

Committee on Energy and Commerce
U.S. House of Representatives
 Witness Disclosure Requirement - "Truth in Testimony"
 Required by House Rule XI, Clause 2(g)

| | | |
|--|-----|-------------------------------------|
| 1. Your Name: <u>REBECCA SMITH-BINDMAN</u> | | |
| 2. Are you testifying on behalf of the Federal, or a State or local government entity? | Yes | <input checked="" type="radio"/> No |
| 3. Are you testifying on behalf of an entity that is not a government entity? | Yes | <input checked="" type="radio"/> No |
| 4. Other than yourself, please list which entity or entities you are representing: <u>none</u> | | |
| 5. Please list any Federal grants or contracts (including subgrants or subcontracts) that you or the entity you represent have received on or after October 1, 2009: <u>I have funding from the Agency for Health Care Policy (AHRQ) to conduct medical research, and from the NIH (see below)</u> | | |
| 6. If your answer to the question in item 3 in this form is "yes," please describe your position or representational capacity with the entity or entities you are representing: | | |
| 7. If your answer to the question in item 3 is "yes," do any of the entities disclosed in item 4 have parent organizations, subsidiaries, or partnerships that you are not representing in your testimony? | Yes | No |
| 8. If the answer to the question in item 3 is "yes," please list any Federal grants or contracts (including subgrants or subcontracts) that were received by the entities listed under the question in item 4 on or after October 1, 2009, that exceed 10 percent of the revenue of the entities in the year received, including the source and amount of each grant or contract to be listed: | | |
| 9. Please attach your curriculum vitae to your completed disclosure form. | | |

Signature: [REDACTED]

Date: June 6, 2012

grants: 1) AHRQ: Randomized Controlled Trial of Ultrasonnd versus CT for patients in the Emergency Department with Renal pain
 2) NIH: Mid career Award. Risk of Cancer from Medical Imaging
 3) NIH: Risk of Cancer with Incidental findings Identified on Medical Imaging.

University of California, San Francisco
CURRICULUM VITAE

Name: Rebecca Smith-Bindman
Position: Professor In Residence, Step 1
Radiology
School of Medicine

Address: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

EDUCATION

| | | | |
|-------------|--|---------------------------|---|
| 1980 - 1985 | Princeton University | BSE | Cum Laude, Architecture and Structural Engineering |
| 1985 - 1986 | Columbia University | Post Baccalaur eate | Pre-Medical Program |
| 1987 - 1991 | University of California, San Francisco | MD | Medicine |
| 1991 - 1992 | University of California, San Francisco | Intern | Pathology |
| 1992 - 1996 | University of California, San Francisco | Resident | Radiology |
| 1996 - 1997 | University of California, San Francisco | Clinical Instructor | Radiology, Ultrasound |
| 1996 - 1998 | University of California, San Francisco | Fellow | Epidemiology & Biostatistics |

LICENSES, CERTIFICATION

1992 California Medical License # G76462
1993 California X-ray Supervisor and Operator License RHL 143658
1996 Board Certification, American Board of Radiology

PRINCIPAL POSITIONS HELD

| | | | |
|----------------|---|---------------------|-----------|
| 1998 - 2003 | University of California, San Francisco | Assistant Professor | Radiology |
| 2003 - 2009 | University of California, San Francisco | Associate Professor | Radiology |
| 2009 - present | University of California, San Francisco | Professor | Radiology |

OTHER POSITIONS HELD CONCURRENTLY

| | | |
|----------------|---|--|
| 1999 - 2000 | The Royal London School of Medicine | Visiting Research Fellow |
| 2000 - present | University of California, San Francisco | Director, Radiology Outcomes Research Lab (RORL) |
| 2009 - 2010 | National Institutes of Health | Visiting Research Scientist |

HONORS AND AWARDS

| | |
|------|---|
| 1985 | Cum laude, Princeton University |
| 1985 | Senior Thesis Prize, Princeton University |
| 1991 | Student Summer Research Fellowship, Institute for Health Policy, UCSF |
| 1999 | Radiologic Society of North America Nycomed Amersham Fellow |
| 2000 | Radiologic Society of North America Nycomed Amersham Fellow |
| 2007 | Nomination, Clinical Research Mentor of the Year, Bay Area Symposium on Clinical Research |
| 2010 | Nomination, CTSI Consultant of the Year, Impact Award |
| 2010 | National Institute of Health, Award of Merit |
| 2010 | Scientific Paper of the Year, Minnies, Auntminnie.com |
| 2010 | Finalist, Most Influential Radiology Researcher, Minnies, Auntminnie.com |
| 2011 | Leader in Imaging, Auntminnie.com |

KEYWORDS/AREAS OF INTEREST

Comparative Effectiveness and Diagnostic Imaging, Health Services Research, Outcomes Research, Disparities Research, Women's Imaging, Mammography, Evidenced Based

Radiology, Screening Tests, Radiation Associated with Medical Imaging, Management of Incidental Findings on Diagnostic Testing

PROFESSIONAL ACTIVITIES

CLINICAL

Attending, Ultrasound, UCSF: My clinical commitment has varied between 25 - 75% effort, typically 25%. This includes supervised clinical instruction of residents and fellows. My teaching focuses on how to use evidenced based methodology and clinical guidelines to help inform interpretation of clinical ultrasound studies.

SUMMARY OF CLINICAL ACTIVITIES

Supervised clinical instruction, residents and fellows, Ultrasound, Department of Radiology, University of California, San Francisco
My teaching focuses on how to use evidenced based methodology and guidelines to help inform interpretation of clinical studies.

PROFESSIONAL ORGANIZATIONS

Memberships

- 1997 - 2011 Society of Radiologists in Ultrasound SRU (there was a several year gap in membership)
- 1997 - 2011 Alliance for Health Services Research in Radiology (there was a several year gap in membership)

Service to Professional Organizations

- 2010 - 2011 American Board of Medical Specialties, American Committee member
Board of Radiology, American College of
Radiology and Physician Consortium for
Performance Improvements. Patient Radiation
Dose Work Group
- 2010 - 2011 Institute of Medicine (IOM), Commissioned Report Author of Commissioned
for the IOM Committee on Breast Cancer and the Report
Environment. Paper entitled Temporal Changes in
Ionizing Radiation and Estimate of Contributions to
Breast Cancer

SERVICE TO PROFESSIONAL PUBLICATIONS

- 2000 - 2010 American J of Medicine
- 2000 - 2010 American J of Obstetrics & Gynecology
- 2000 - 2010 American J of Public Health
- 2000 - 2010 American Journal of Radiology
- 2000 - 2010 Annals of Internal Medicine
- 2000 - 2011 Archives of Internal Medicine

2007 - 2011 Health Affairs
2000 - 2010 Journal of the American Medical Association
2000 - 2010 Journal of Medical Screening
2000 - 2010 Journal of Women's Health
2000 - 2011 Journal of the National Cancer Institute
2000 - 2010 Medical Care
2000 - 2010 Medical Decision Making
2000 - 2011 New England Journal of Medicine
2000 - 2010 Obstetrics and Gynecology
2000 - 2011 Radiology
2000 - 2010 Ultrasound in Obstetrics & Gynecology
2005 - 2005 External Reviewer, Institute of Medicine Report, Improving Mammography Quality Standards

INVITED PRESENTATIONS

INTERNATIONAL

2001 US - UK Cancer Learning Network, Deprivation and Cancer; London, England invited talk, 2001
2001 British Society of Human Genetics, Prenatal screening for Down syndrome in England and Wales and Birth Outcomes; London, England, 2001 invited talk
2002 Global Summit on Mammographic Screening, Europe Institute of Oncology; Milan, Italy, 2002 invited talk
2005 U.S.-U.K. Comparison of Screening Mammography, Does Practice Make Perfect; Association Between Volume and Accuracy of Mammography; University of Copenhagen, Denmark, 2005 invited talk
2006 International Society for Prenatal Diagnosis, Prenatal Screening For Down Syndrome in The Second Trimester of Pregnancy Kyoto; Japan, 2006 invited talk
2009 Canadian Breast Cancer Foundation - Forum on the Earlier Detection and Diagnosis of Breast Cancer, Toronto, Canada 2009 Mammography Quality.
2010 Nation Cancer Research Institute (NCRI), Liverpool, England - Risk of Cancer from Computed Tomography (CT) Examinations

NATIONAL

2000 American College of Medical Genetics
2000 Society of Radiologists in Ultrasound

- 2000 Society for Health Services Research in Radiology
- 2001 Society of Radiologists in Ultrasound Annual Meeting
- 2001 Society for Health Services Research in Radiology
- 2002 Society of Radiologists in Ultrasound
- 2003 Breast Cancer Surveillance Consortium
- 2003 Society of Radiologists in Ultrasound
- 2003 Centers for Disease Control and Prevention
- 2003 RSNA 88th Scientific Assembly and Annual Meeting
- 2004 Saving Women's Lives: Institute of Medicine (IOM)
- 2004 Breast Cancer Surveillance Consortium
- 2005 Improving Mammographic Quality Standards Institute of Medicine (IOM)
- 2006 Beth Israel Deaconess Medical Center
- 2006 National Institute Child Health and Human Development
- 2007 National Cancer Institute, National Institute of Health
- 2007 National Cancer Institute, National Institute of Health
- 2008 Mount Sinai Urban Health Institute & Metro Chicago Breast Cancer Taskforce, Partnerships in Translation: Advancing Research and Clinical Care
- 2008 Grand Rounds, and Visiting Professor, University of Washington, Seattle, Washington
- 2008 4th Annual HMO Research Network Conference, Danville, Pennsylvania
- 2009 Society of Radiologists in Ultrasound, National Conference on the Management of Ovarian Cysts
- 2009 Canadian Forum for the Earlier Detection and Diagnosis of Breast Cancer
- 2010 Center for Disease Control & Prevention, Annual Cancer Registry Meeting, Atlanta, Georgia
- 2010 6th Annual HMO Research Network conference, Emerging Frontier in Healthcare & Research Delivery, Austin, Texas
- 2010 National Council on Radiation Protection (NCRP), Communication of Radiation Benefits and Risks in Decision Making
- 2010 National Cancer Institute, Board of Scientific Advisors, Bethesda, Maryland
- 2010 American Statistical Association Conference on Radiation

Health, Annapolis Maryland

- 2010 Breast Cancer Surveillance Consortium Annual Meeting, Washington DC
- 2010 Kaiser Permanente: National Radiology Leadership Group, held at the RSNA, Chicago, IL
- 2011 Cleveland Clinic, Health Care Quality Innovation, Cleveland, Ohio
- 2011 University of New Mexico, Visiting Professor, External Reviewer, Resident Research Day

REGIONAL AND OTHER INVITED PRESENTATIONS

- 2000 Kaiser Permanente Department of Genetics,
- 2001 San Francisco State University
- 2001 Department of Medicine Grand Rounds, UCSF, San Francisco General Hospital
- 2001 American College of Obstetrics and Gynecology
- 2002 Breast Oncology Program, Comprehensive Cancer Center, UCSF
- 2003 Obstetrics and Gynecology Grand Rounds, UCSF
- 2004 Racial Disparity: Avon-sponsored Symposium, UCSF
- 2004 Quality of Breast Cancer Care: Symposium , UCSF, San Francisco, CA
- 2005 Sisters Network San Francisco
- 2005 Stanford University, Department of Health Research and Policy, Division of Epidemiology
- 2006 Lunch and Learn: San Francisco Community Outreach Educational Program, UCSF
- 2006 Bay Area Health Care and Quality Outcomes, UCSF, San Francisco, CA
- 2007 California Breast Cancer Research Symposium, Los Angeles, CA
- 2010 Bay Area Clinical Research Symposium , Plenary Speaker, San Francisco CA
- 2011 Department of Medicine Grand Rounds, UCSF, San Francisco, CA
- 2011 Department of Medicine, Grand Rounds, San Francisco General Hospital, San Francisco, CA
- 2011 Department of Urology Grand Rounds, UCSF, San Francisco, CA

- 2011 Radiation Associated with Medical Imaging, Department of Radiology Grand Rounds, UCSF, San Francisco, CA
- 2011 Eden Hospital, Department of Medicine Grand Rounds, Alameda, CA
- 2011 Stanford Hospital, Department of Medicine, Grand Rounds, Palo Alto, CA
- 2011 Kaiser Permanente Medical Center, Grand Rounds, San Francisco, CA

GOVERNMENT AND OTHER PROFESSIONAL SERVICE

- | | | |
|-------------|--|-----------------------------|
| 2001 - 2002 | Society of Health Services Research in Radiology, Program and Rules Committee | |
| 2002 - 2003 | Centers for Disease Control and Prevention, National Breast & Early Detection Program | Planning Committee |
| 2002 - 2005 | Cochrane Collaboration Screening and Diagnostic Tests | Methods Working Group. |
| 2003 - 2003 | Radiology National Boards | Examination Question Writer |
| 2003 - 2010 | National Cancer Institute, Physician Data Query (PDQ) | Committee Member |
| 2004 - 2005 | Center for Disease Control and Prevention, National Breast and Cervical Cancer Early Detection Program, Committee on Assessment of Covered Benefits | Expert Panelist |
| 2007 - 2010 | California Health Benefits Review Program (CHBRP) | Content Expert |
| 2008 - 2010 | Center for Scientific Review (CSR), National Institute of Health (NIH), Health Services Organization and Delivery (HSOD) | Study Section Member |
| 2010 - 2010 | Congressional Hearing, US House of Representatives, Energy and Commerce Committee, Subcommittee on Health. Medical Radiation: An Overview of the Issues | Expert Witness |
| 2010 - 2011 | National Quality Forum, Imaging Efficiently Steering Committee | Steering Committee Member |
| 2010 - 2010 | Food and Drug Administration, Center for Devices & Radiological Health, National Meeting Focus on Radiation Safety | Presenter |
| 2010 - 2011 | American Board of Medical Specialties, American Board of Radiology, American College of Radiology and Physician Consortium for Performance Improvements. Patient Radiation Dose Work Group | Committee Member |

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|-------------|---|------------------|
| 2011 - 2011 | International Council on Radiation Protection, Task Group 79 on Effective Dose | Committee Member |
|-------------|---|------------------|

UNIVERSITY AND PUBLIC SERVICE

UNIVERSITY SERVICE

UCSF SYSTEM-WIDE

| | | |
|-------------|---|--|
| 2003 - 2003 | Blueprint for Regional Excellence in Breast Cancer Care | Committee Member |
| 2007 - 2010 | University of California, Office of the President, California Health Benefits Review Program (CHBRP) | Content Expert, Review of California Pending Legislation |
| 2011 - 2014 | Standardization And Optimization Of Computed Tomography Patient Radiation Dose Across the University of California Medical Centers, funded through the University of California Center for Health Quality & Innovation Program (CHQI) | Project Lead |

UCSF CAMPUS-WIDE

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|-------------|--|--------------------|
| 2003 - 2003 | UCSF Hospital Exceptional Physician Award | Committee Co-Chair |
| 2006 - 2007 | Pathways Clinical and Translational Research | Subcommittee |
| 2008 - 2010 | Pathways To Discovery, Clinical and Translational Research Pathway | Advisory Council |

SCHOOL OF MEDICINE

| | | |
|-------------|---|---------------------------|
| 2002 - 2002 | School of Medicine Dean's Leadership Retreat, Santa Cruz, CA | |
| 2003 - 2003 | School of Medicine Task Force, Future of UCSF and Mission Bay | Steering Committee Member |
| 2003 - 2004 | School of Medicine Task Force, Physician Scientist Program Clinic-Based | Steering Committee Member |
| 2005 - 2005 | School of Medicine, Dean's Leadership Retreat, Santa Cruz, CA | |
| 2003 - 2005 | Faculty Council, School of Medicine | |

DEPARTMENTAL SERVICE

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|-------------|----------------------------------|-------------------------------------|
| 2001 - 2004 | Departments of Medicine | Faculty Recruitment Committee |
| 2001 - 2004 | Department of Radiation Oncology | Faculty Recruitment Committee |
| 2005 - 2005 | Department of Radiology | Seminars and Presentation Committee |

| | | |
|-------------|---|-----------------------------|
| 2005 - 2008 | Department of Radiology Annual Imaging Research Symposium | Abstract Review Committee |
| 2005 - 2009 | Department of Radiology | SEED Grant Review Committee |
| 2009 - 2011 | Department of Radiology | Radiation Safety Committee |

PUBLIC SERVICE

| | | |
|-------------|--|---------------------|
| 2003 - 2007 | San Francisco SISTERS, African American Breast Cancer Advocacy Group | Board Member |
| 2008 - 2008 | Metropolitan Chicago Breast Cancer Task Force, Chicago II. | Consultant (Unpaid) |

SUMMARY OF SERVICE ACTIVITIES

There are several primary service activities to which I have contributed over the last number of years. Since 2003 I have participated in the NCI sponsored Physicians Data Query (PDQ), a review committee created to read the published literature and charged with presenting evidenced based, on-line, widely accessible and widely disseminated guidelines relating to cancer screening and diagnosis. The reviews are utilized by physicians as well as the lay community. While a fairly significant time commitment, it has been an outstanding way to learn about the medical literature and to apply my epidemiology skills to a very concrete and important task of informing the public what we do know, and do not know, about the value of cancer screening and prevention efforts. I have participated in several short, but intense service projects related to breast cancer screening such as acting as a reviewer for the CDC on assessing their guidelines for the National Breast and Cervical Cancer Detection Program, and as reviewer and content expert, for the California Health Benefits Review Program analyzing a bill before the state legislature that would expand breast cancer screening to include MRI. I have participated in several community projects, such as acting on the board of an African American breast cancer advocacy group, and as a consultant to the Metropolitan Breast Cancer Task Force, charged with improving breast cancer mortality rates, and racial disparities in Chicago. My involvement in service activities within the University have focused on increasing the quality and quantity of translational research through participation in several University wide task forces on the topic. On a national level, I have agreed to participate as a standing reviewer for an NIH study section, as a reviewer for individual RFAs, and have participated in many committees focused on radiation safety of medical imaging.

TEACHING AND MENTORING

TEACHING

FORMAL SCHEDULED CLASSES FOR UCSF STUDENTS

| Qtr | Academic Yr | Course Number and Title | Teaching Contribution | Units | Class Size |
|-----|-------------|---|-----------------------|-------|------------|
| | 2002 - 2005 | Epidemiology and Biostatistics, Medical Student Required Class | Section Leader | N/A | 20 |
| | 2005 - 2005 | Introduction to Diagnostic Testing | Lecturer | N/A | 18 |
| | 2007 - 2008 | Clinical Performance and Health Outcome Measurement, Epidemiology and Biostatistics 211 | Faculty Lecturer | N/A | 20 |

| Qtr | Academic Yr | Course Number and Title | Teaching Contribution | Units | Class Size |
|-----|-------------|---|-----------------------|-------|------------|
| | 2010 - 2011 | Framing Research to Influence Policy, Epidemiology and Biostatistics Course 249 | Lecturer | N/A | 20 |

POSTGRADUATE AND OTHER COURSES

| | | |
|--------|---|----------|
| 2001 - | Obstetrics and Gynecology. Update: What Does the Evidence Tell Us, Ultrasound Assessment of the Endometrium. How Should We Use It? San Francisco, CA. | Attended |
| 2001 - | Primary Care Medicine, Aspen, CO | Attended |
| 2001 - | Diagnostic Imaging of the Chest | Attended |
| 2001 - | Diagnostic Imaging in Women's Health | Attended |
| 2001 - | Diagnostic Imaging for Common Clinical Problems | Attended |
| 2001 - | Primary Care Medicine, Maui, HI | Attended |
| 2001 - | Diagnostic Imaging of the Chest. Maui, HI | Attended |
| 2001 - | Diagnostic Imaging in Women's Health, Maui, HI | Attended |
| 2001 - | Diagnostic Imaging for Common Clinical Problems, Maui, HI | Attended |
| 2001 - | Management of the Hospitalized Patient, San Francisco, CA | Attended |
| 2001 - | Controversies in Women's Health, San Francisco, CA | Attended |
| 2001 - | Diagnostic Imaging in Women's Health, San Francisco, CA | Attended |
| 2001 - | MRI & Ultrasound, Lake Tahoe, CA | Attended |
| 2001 - | Intrauterine Growth Restriction, Lake Tahoe, CA | Attended |
| 2001 - | Evaluating the Uterus, Lake Tahoe, CA | Attended |
| 2002 - | Obstetrics and Gynecology Update: What Does the Evidence Tell Us, Ultrasound Screening for Down Syndrome, San Francisco, CA. | Attended |
| 2002 - | 17th Ann. Primary Care Medicine: Concepts and Controversies, Aspen, CO | Attended |
| 2002 - | Diagnostic Imaging for Cancer Screening: Using the Evidence, Aspen, CO | Attended |

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|--------|--|----------|
| 2002 - | 2002 Diagnostic Imaging in Clinical Practice, Aspen, CO | Attended |
| 2002 - | 10th Annual Controversies in Women's Health, San Francisco, CA | Attended |
| 2002 - | Diagnostic Imaging in Women's Health, San Francisco, CA | Attended |
| 2002 - | Diagnostic Imaging, Maui, HI 2002 Evaluation of the Uterus in Postmenopausal Bleeding, Maui, HI | Attended |
| 2002 - | Diagnostic Intrauterine Growth Restriction, Maui, HI | Attended |
| 2002 - | Evidence-Based Radiology: What Does It Mean? Why Is It Important?, Maui, HI | Attended |
| 2002 - | OB/GYN and Abdominal Ultrasound' Soft Ultrasound Markers, San Francisco, CA | Attended |
| 2003 - | Primary Care Medicine, Maui, HI | Attended |
| 2003 - | Diagnostic Imaging in Women's Health, Maui, HI | Attended |
| 2003 - | Diagnostic Imaging in Clinical Practice, Maui, HI | Attended |
| 2003 - | 11th Annual Controversies in Women's Health, San Francisco, CA | Attended |
| 2003 - | Diagnostic Imaging for Disease Prevention, San Francisco, CA | Attended |
| 2003 - | 46th Annual Diagnostic Radiology Postgraduate Course, Evidence-Based Radiology, San Francisco, CA | Attended |
| 2003 - | OB/GYN and Abdominal Ultrasound, Soft Ultrasound Markers: The Results of the California AFP Study, San Francisco, CA | Attended |
| 2003 - | MRI and Ultrasound by the Lake, Evaluation of the Uterus in Postmenopausal Bleeding Diagnostic Intrauterine Growth Restriction, Lake Tahoe, CA | Attended |
| 2004 - | Women's Imaging, Does Practice Make Perfect: The Relationship Between Volume and Accuracy of Mammography, Sonoma, CA | Attended |
| 2004 - | Primary Care Medicine, Aspen, CO 2004 Diagnostic Imaging in Women's Health, Aspen, CO | Attended |

| | | |
|--------|--|----------|
| 2004 - | Diagnostic Imaging in Clinical Practice, Aspen, CO | Attended |
| 2004 - | Primary Care Medicine, Maui, HI 2004 Diagnostic Imaging in Women's Health, Mau, HI | Attended |
| 2004 - | Diagnostic Imaging in Clinical Practice, Mau, HI | Attended |
| 2004 - | Diagnostic Imaging in Clinical Practice, San Francisco, CA | Attended |
| 2005 - | Obstetrical and Gynecologic Sonography, Postmenopausal Vaginal Bleeding, San Francisco, CA | Attended |
| 2005 - | Radiology Spring Training, Scottsdale, Arizona | Attended |
| 2005 - | Evidenced Based Radiology: What Does It Mean And Why Should You Care, Scottsdale, Arizona | Attended |
| 2005 - | Imaging Evaluation Of Vaginal Bleeding, Scottsdale, Arizona | Attended |
| 2005 - | Pelvis Masses: What's Normal, What's Not, Scottsdale, Arizona | Attended |
| 2005 - | Physician Predictors of Mammographic Accuracy, Scottsdale, Arizona | Attended |
| 2005 - | Screening For Lung Cancer, Scottsdale, Arizona | Attended |
| 2005 - | Update in Imaging Including Screening | Attended |
| 2005 - | Evidenced Based Radiology: What Does It Mean And Why Should You Care | Attended |
| 2005 - | Screening Mammography: Does Practice Make Perfect | Attended |
| 2005 - | Imaging Evaluation Of Vaginal Bleeding | Attended |
| 2005 - | Interpreting the Medical Literature Made Easy | Attended |
| 2005 - | Cancer Screening For Radiologists, Montreal and Quebec, Canada | Attended |
| 2006 - | Controversies in Women's Health, San Francisco, CA | Attended |
| 2006 - | Controversies in Breast Cancer Screening and Diagnosis, San Francisco, CA | Attended |
| 2006 - | Cutting Edge Radiology, Diagnosis and Intervention, Vancouver, Canada | Attended |

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|--------|---|-----------------|
| 2006 - | Evidenced Based Radiology: What Does It Mean And Why Should You Care | Attended |
| 2006 - | Screening Mammography: Does Practice Make Perfect | Attended |
| 2006 - | Pelvis Masses: What's Normal, What's Not | Attended |
| 2006 - | Imaging Evaluation Of Vaginal Bleeding Prenatal Diagnosis Of Down Syndrome: What You Need To Know, Vancouver, Canada | Attended |
| 2006 - | Educational Symposia, | Attended |
| 2008 - | Primary Care Medicine: Update 2008, UCSF | Attended |
| 2008 - | Diagnostic Imaging in Women's Health, UCSF | Attended |
| 2008 - | Radiation from Medical Imaging: A Silent Epidemic, UCSF | Attended |
| 2008 - | Obstetrical / Gynecological and Abdominal Sonography Update, Prenatal Screening: What Not to Pay Attention To, San Francisco, CA | Attended |
| 2009 - | Primary Care Medicine: Update 2008 (10 hours), UCSF | Attended |
| 2009 - | Evaluation of Common Symptoms in Women, UCSF | Attended |
| 2009 - | Radiation from Medical Imaging: A Silent Epidemic, UCSF | Attended |
| 2009 - | Obstetrical / Gynecological and Abdominal Sonography Update, Evaluation of Vaginal Bleeding, San Francisco, CA | Attended |
| 2011 - | STONE: RCT of US versus CT for Patients in the CT with Suspected Urolithiasis, San Francisco, CA (8.75) | Course Director |
| 2011 - | 39th Annual Advances in Internal Medicine, San Francisco, CA | Keynote Lecture |

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TEACHING NARRATIVE

During the last several years I have spent substantial time working individually and closely with numerous young investigators, including medical students, residents, and graduate students also work closely supervising several faculty member, both within Radiology and other UCSF Departments. On average, I meet with each trainee I am working with for 1-2 hours per week. These mentoring activities have comprised an increasingly large part of my time and I applied

and received an NIH Mid Career Investigator Award to have the time to focus on mentoring. My clinical teaching activities occur on the days I conduct clinical work on the clinical ultrasound service. My teaching of the residents and fellows focuses on how to use evidenced based thinking to help inform interpretation of clinical studies. The formal course work involves teaching primarily post-graduate master's students who were completing a master's degree in clinical research.

MENTORING

PREDOCTORAL STUDENTS SUPERVISED OR MENTORED

| Dates | Name | Program or School | Role | Current Position |
|-------------|-------------------|------------------------|------------------|--|
| 2005 - 2008 | Aruna Venkatesan | UCSF Medical School | Research Advisor | Resident, Stanford Medical Center |
| 2005 - 2006 | Alexander Ding | UCB/ UCSF Joint MD/MPH | Research Advisor | Resident, Massachusetts General Hospital |
| 2004 - 2005 | Christopher Kagay | UCSF Medical School | Research Advisor | Fellow, Massachusetts General Hospital |
| 2006 - 2007 | Emma Dinkelspiel | Urban High School | Research Advisor | Student, University of Chicago |
| 2010 - 2011 | Pratik Mehta | UC Berkeley | Research Advisor | UC Berkeley undergraduate |

POSTDOCTORAL FELLOWS AND RESIDENTS DIRECTLY SUPERVISED OR MENTORED

| Dates | Name | Fellow | Faculty Role | Current Position |
|-------------|----------------|---|------------------|-----------------------------------|
| 2010 - 2011 | Paulette Lepda | UCSF Radiology Fellow | Research Advisor | UCSF |
| 2010 - 2011 | Ingrid Burger | UCSF Radiology Resident | Research Advisor | UCSF |
| 2010 - 2011 | Divya Sridhar | UCSF Radiology Resident | Research Advisor | UCSF |
| 2010 - 2011 | Ginger Merry | UCSF Radiology Resident | Research Advisor | UCSF |
| 2009 - 2011 | Natasha Brasic | UCSF Radiology Fellow | Research Advisor | Faculty, SFGH |
| 2009 - 2010 | Jin Ching | UCSF Maternal Medicine Fellow | Research Advisor | UCSF |
| 2007 - 2009 | Richard Cho | UCSF Radiology Fellow | Research Advisor | Private Practice, Los Angeles, CA |
| 2008 - 2009 | Amita Kamath | UCSF Radiology Resident UCSF T32 Scholar | Research Advisor | Fellow, Radiology, NYU |
| 2007 - 2009 | Dorra Sellami | UCSF Radiology Resident/Radiology Fellow | Research Advisor | Radiology Private Practice |
| 2006 - 2010 | Jafi Lipson | UCSF Radiology Resident, UCSF Radiology T32 Scholar | Research Advisor | Faculty, Stanford University |

| Dates | Name | Fellow | Faculty Role | Current Position |
|-------------|-------------------|--|------------------|--|
| 2007 - 2008 | Joseph Stengel, | UCSF Radiology Fellow | | Private Practice |
| 2007 - 2008 | Agiua Heath | UCSF RORL Research Fellow | Research Advisor | Private Practice |
| 2005 - 2007 | Lauren Goldman | UCSF Internal Medicine Fellow, Masters Student | Research Advisor | UCSF Department of Medicine |
| 2005 - 2006 | Kristen Reid | UCSF General Internal Medicine Fellow | Research Advisor | Emory Univeristy / Grady Hospital, Faculty, Medicine |
| 2005 - 2006 | Brian Ching | UCSF Radiology Fellow | Research Advisor | Private Practice, Radiology |
| 2005 - 2006 | Amy Cole | UCSF Radiology Fellow | Research Advisor | Private Practice Kaiser Permanente |
| 2003 - 2005 | Kristen Schueler | UCSF RORL Research Fellow | Research Advisor | Stanford Radiology Fellow |
| 2003 - 2005 | David Haggstrom | UCSF Internal Medicine Fellow, Masters Student | Research Advisor | Indiana University, Faculty, Department of Medicine |
| 2003 - 2004 | Erica Weiss | UCSF Obstetrics & Gynecology | Research Advisor | Private Practice, Obstetrics and Gynecology, SF |
| 1998 - 2000 | Mariana Copanigro | UCSF Radiology Resident and Fellow | Research Advisor | Private Practice, Kaiser Permanente |
| 1998 - 2000 | Nina Vincoff | UCSF Radiology Resident and Fellow | Research Advisor | Private Practice, New York |

FACULTY MENTORING

| Dates | Name | Position While Mentored | Mentoring Role | Current Position |
|-------------|--------------------|-------------------------------------|------------------|-----------------------------------|
| 2010 - 2011 | Ralph Wang | UCSF Emergency Department Physician | Research Advisor | Assistant Professor, UCSF |
| 2009 - 2011 | Liina Poder | UCSF Radiology | Research Advisor | Assistant Professor, UCSF |
| 2008 - 2011 | Antonio Westphalen | UCSF Radiology, KL2 | Research Advisor | Assistant Professor, UCSF |
| 2008 - 2010 | Larry Rand | UCSF Maternal Medicine | Research Advisor | Assistant Professor, UCSF |
| 2007 - 2010 | Lauren Goldman | UCSF Medicine | Research Advisor | Assistant Professor, UCSF |
| 2005 - 2006 | John Stein | UCSF Emergency Medicine | Research Advisor | Associate Professor, UCSF |
| 2005 - 2006 | Max Wintermark | UCSF Radiology | Research Advisor | Section head, Neuroradlology, UVA |
| 2004 - 2005 | Elaina Curtis | UCSF Visiting Fellow | Research Advisor | Faculty, University of Auckland |
| 2002 - 2005 | John Shepherd | UCSF Emergency Medicine | Research Advisor | UCSF Faculty |

OTHER VISITING FACULTY SUPERVISED

2005 - 2005 Allan Jensen University of Copenhagen

TEACHING AND MENTORING AWARDS AND NOMINATIONS

2007 Nomination, Clinical Research Mentor of the Year, Bay Area Symposium on
Clinical Research

2007 Nomination CTSI Mentoring Consultant of the Year

SUMMARY OF TEACHING AND MENTORING HOURS

2008 - 2009 562 total hours of teaching (including preparation)
Formal class or course teaching hours: 40 hours
Informal class or course teaching hours: 850 hours
Mentoring hours: 250 hours
Other Hours:

2009 - 2010 536 total hours of teaching (including preparation)
Formal class or course teaching hours: 0 hours
Informal class or course teaching hours: 416 hours
Mentoring hours: 120 hours
Other Hours I was based in Washington, DC on professional
development leave, but completed to same clinical service &
teaching while on service by returning to San Francisco for
several blocks of time.:

2010 - 2011 828 total hours of teaching (including preparation)
Formal class or course teaching hours: 12 hours
Informal class or course teaching hours: 416 hours
Mentoring hours: 400 hours
Other Hours:

RESEARCH AND CREATIVE ACTIVITIES

RESEARCH AWARDS

CURRENT

(PI)

10/01/2010 - 09/30/2013

AHRQ

| | |
|---|---|
| RCT of US versus CT for Patients in the ED with Suspected Renal Colic | \$9,200,000 total |
| (PI) University of California Office of the President, CHQI Standardization And Optimization Of Computed Tomography Patient Radiation Dose Across The University of California Medical Centers. | 07/01/2011 - 07/01/2014 \$250,000 direct/yr1 \$750,000 total |
| (PI) NIH/K24 Mid Career Development Award: Risk of Cancer Associated of Incidental Findings | 09/01/2008 - 08/31/2013 \$868,632 total |
| (PI) NIH/R21 Radiation Exposure from Medical Imaging: are Doses in Carcinogenic Range? | 09/01/2008 - 08/31/2010 \$317,000 total |
| (PI) NIH / R21 Risk of Cancer with Incidental Findings Identified on US Imaging | 04/01/2009 - 03/31/2011 \$317,000 total |
| ULI RR024131-01 (Co-Investigator) NIH Clinical and Translational Science Institute (CTSI) | 09/30/2006 - 06/30/2011 |
| <u>PENDING</u> | |
| (PI) PCORI Development of a Shared Decision Making Tool in Diagnostic Imaging | 07/01/2012 - 06/30/2014 \$249,715 direct/yr1 \$499,635 total |
| (PI) NIH/NCI Appropriate Radiology Imaging for Safety and Effectiveness (ARISE) | 12/01/2011 - 11/30/2016 \$3,915,051 direct/yr1 \$29,695,576 total |
| <u>PAST</u> | |
| (PI) UCSF, Deans Office Radiation Exposure from Medical Imaging: are Doses in Carcinogenic Range? | 01/01/2008 - 09/30/2008 \$91,000 total |
| 9PB-0205 (PI) | 07/01/2003 - 02/01/2007 |

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| California Breast Cancer Research Program Racial Disparity in Breast Cancer Mortality | \$583,287 total |
| (PI) DOD/BC980769 Outcomes of Screening Mammography in Elderly Women | 10/01/1999 - 07/01/2005 \$725,515 total |
| K07 194603649A6 (PI) NIH Outcomes of Screening Mammography in Elderly Women | 09/01/1999 - 06/01/2005 \$635,687 total |
| (PI) Women's Health Research Center, UCSF Down Syndrome Screening in the US | 12/01/2002 - 12/01/2006 \$70,000 total |
| BC022339 (Co-Investigator) Department of Defense/USAMRC Blueprint for Regional Excellence in Breast Cancer Care | 05/01/2003 - 04/30/2007 \$6,900,000 total |
| EB004079-01A2 (Co-Investigator) NIH Statistical Methods for Evaluation and Validation of Diagnostic Tests | 04/01/2006 - 03/01/2009 |
| (Co-Investigator) NIH Biological Basis of Breast Density and Breast Cancer Risk | 10/01/2005 - 09/30/2010 |
| U01 CA63740 (Co-Investigator) NIH San Francisco Mammography Registry: A Research Resource | 04/01/2000 - 03/31/2005 \$3,100,000 total |
| U01 CA63740 (Director) NIH Physician Predictors of the Accuracy of Screening Mammography | 04/01/2000 - 03/31/2005 \$115,022 total |
| U01 CA63740 (Director) NIH Validation of the Medicare Screening Algorithm | 04/01/2000 - 03/31/2005 \$80,903 total |

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| (PI) | 04/01/2001 - 04/01/2003 |
| Society of Radiologists in Ultrasound Prenatal Ultrasound for Detection of Birth Defects && Chromosome Abnormalities | \$40,000 total |
| (PI) | 04/01/2001 - 04/01/2004 |
| Society of Radiologists in Ultrasound Physician Variation in Ultrasound Accuracy | \$30,000 total |
| (PI) | 07/01/2000 - 6//01 |
| Radiologic Society of North America U.S. U.K Comparison of The Accuracy of Screening Mammography | \$40,000 direct/yr1 |
| (PI) | 07/01/1999 - 6//00 |
| Radiologic Society of North America Prenatal diagnostic ultrasound for the detection of chromosomal abnormalities | \$35,000 direct/yr1 |

PEER REVIEWED PUBLICATIONS

1. Block JE, Smith R, Black D, Genant HK. Does Exercise Prevent Osteoporosis? JAMA 1987; 257:3115-3117, 1987
2. Genant HK, Block JE, Steiger P, Glueer CC, Smith R. Quantitative Computed Tomography in Assessment of Osteoporosis. Sem in Nuclear Med 4;1987:316-333, 1987
3. Genant HK, Steiger P, Block JE, Smith R, Black D, Ettinger B, Harris ST. Rate of change in bone mineral content as measured by QCT, DPA and SPA in postmenopausal women. J Bone Miner Res 25;1987:212, 1987
4. Ettinger B, Block JE, Smith R, Cummings SR, Harris ST, Genant HK. An examination of the association between vertebral deformities, physical disabilities and psychosocial problems. Maturitas 10;1988:283-96, 1988
5. Block JE, Smith R, Glueer CC, Steiger P, Ettinger B, Genant HK. Models of Spinal Trabecular Bone Loss as Determined by Quantitative Computed Tomography. J Bone Miner Res 1989;4:249-57, 1989
6. Smith-Bindman R, Cummings SR, Steiger P, Genant HK. A comparison of morphometric definitions of vertebral fractures. J Bone Miner Res 1991;6:25-34, 1991
7. Smith-Bindman R, Steiger P, Cummings SR, Genant HK. The Index of Radiographic Area (IRA): a new approach for estimating the severity of vertebral deformity. Bone and Mineral 1991;15:137-50, 1991

8. Smith-Bindman R, Kerlikowske K, Feldstein V, Subak L, Scheidler J, Segal M, Brand R, Grady D. Endovaginal ultrasound to exclude endometrial cancer and other endometrial abnormalities: a meta-analytic review. JAMA 1998;280:1510-1517, 1998
9. Smith-Bindman R, Kerlikowske K, Feldstein V. Endovaginal ultrasound to evaluate endometrial abnormalities. JAMA 1999;281:1693-4, 1999
10. Vincoff N, Callen P, Smith-Bindman R, Goldstein R. Effect of transducer frequency on the appearance of the fetal bowel. J Ultrasound Med 1999;18:799-803, 1999
11. Smith-Bindman R, Gebretsadik T, Kerlikowske K, Newman J. Is screening mammography effective in elderly women? Am J Med 2000;108:112-118, 2000
12. Smith-Bindman R, Hosmer W, Feldstein VA, Deeks JJ, Goldberg JD. Second-trimester ultrasound to detect fetuses with Down syndrome: a meta-analysis. JAMA 2001;285:1044-55, 2001
13. Smith-Bindman R, Hosmer W, Coppanigro M, Cunningham G. The variability in the interpretation of prenatal diagnostic ultrasound. Ultrasound Obstet Gynecol 2001;17:(4):326-332, 2001
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17. Shepherd JA, Kerlikowske K, Smith-Bindman R, Genant H, Cummings SR. Measurement of breast density with dual X-ray absorptiometry: feasibility. Radiology 2002 223(5): 554-557, 2002
18. Prevrhal S, Shepherd JA, Smith-Bindman R, Kerlikowske K, Cummings SR. Accuracy of Mammographic Breast Density analysis: Results of Formal Operator Training. J Cancer, Epi. Bio. & Prev 2002 Nov;11(11); 1389-93, 2002
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20. Smith-Bindman R, Chu P, Bacchetti P, Waters JJ, Mutton D, Alberman E. Prenatal screening for Down syndrome in England and Wales and population-based birth outcomes. Am J Obstet Gynecol 2003 Oct;189(4):980-5, 2003
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51. Cho R, Chu B, Smith-Bindman R. Second Trimester prenatal ultrasound for the detectin of pregnancies at increased risk for Trisomy 18. Prenatal Diagnosis 2008
52. Cummings SR, Browner WB, Tice JA, Bauer S, Cuzick J, ivE, Vogel V, Shepherd J, Vachon C, Smith-Bindman R, Kerlkowske K. Prevention of Breast Cancer in Postmenopausal Women: Approaches to Estimating and Reducing Risk. Journal of the National Cancer Institute 2009
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ABSTRACTS

1. Smith-Bindman R, Kerlikowske K. Is there a downside to elderly women undergoing screening mammography? J Natl Cancer Inst 1999;18;1322-3.

2. Smith-Bindman, R, Kerlikowske, K, Feldstein, V. Endovaginal ultrasound to evaluate endometrial abnormalities JAMA 1999;281:1693-4.

3. Smith-Bindman R. Positron emission tomography to evaluate lung lesions JAMA 2001;285:2711-2.

4. Smith-Bindman, R, Goldberg, JD. Ultrasound markers of fetal Down syndrome. JAMA 2001;285:2858.

5. Smith-Bindman R, Feldstein V, Goldberg JD. The Genetic Sonogram in Screening For Down Syndrome, J Ultrasound Med 2001 Nov; 20(11):1153-8.

6. Kerlikowske K, Smith-Bindman R, Sickles EA. Short-interval follow-up mammography: are we doing the right thing? J Natl Cancer Inst 2003 Aug 6;95(15):1175-6.
7. Smith-Bindman R, Miglioretti D, Kerlikowske K. Comparison of screening mammography in the United States and the United Kingdom. JAMA. 2004 Feb 18;291(7):824.
8. Sellami D, Goldstein R, Feldstein V, Smith-Bindman R. Ultrasound Can Help Low-Risk Patients Avoid Invasive Thyroid Biopsy. American Roentgen Ray Society, 2009
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11. Rand L, Smith-Bindman R, Saadai P, Machin GA, Farmer DL, Feldstein VA. Monochorionic twin pregnancy outcomes: Impact of cord insertion sites. (IFMSS 2009, Brazil)
12. Rand L, Smith-Bindman R, Saadai P, Machin GA, Lee H, Farmer DL, Feldstein VA. Monochorionic twin pregnancy outcomes: Impact of arterio-arterial and veno-venous anastomoses. (IFMSS 2009, Brazil)
13. Rand L, Smith-Bindman R, Payam Saadai, Geoffrey Machin, Vickie Feldstein. Placental Predictors of Adverse Outcomes in Monochorionic twins. (SMFM 2010, Chicago)
14. Rand L, Smith-Bindman R, Saadai P, Machin GA, Feldstein VA. Natural History and Outcomes of Monochorionic Twin Pregnancies in a Large Population-Based Study. (SMFM 2010, Chicago)
15. Lebeda P, Feldstein V, Goldstein R, Sellami D, Smith-Bindman R. Risk of Thyroid Cancer Associated with Ultrasound Findings. Results from a population based study. Association of University Radiologists, 2011, Boston MA
16. Burger I, Miglioretti D, Johnson E, et al. Rise in Radiation Exposure from Diagnostic Imaging in Patients Across Several Different HMO Populations. Paper presented at: RSNA, December 2 20102010; Chicago, IL.
17. Burger I, Miglioretti D, Johnson E, Vanneman N, Smith-Bindman R. Radiation Exposure Increased Dramatically in a Large Health Plan, Particularly Among Cancer Patients. Paper presented at: RSNA, December 1 20102010; Chicago, IL

RESEARCH PROGRAM

My research has continued to focus on understanding the impact of diagnostic testing on important patient outcomes, as well as understanding differences in access to different tests and

differences in accuracy of those tests. Over the last several years I have applied and received numerous research grants to conduct this research. I am in the process of developing a very large grant that will bring many of these projects together, to be submitted to the NIH in May 2010. Several projects are highlighted below.

1) Projects to assess the risk of cancer associated with incidental findings identified on ultrasound and CT imaging. The projects primarily use data from several large HMOs (Kaiser, Group Health Seattle Washington) but will also use data from UCSF. Incidental findings are increasingly being identified on imaging studies as the quality of imaging has improved. The purpose of my research in this area is try to develop evidenced based guidelines to help guide how incidental findings are managed.

2) Projects to assess patterns of radiation from diagnostic imaging. The use of medical imaging has increased dramatically over time, and this has primarily involved increasing utilization of CT. In part due to technological advances, the radiation associated with each imaging examination has increased dramatically, and this coupled with the increased utilization is resulting in increasing patient exposures over time. The project will quantify radiation, assess predictors of imaging (who receives high doses and why) and will directly assess the increased risk of cancer associated with high exposures. This will be assessed in a multi site project at 4 HMOs. An R21 received a high score (5%) and an R01 will be submitted in the fall of 2008.

For each of these studies, Dr. Smith-Bindman was responsible for design, data collection, analysis, manuscript preparation and dissemination of results through the media and at national and international meetings.

Significant Publications

1) Smith-Bindman, R, Kerlikowske, K, Feldstein, V. Endovaginal ultrasound to evaluate endometrial abnormalities JAMA 1999;281:1693-4.

Vaginal bleeding affects 7% of post-menopausal women, and historically women have undergone an invasive endometrial biopsy to exclude a diagnosis of cancer. This meta-analytic review found that endovaginal ultrasound is an easily tolerated non-invasive test that is accurate for the diagnosis of cancer, so that most women can avoid the need for an endometrial biopsy if they have a normal ultrasound test result. These results have been integrated into clinical practice guidelines in the US, Scotland, England, Germany, and Hong Kong.

2) Smith-Bindman R, Hosmer W, Feldstein VA, Deeks JJ, Goldberg JD. Second-trimester ultrasound to detect fetuses with Down syndrome: a meta-analysis. JAMA. 2001;285:1044-55. *Prenatal ultrasound is widely used to screen for Down syndrome, but the impact on patients has not been well studied. This meta-analytic review suggests that the use of ultrasound for the detection of fetuses affected by Down syndrome may be associated with more harm than benefit, as it can lead to large numbers of unnecessary amniocenteses and subsequent fetal losses with little evidence of benefits. This article was accompanied by extensive media coverage (AP, Reuters, NY Times), and controversy, and prompted discussion regarding the role of ultrasound in prenatal diagnoses.*

3) Smith-Bindman R, Chu PW, Miglioretti DL, et al. US-UK Comparison of Screening Mammography. JAMA 2003 Oct 22;290(16):2129-37.

Screening mammography is an imprecise test, and there are considerable differences between physicians and programs in the accuracy of screening. This international comparison of screening mammography described 5.5 million mammograms obtained between 1996 to 1999 within three large-scale mammography registries or screening programs: in the U.S., the Breast Cancer Surveillance Consortium and National Breast and Cervical Cancer Early Detection Program, and in the U.K., the National Health Service Breast Cancer Screening Program. This

study found dramatic differences between the U.S. and U.K in the performance of mammography. Recall rates and open surgical biopsy rates were twice as high in the U.S. as in the U.K., although cancer rates were nearly identical. There was extensive media coverage (AP, Reuters, NY Times, Wall Street Journal, National Public Radio). These results have been widely cited, and were included in the IOM Report, "Saving Women's Lives."

4) Smith-Bindman R, Chu PW, Miglioretti D, Quale C, et al. Physician Predictors of Mammographic Accuracy. J Natl Cancer Inst 2005; 97:358-67.
Beyond the issues raised about the collective quality of mammographic screening in the United States, even more pronounced concern is the glaring variation among U.S. physicians in the ability to accurately interpretation their patients' mammograms. Dr. Smith-Bindman recently studied the accuracy of mammographic screening among 208 U.S. physicians, who collectively interpreted 1.2 million mammograms, and she found extraordinary variation in the interpretive abilities of radiologists; the sensitivity spanned 29% to 97%, while the false positive rate (the percentage of women who did not have cancer, but who underwent additional diagnostic testing or biopsy at their physician's recommendation) ranged from 1 to 29%. The difference in accuracy among the radiologists was principally due to differences in their training, experience and dedication to screening mammography; in short, the more experienced mammographers - and particularly those who read more than the minimum number of mammograms required by MQSA guidelines - did substantially better. These findings have already been integrated into the upcoming Institute of Medicine's report on Mammography Quality Standards, regarding Enhancement of Interpretative Performance.

5) Smith-Bindman R, Miglioretti D, Lurie N, Abraham L, et al. Does Utilization of Screening Mammography Explain Racial and Ethnic Differences in Breast Cancer? Ann Intern Med, 2006 Apr 18;144(8):541-53.
Racial and ethnic minorities tend to have larger, more advanced stage breast cancers at diagnosis than white women, and African American women have significantly higher breast cancer mortality than white women. It has not been clear, however, if this is due to inherent differences in biology or the utilization of screening mammography. This paper sought to disentangle whether biology or the use of screening was largely responsible for the known racial and ethnic differences in breast cancer. This study was unique in that detailed cancer information was available from tumor registries that were linked with detailed information regarding mammography utilization. The results were striking. Most of the racial and ethnic differences in breast cancer features were reduced or eliminated after accounting for the frequency of mammography screening. These results contrast with general and widely held beliefs that mammography is no longer a significant cause for the racial disparity in breast cancer, and provides strong evidence that additional attention needs to be focused on increasing the regular use of mammography among racial and ethnic minorities.

6) Smith-Bindman R, Chu P, Goldberg JD. Second trimester prenatal ultrasound for the detection of pregnancies at increased risk of Down Syndrome. Prenat Diagn 2007;27(6):535-44.
Prenatal ultrasound is widely used to screen for Down syndrome, but the impact on patients has not been well studied. Our meta-analytic review found that ultrasound was not very useful and this prompted our large prospective study which evaluated ultrasound in a very large cohort, including nearly 20,000 women, in whom nearly 500 had fetuses affected by Down syndrome. This large study confirmed these preliminary results.

7) Smith-Bindman R, Lipson J, Marcus R, et al Radiation dose associated with common computed tomography examinations and the associated lifetime attributable risk of cancer. Archives of Internal Medicine 2009;169(22):1-9.
This paper documented the variation in doses associated with routine CT. The widespread media attention that this paper received contributed to active policy discussion in this area. I was

invited to present and discuss the results at the FDA, at a Congressional Hearing sponsored by the Health Subcommittee of the Committee on Energy and Commerce, and have submitted a measure of quality around CT imaging under consideration at the National Quality Forum.

SIGNIFICANT PUBLICATIONS

1.

1) Smith-Bindman, R, Kerlikowske, K, Feldstein, V. Endovaginal ultrasound to evaluate endometrial abnormalities JAMA 1999;281:1693-4.

2) Smith-Bindman R, Hosmer W, Feldstein VA, Deeks JJ, Goldberg JD. Second-trimester ultrasound to detect fetuses with Down syndrome: a meta-analysis. JAMA. 2001;285:1044-55.

3) Smith-Bindman R, Chu PW, Miglioretti DL, et al. US-UK Comparison of Screening Mammography. JAMA 2003 Oct 22;290(16):2129-37.

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