
31. Stafford RS, Furberg CD, Finkelstein SN, Cockburn IM, Alehegn T, Ma J. Impact of Clinical Trial Results on National Trends in α -Blocker Prescribing, 1996 – 2002. *JAMA* 2004;291:54-62.
32. Pomerantz JM, Finkelstein SN, Berndt ER, Poret AW, Walker LE, Alber RC, Kadiyam V, Das M, Boss DT, Ebert TH. Prescriber Intent, Off-Label Usage, and Early Discontinuation of Antidepressants: A Retrospective Physician Survey and Data Analysis. *J Clin Psychiatry* 2004;65:395-404.
33. Russell JM, Hawkins K, Ozminkowski RJ, Orsini L, Crown WH, Kennedy S, Finkelstein SN, Berndt ER, Rush AJ. The Cost Consequences of Treatment-Resistant Depression. *J Clin Psychiatry* 2004;65:341-7.
34. Weilburg, JB, Stafford RS, O'Leary KM, Meigs JB, Finkelstein SN. Costs of Antidepressant Medications Associated with Inadequate Treatment. *Amer J Managed Care* 2004;10:357-65.
35. Ozminkowski RJ, Marder WD, Hawkins K, Wang S, Stallings SC, Finkelstein SN, Sinskey AJ, Wierz. DJ, The Use of Disease-Modifying New Drugs for Multiple Sclerosis Treatment in Private-Sector Health Plans. *Clin Therapeut* 2004;26:1341-54.
36. Roberts TJ, Goulart BH, Squitieri L, Stallings SC, Halpern EF, Chabner BA, Gazelle GS, Finkelstein SN, Clark JW. Trends in the Risks and Benefits to Patients with Cancer Participating in Phase I Clinical Trials. *JAMA* 2004; 292:2130-40.
37. Pransky GS, Berndt ER, Finkelstein SN, Verma S, Agrawal A. Performance Decrements Resulting From Illness in the Workplace: The Effect of Headaches. *J Occupat Environ Med* 2005;47:34-40.

▪ **ORIGINAL REPORTS:** (*continued*)

38. Lyman GH, Berndt ER, Kallich JD, Erder MH, Crown WH, Long SR, Lee H, Song X, Finkelstein, SN. The Economic Burden of Anemia in Cancer Patients Receiving Chemotherapy. *Value Health* 2005;8:149-56.
39. Radley DC, Finkelstein SN, Stafford RS. Off Label Prescribing Among Office-Based Physicians. *Arch Int Med* 2006;166:1021-26.
40. Members of the USP Model Guidelines Expert Committee and U.S. Pharmacopeia Staff Narrative Review: The U.S. Pharmacopeia and Model Guidelines for Medicare Part D Formularies. *Ann Int Med* 2006;145:448-53.
41. Stallings SC, Huse D, Finkelstein SN, Crown WH, Witt WP, Maguire J, Hiller AJ, Sinsky AJ, Ginsburg GS. A Framework To Evaluate The Economic Impact Of Pharmacogenomics. *Pharmacogenomics* 2006;7:853-62.
42. Schachter AD, Ramoni MF, Baio G, Roberts TG, Finkelstein SN. Economic Evaluation of a Bayesian Model to Predict Late-Phase Success of New Chemical Entities. *Value Health* 2007;10:377-85.
43. Bernardo HL, Goulart H, Clark JW, Pein HH, Roberts TG, Finkelstein SN, Chabner BA. Trends in the Use and Rise of Biomarkers in Phase I Oncology Trials. *Clin Cancer Res* 2007;13(22): 6719-29.

▪ **REVIEWS AND OTHER EDUCATIONALLY RELEVANT PUBLICATIONS:**

1. Finkelstein SN. Blood Pressure Measurement Devices. *Consumer Research* 1977;60:7-10.
2. Finkelstein SN. Review of "The Market for Human Blood" (by D.E. Hough). *Soc Sci Med* 1979; January.
3. Farber ME, Finkelstein SN. A Cost-Benefit Analysis of a Mandatory Premarital Rubella-Antibody Screening Program. *New Engl J Med* 1979;300:856-9.
4. Temin P, Finkelstein SN. The Need to Assess the Impact of Technology Assessment. Sloan School of Management Working Paper 1982: No. 1355-1382.
5. Finkelstein SN, Homer JB, Sondik SB. Modeling the Dynamics of Decision-Making for Emerging Medical Technologies. *R & D Mgm* 1984;14:175-91.
6. Lowell H, Finkelstein SN. Able: The Future of Mechanical Aids. *Excep Parent* 1989;19:22-7.
7. Berndt ER, Finkelstein SN. Price Indexes for Anti-Hypertensive Drugs that Incorporate Quality Change: A Progress Report on a Feasibility Study. MIT Program on the Pharmaceutical Industry (POPI) 1992 ;Working Paper No. 6-92.
8. Berndt ER, Finkelstein SN. Use of Hedonic Methods for Anti-Hypertensive Drugs: Progress Report on a Feasibility Study. 1992.

▪ **REVIEWS AND OTHER EDUCATIONALLY RELEVANT PUBLICATIONS:** *(continued)*

9. Finkelstein SN, Bittinger PG. Price Controls and the Competitiveness of Pharmaceutical Firms: A Preliminary Look at the Experience of Five Countries. MIT Program on the Pharmaceutical Industry (POPI) 1993: Working Paper No. 8-93.
10. Neels K, Finkelstein SN, McKusick K, Carter S, Black S. Comparative Accuracy of Single Photon Emission Computed Tomography and Planar Stress Thallium Imaging in the Diagnosis of Coronary Artery Disease: A Meta Analysis. 1993;53.
11. Greenberg PE, Finkelstein SN. How Much Does Depression Cost Society. *Harvard Mental Health Letter* 1994;11.
12. Greenberg PE, Finkelstein SN, Berndt ER. Calculating the Workplace Cost of Chronic Disease. *Business and Health* 1995;13:27-8.
13. Finkelstein SN, Berndt ER, Greenberg PE. Economics of Depression: A Summary and Review. NDMDA Paper 1996.
14. Temin P, Finkelstein SN, Clarysse B. Economies of Scale in the Pharmaceutical Industry. MIT Program on the Pharmaceutical Industry (POPI) 1996: Working Paper No. 26-96.
15. Finkelstein SN, Greenberg PE, Berndt ER, Verner JC. Work Function as a Benchmark of Clinical Response to Antidepressant Medication. MIT Program on the Pharmaceutical Industry Paper, January 1997.
16. Finkelstein SN, Berndt ER, Moore M, Greenberg PE, Keith A. The Opportunity Cost of Chronic Illness in the Workplace: Mapping the Landscape. MIT Program on the Pharmaceutical Industry (POPI) 1997: Working Paper No. 40-97.
17. Berndt ER, Finkelstein SN, Greenberg PE, Keith AI, Bailit HL. Illness and Productivity: Objective Workplace Evidence. MIT Program on the Pharmaceutical Industry (POPI) 1997: Working Paper No. 42-97.
18. Finkelstein SN, Huber SL, Greenberg PE. Comment: Cost Comparison of Recombinant Human Erythropoietin and Blood Transfusion in Cancer Chemotherapy-Induced Anemia. *Annals Pharmacotherapy* 1997;31:1094-5.
19. Greenberg PE, Berndt ER, Finkelstein SN, Baker AN, Russell JM. Workplace Illness: Calculating Return on Investment from Reducing Workplace Illness. *Drug Benefit Trends* 1998;March: 44-7.
20. Finkelstein SN, Cockburn IM, Bailit HL, Verner JC, Haver KE, Berndt ER. Lost Work Productivity and Absenteeism Among Parents of Children with Asthma. MIT Program on the Pharmaceutical Industry (POPI) 2000: Working Paper No. 57-00.
21. Epstein RJ, Berndt ER, Finkelstein SN. The HOPE Plan and the Section 271 Discount Drug Purchase Program for Massachusetts: An Economic Analysis. LECG Paper. January 2001.

▪ **REVIEWS AND OTHER EDUCATIONALLY RELEVANT PUBLICATIONS:** *(continued)*

22. Stallings SC, Rubin RH, Allen TJ, Cooney CM, Finkelstein SM, Sinskey AJ. The Contributions of Science and Technology in Advancing Society's Needs through Drug Development. MIT Program on the Pharmaceutical Industry (POPI) 2001: Working Paper No. 58-01.
23. Epstein RJ, Finkelstein SN. Economic Implications of a Section 271 Prescription Drug Discount Card for the Prescription Advantage Program in Massachusetts. Discussion Paper, August 2001.
24. Stallings SC, Rubin RH, Allen TJ, Cooney CM, Sinskey AJ, Finkelstein SN. Technological Innovation in Pharmaceuticals. *Pharmaceutical Discovery and Development Technology/Industry Overviews* . 2001/2: 12-16.
25. Witt WP, Crown WH, Maguire J, Finkelstein SN, Berndt ER. Asthma in the Family: Determining Family-Level Medical Services Use and Healthcare Expenditures. 2002.
26. Russell JM, Berndt ER, Crown WH, Finkelstein SN, Hirschfeld RMA. Cost Effectiveness of Nefazodone, Cognitive Behavioral Analysis System of Psychotherapy and Their Combination for the Treatment of Chronic Forms of Major Depression. *MIT Sloan School of Management* 2002; April.
27. Sinskey, AJ, Finkelstein SN, Cooper SM. Integrating the Science and Technology Revolutions. *PharmaGenomics* 2002; May/June.
28. Sinskey AJ, Finkelstein SN, Cooper SC. The Promise of Protein Microarrays. *PharmaGenomics* 2002; July/August.
29. Finkelstein SN, Sinskey AJ, Cooper SM. The Coming Paradigm Shift in Pharmaceuticals. *PharmaGenomics* 2002; September/October.
30. Sinskey AJ, Finkelstein SN, Cooper SN. Getting to Rational Drug Design – At Last. *PharmaGenomics* 2002; November/December.
31. Pransky G, Berndt ER, Finkelstein SN, Kyle MK, Mackell J, Tortorice D. Comparison of Objective and Subjective Measures of Work Performances: An In Depth Analysis Measuring Reports. 2003.
32. Finkelstein SN, Sinskey AJ, Cooper SM. A Public/Private Partnership for Dual Use Antibiotics. *PharmaGenomics* 2003; March/April.
33. Finkelstein SN, Sinskey AJ, Cooper SM. Getting Personal with Pain. *PharmaGenomics* 2003; July/August
34. Sinskey AJ, Finkelstein SN, Cooper SM. See you in December? *PharmaGenomics* 2003; October.
35. Finkelstein SN, Sehgal NL, Stafford RS. National Trends in Treatment for Diabetes Mellitus. MIT Program on the Pharmaceutical Industry (POPI) 2004: Working Paper No. 66-04.

▪ **REVIEWS AND OTHER EDUCATIONALLY RELEVANT PUBLICATIONS:** *(continued)*

36. Finkelstein SN, Sinskey AJ, Cooper SM. The Question of Compliance. *PharmaGenomics* 2004; January.
37. Sinskey AJ, Finkelstein SN, Cooper SM. Medical Imaging in Drug Discovery, Part I. *PharmaGenomics* 2004; March/April.
38. Finkelstein SN, Sinskey AJ, Cooper SM. Medical Imaging in Drug Discovery, Part II. *PharmaGenomics* 2004; May.
39. Sinskey AJ, Finkelstein SN, Cooper SM. Medical Imaging in Drug Discovery, Part III. *PharmaGenomics* 2004; June.
40. Finkelstein SN, Sinskey AJ, Cooper SM. Biobanks: Will They Help Promote the Genomics Revolution? *Pharmaceutical Discovery* 2004; November/December.
41. Sinskey AJ, Finkelstein SN, Cooper SM. The Consequences of Limiting Stem Cell Research: Health and Economic Considerations. *Pharmaceutical Discovery* 2005; May.
42. Sinskey AJ, Finkelstein SN, Cooper SM. A Cure for Multiple Sclerosis in Our Lifetime? *Pharmaceutical Discovery* 2005;5:40-3.

▪ **CHAPTERS:**

1. Finkelstein SN. Technological Change and Laboratory Test Volume. In Benson ES, Rubin M, eds. *The Logic and Economics of Clinical Laboratory Use* New York: Elsevier, 1978.
2. Finkelstein SN, Bodily SE, Dienstag J, Drake AW, Huggins CE, Persons RC. *Hepatitis Risk from Whole Blood and Blood Component Transfusion*. 1980.
3. Finkelstein SN, Sondik E, Homer J, Kleinmann AJ. *Projecting the Impact of a Radical New Health Technology. Systems Science in Health Care*. New York: Pergamon Press, 1980.
4. Finkelstein SN. *Technology Transfer by Academic Physicians*. In Vuori H, ed. *Research on Health Research*. Helsinki: The Academy of Finland, 1980.
5. Finkelstein SN. *Biomedical Innovation: The Challenge and the Process*. In Roberts EB, ed. *Biomedical Innovation*. Cambridge, MA: M.I.T. Press, 1981.
6. Finkelstein SN, Schectman SB, Sondik EJ, Gilbert D. *Clinical Trials and Established Medical Practices: Two Examples*. In Roberts EB, ed. *Biomedical Innovation*. Cambridge, MA: M.I.T. Press, 1981.
7. Finkelstein SN. *Diversity as a Contributor to Innovative Performance by Academic Physicians*. In Roberts EB, ed. *Biomedical Innovation*. Cambridge, MA: M.I.T. Press, 1981.

Stan N. Finkelstein, M.D.

▪ **CHAPTERS:** *(continued)*

8. Finkelstein SN. Reducing the Use of the Clinical Laboratory: How Much Can Be Saved? In E.S. Benson ES, Griner PF, eds. *Clinical Decision Making and Laboratory Use*. Minneapolis, MN: University of Minnesota Press, 1981.
9. Finkelstein SN, Brehm HP, Mullner RM. Categories of Medical Technology. In *Health Care, Technology, and the Competitive Environment*. New York: Praeger, 1989.
10. Finkelstein SN, Neels KN, Bell GK. Innovation in Cardiac Imaging. In *Medical Innovation at the Crossroads*. National Academy Press, 1995. (Institute of Medicine Vol. V).
11. Finkelstein SN, Greenberg PE, Kessler RC, Nells TL, Berndt ER. Depression in the Workplace: An Economic Perspective. In Feighner JP, Boyers FW, eds. *Selective Serotonin Re-uptake Inhibitors: Advances in Basic Research and Clinical Practice*. 2nd ed. New York: John Wiley & Sons Ltd., 1996: 327-63
12. Finkelstein SN, Berndt, ER, Kyle MK, Ling DCY. The Long Shadow of Patent Expiration: Generic Entry and Rx to OTC Switches. In Feenstra RC, Shapiro MD, eds. *Scanner Data and Price Indexes* Chicago: University of Chicago Press for the National Bureau of Economic Research, 2003: 229-67. (NBER Series on the Conference on Research in Income and Wealth, Vol. 61).
13. Crown WH, Berndt ER, Baser B, Finkelstein SN, Witt WP, Maguire J, Haver KE. Benefit Plan Design and Prescription Drug Utilization Among Asthmatics: Do Patient Copayments Matter? In Cutler DM, Garber AN, eds. *Frontiers in Health Policy*. Cambridge, MA: MIT Press, 2004: 95-127. (National Bureau of Economic Research (NBER), Vol. 7).
14. Finkelstein SN, Stallings SC, Sinskey AJ. Considerations in the Economic Assessment of the Value of Molecular Profiling. 263-274. In Burczynski ME, Rockett JC. *Surrogate Tissue Analysis, Genomic, Proteomic, and Metabolomic Approaches*. Boca Raton, FL: CRC Press, Taylor & Francis Group, 2006.

▪ **BOOKS AND MONOGRAPHS:**

1. Roberts EB, Levy RI, Finkelstein SN, Moskowitz J, Sondik F, eds. Biomedical Innovation. Cambridge, MA: M.I.T. Press, 1981.
2. Drake AW, Finkelstein SN, Sapolsky HM. The American Blood Supply. Cambridge, MA: M.I.T. Press, 1982.
3. Blume SS, Finkelstein SN, eds. Innovation in Medical Technology. Research Policy Special Issue. 1985;14.
4. Finkelstein S, Temin P, Reasonable Rx: Solving the Drug Price Crisis, Upper Saddle River, NJ: Financial Times Press, 2008.