CURRICULUM VITAE

Ruth Etzioni, Ph.D.

Biographical Information

1100 Fairview Avenue North, M2-B230 PO Box 19024 Seattle, Washington 98109-1024 Tel: 206.667.6561

Fax: 206.667.7264 Email: retzioni@fhcrc.org

Educational Background

University of Cape Town, BS, Statistics, 1985 Carnegie-Mellon University, MS, Statistics, 1987 Carnegie-Mellon University, PhD, Statistics, 1990

Professional Positions

Postdoctoral Fellow, Department of Biostatistics, University of Washington, 1991-1992
Associate, Biostatistics Program, Fred Hutchinson Cancer Research Center, 1992-1994
Assistant Member, Biostatistics Program, Fred Hutchinson Cancer Research Center, 1994-1996
Associate Member, Biostatistics Program, Fred Hutchinson Cancer Research Center, 1996-2002
Affiliate Associate Professor, Dept. of Biostatistics, University of Washington, 1997-2004
Affiliate Professor, Dept. of Biostatistics, University of Washington, 2004-present
Full Member, Biostatistics Program, Fred Hutchinson Cancer Research Center, 2002-present

Professional Activities

Professional Memberships

American Statistical Association American Associate of Cancer Research Society of Medical Decision Making Western North American Region of the International Biometric Society

Editorial Boards

Biometrics 2005-2006 Journal of the National Cancer Institute 2002-present Medical Decision Making 2001-2003; 2009-present

Steering Committees/Advisory Boards

Chair, CISNET (Cancer Intervention Surveillance Modeling Network) Steering Committee 1999-2004

Member, American Cancer Society Prostate Cancer Advisory Committee, 2008-2010 Member, American Cancer Society Prostate Cancer Advisory Committee, 2008-2012 Member, American Cancer Society Cancer Screening and Guidelines Development Workgroup, 2012-present

Member, National Comprehensive Cancer Network (NCCN) Prostate Cancer Early Detection Panel 2005-present

Member, Prostate Cancer Early Detection Panel. American Urology Association 2011present

NIH Review Committees

Translational Research in Energetics and Cancer (TREC) Study Section, National Institutes of Health, *June 2010*

Health Services Organization and Delivery Study Section (HSOD), Department of Health and Human Services, standing member, starting *March* 2011 – June 2015

Honors

Fellow, American Statistical Association, April 2016

Bibliography

Research Papers in Refereed Journals

2006 and Earlier

- 1. **Douglas R**. A computerized simulation of a clothing distribution center. *ORION, The Operations Research Journal of South Africa* 1986;1:3-20.
- 2. Ritchey ML, Kelalis PP, Breslow N, **Etzioni R**, Evans I, Haase GM, D'Angio GJ. Surgical complications after nephrectomy for Wilms' tumor. *Surgery, Gynaecology and Obstetrics* 1992 Dec;175(6):507-514.
- 3. **Etzioni R**, Kadane J. Optimal experimental design for another's analysis. *Journal of the American Statistical Association* 1993;88:1404-1411.
- 4. Ritchey ML, Kelalis PP, **Etzioni R**, Breslow N, Shochat S, Haase GM. Small bowel obstruction after nephrectomy for Wilms' tumor: A report of the national Wilms' Tumor Study-3. *Annals of Surgery* 1993 Nov;218(5):654-659. PMC1243037
- 5. **Etzioni RD**, Fienberg SE, Gilula Z, Haberman SJ. Statistical models for the analysis of ordered categorical data in public health and medical research. *Statistical Methods in Medical Research* 1994;3(2):179-204.
- 6. Etzioni O, **Etzioni R**. Statistical methods for analyzing speedup learning experiments. *Journal of Machine Learning* 1994;14:333-347.
- 7. Storb R, **Etzioni R**, Anasetti C, Appelbaum FR, Buckner CD, Bensinger W, Bryant E, Clift R, Deeg HJ, Doney K, et al. Cyclophosphamide combined with antithymocyte globulin in preparation for allogeneic marrow transplants in patients with aplastic anemia. *Blood* 1994 Aug 1;84(3):941-949.
- 8. Mickelson EM, Guthrie LA, **Etzioni R**, Anasetti C, Martin PJ, Hansen JA. Role of the mixed lymphocyte culture (MLC) reaction in marrow donor selection: matching for transplants from unrelated haploidentical donors. *Tissue Antigens* 1994;44(2):83-92.
- 9. **Etzioni R**, Pepe MS. Monitoring of a pilot toxicity study with two adverse outcomes. *Statistics in Medicine* 1994 Nov 30;13(22):2311-2321.
- 10. **Etzioni RD**, Kadane JB. Bayesian statistical methods in public health and medicine. *Annual Review of Public Health* 1995;16:23-41. Review.

- 11. Anasetti C, **Etzioni R**, Petersdorf EW, Martin PJ, Hansen JA. Marrow transplantation from unrelated volunteer donors. *Annual Review of Medicine* 1995;46:169-180. Review.
- 12. Self SG, **Etzioni R**. A likelihood ratio statistic for cancer screening trials. *Biometrics* 1995 Mar;51(1):44-50.
- 13. **Etzioni R**, Self SG. On the catch-up time method for analyzing cancer screening trials. *Biometrics* 1995 Mar;15(1):31-43. Erratum in: *Biometrics* 1995 Dec;51(4):1589.
- 14. **Etzioni RD**, Connor RJ, Porok PC, Self SG. Design and analysis of cancer screening trials. *Statistical Methods in Medical Research* 1995 Mar;4(1):3-17. Review.
- Nash RA, Etzioni R, Storb R, Furlong T, Gooley T, Anasetti C, Appelbaum FR, Doney K, Martin P, Slattery J, Sullivan K, van der Jagt R, Witherspoon R, Jusko WJ, Zager RA, Deeg HJ. Tacrolimus (FK506) alone or in combination with methotrexate or methylprednisolone for the prevention of acute graft-versus-host disease after marrow transplantation from HLA-matched siblings: a single-center study. *Blood* 1995 Jun;85(12):3746-3753.
- 16. Urban N, Taplin SH, Taylor VM, Peacock S, Anderson G, Conrad D, **Etzioni R**, White E, Montano DE, Mahloch J, Majer K. Community organization to promote breast cancer screening among women aged 50-75. *Preventive Medicine* 1995 Sep;24(5):477-484.
- 17. **Etzioni R**, Shen Y, Petteway JC, Brawer MK. Age-specific prostate-specific antigen: a reassessment. *The Prostate Supplement* 1996;7:70-77.
- 18. **Etzioni R**, Urban N, Baker M. Estimating the costs attributable to a disease with application to ovarian cancer. *Journal of Clinical Epidemiology* 1996 Jan;49(1):95-103.
- 19. **Etzioni R**, Thompson IM. Prostate cancer and computer models: Background, limitations, and potential. *Urologic Oncology* 1996;2:52-64.
- 20. Crawford ED, DeAntoni EP, **Etzioni R**, Schaefer VC, Olson R, Ross C. Serum prostate-specific antigen and digital rectal examination for early detection of prostate cancer in a national community-based program. The Prostate Cancer Education Council. *Urology* 1996 Jun;47(6):863-869.
- 21. **Etzioni R**, Shen Y. Estimating asymptomatic duration in cancer: the AIDS connection. *Statistics in Medicine* 1997 Mar 30;16(6):627-644.
- 22. Urban N, Drescher C, **Etzioni R**, Colby C. Use of a stochastic simulation model to identify an efficient protocol for ovarian cancer screening. *Controlled Clinical Trials* 1997 Jun;18(3):251-270.
- 23. Lin DY, Feuer EJ, **Etzioni R**, Wax Y. Estimating medical costs from incomplete follow-up data. *Biometrics* 1997 Jun;53(2):419-434.
- 24. Ramsey SD, **Etzioni R**, Troxel A, Urban N. Optimizing sampling strategies for estimating quality-adjusted life years. *Medical Decision Making* 1997 Oct-Dec;17(4):431-438.
- 25. **Etzioni RD**, Weiss NS. Analysis of case-control studies of screening: impact of misspecifying the duration of detectable preclinical pathologic changes. *American Journal of Epidemiology* 1998 Aug 1;148(3):292-297.
- 26. **Etzioni RD**, Cha R, Feuer EJ, Davidov O. Asymptomatic incidence and duration of prostate cancer. *American Journal of Epidemiology* 1998 Oct 15;148(8):775-785.

- 27. Cronin K, Legler JM, **Etzioni R**. Assessing uncertainty in microsimulation modelling with application to cancer screening interventions. *Statistics in Medicine* 1998 Nov 15;17(21): 2509-2523.
- 28. Feinstein LC, Seidel K, Jocum J, Bowden RA, Anasetti C, Deeg HJ, Flowers ME, Kansu E, Martin PJ, Nash RA, Storek J, **Etzioni R**, Appelbaum FR, Hansen JA, Storb R, Sullivan KM. Reduced dose intravenous immunoglobulin does not decrease transplant-related complications in adults given related donor marrow allografts. *Biology of Blood and Marrow Transplantation* 1999:5(6):369-378.
- 29. Andersen MR, Urban N, **Etzioni R**. Community attitudes and mammography use: does it really matter what other people think? *Women and Health* 1999;29(3):83-95.
- 30. **Etzioni RD**, Feuer EJ, Sullivan SD, Lin D, Hu C, Ramsey SD. On the use of survival analysis techniques to estimate medical care costs. *Journal of Health Economics* 1999 Jun;18:365-380.
- 31. **Etzioni R**, Legler JM, Feuer EJ, Merrill RM, Cronin KA, Hankey BF. Cancer surveillance series: interpreting trends in prostate cancer—part III: Quantifying the link between population prostate-specific antigen testing and recent declines in prostate cancer mortality. *Journal of the National Cancer Institute* 1999 Jun 16;91(12):1033-1039.
- 32. **Etzioni R**, Pepe M, Longton G, Hu C, Goodman G. Incorporating the time dimension in receiver operating characteristic curves: a case study of prostate cancer. *Medical Decision Making* 1999 Jul-Sep;19(3):242-251.
- 33. **Etzioni R**, Cha R, Cowen M. Serial prostate specific antigen screening for prostate cancer: a computer model evaluates competing strategies. *Journal of Urology* 1999 Sep;162 (3 Pt 1):741-748.
- 34. Brown ML, Riley GF, Potosky AL, **Etzioni RD**. Obtaining long-term disease specific costs of care: application to Medicare enrollees diagnosed with colorectal cancer. *Medical Care* 1999 Dec;37(12):1249-1259.
- 35. Ramsey SD, Andersen MR, **Etzioni R**, Moinpour C, Peacock S, Potosky A, Urban N. Quality of life in survivors of colorectal carcinoma. *Cancer* 2000 Mar 15;88(6):1294-1303.
- 36. Andersen MR, Yasui Y, Meischke H, Kuniyuki A, **Etzioni R**, Urban N. The effectiveness of mammography promotion by volunteers in rural communities. *American Journal of Preventive Medicine* 2000 Apr;18(3):199-207.
- 37. Ramsey SD, McIntosh M, **Etzioni R** and Urban N. Simulation modeling of outcomes and cost effectiveness. *Hematology/Oncology Clinics of North America* 2000 Aug;14:925-938. Review.
- 38. **Etzioni** R, Ramsey SD, Berry K, Brown M. The impact of including future medical care costs when estimating the costs attributable to a disease: a colorectal cancer case study. *Health Economics* 2001 Apr;10(3):245-256.
- 39. Ellis WJ, **Etzioni R**, Vessella RL, Hu C, Goodman GE. Serial prostate specific antigen, free-to-total prostate specific antigen ratio, and complexed prostate specific antigen for the diagnosis of prostate cancer. *Journal of Urology* 2001 Jul;166(1):93-98; discussion 98-99.
- 40. Pepe MS, **Etzioni R**, Feng Z, Potter JD, Thompson ML, Thornquist M, Winget M, Yasui Y. Phases of biomarker development for early detection of cancer. *Journal of the National Cancer Institute* 2001 Jul 18:93(14):1054-1061. Review.

- 41. Ramsey SD, Clarke L, **Etzioni R**, Higashi M, Berry K, Urban N. Cost-effectiveness of microsatellite instability screening as a method for detecting hereditary nonpolyposis colorectal cancer. *Annals of Internal Medicine* 2001 Oct 16:135(8 Pt 1):577-588.
- 42. Ramsey SD, Berry K, **Etzioni R**. Lifetime cancer-attributable cost of care for long term survivors of colorectal cancer. *American Journal of Gastroenterology* 2002 Feb;97(2):440-445.
- 43. **Etzioni R**, Berry KM, Legler J, Shaw P. Prostate-specific antigen testing in black and white men: an analysis of Medicare claims from 1991-1998. *Urology* 2002 Feb;59(2):251-255.
- 44. **Etzioni R**, Riley GF, Ramsey SD, Brown M. Measuring costs: administrative claims data, clinical trials, and beyond. *Medical Care* 2002 Jun;40(6 Suppl):III63-III72. Review.
- 45. **Etzioni R**, Penson DF, Legler JM, di Tommaso D, Boer R, Gann PH, Feuer EJ. Overdiagnosis due to prostate-specific antigen screening: lessons from U.S. prostate cancer incidence trends. *Journal of the National Cancer Institute* 2002 Jul 3;94(13):981-990.
- 46. Brown ML, Riley GF, Schussler N, **Etzioni R**. Estimating health care costs related to cancer treatment from SEER-Medicare data. *Medical Care* 2002 Aug;40(8 Suppl):IV-104-IV-17.
- 47. Kessler LG, Andersen MR, **Etzioni R**. Much ado about mammography variability. *Journal of the National Cancer Institute* 2002 Sep 18:94(18):1346-1347.
- 48. Chen C, Lamharzi N, Weiss NS, **Etzioni R**, Dightman DA, Barnett M, DiTommaso D, Goodman G. Androgen receptor polymorphisms and the incidence of prostate cancer. *Cancer Epidemiology, Biomarkers and Prevention* 2002 Oct;11(10 Pt 1):1033-1040.
- 49. Weiss NS, **Etzioni R.** Estimating the influence of rescreening interval on the benefits associated with cancer screening: approaches and limitations. *Epidemiology* 2002 Nov;13(6):713-717. Review.
- 50. **Etzioni R**, Urban N, Ramsey S, McIntosh M, Schwartz S, Reid B, Radich J, Anderson G, Hartwell L. The case for early detection. *Nature Reviews Cancer*. 2003 Apr;3:243-252.
- 51. Ramsey SD, Berry K, **Etzioni R**, Kaplan RM, Sullivan SD, Wood DE; National Emphysema Treatment Trial Research Group. Cost-effectiveness of lung-volume–reduction surgery for patients with severe emphysema. *New England Journal of Medicine* 2003 May 22;348(21):2092-2102.
- Lamharzi N, Johnson MM, Goodman G, Etzioni R, Weiss NS, Dightman DA, Barnett M, DiTommaso D, Chen C. Polymorphic markers in the 5alpha-reductase type II gene and the incidence of prostate cancer. *International Journal of Cancer* 2003 Jul 1;105(4):480-483.
- 53. Zeliadt SB, Penson DF, Albertsen PC, Concato J, **Etzioni RD**. Race independently predicts prostate specific antigen testing frequency following a prostate carcinoma diagnosis. *Cancer* 2003 Aug 1;98(3):496-503.
- 54. **Etzioni R**, Kooperberg C, Pepe M, Smith R, Gann PH. Combining biomarkers to detect disease with application to prostate cancer. *Biostatistics* 2003 Oct;4(4):523-538.
- 55. Ramsey SD, Mandelson MT, Berry KM, **Etzioni RD**, Harrison R. Cancer-attributable costs of diagnosis and care for persons with screen-detected versus symptom-detected colorectal cancer. *Gastroenterology* 2003;125(6):1645-1650.

- 56. Chen C, Weiss NS, Stanczyk FZ, Lewis SK, DiTommaso D, **Etzioni R**, Barnett MJ, Goodman GE. Endogenous Sex Hormones and Prostate Cancer Risk: A Case-Control Study Nested within the Carotene and Retinol Efficacy Trial. *Cancer Epidemiology, Biomarkers and Prevention.* 2003 Dec 1;12(12):1410-1416.
- 57. Ramsey SD, Mandelson MT, **Etzioni R**, Harrison R, Smith R, Taplin S. Can administrative data identify incident cases of colorectal cancer? A comparison of health plans. *Health Services and Outcomes Research Methodology*. 2004; 5: 27-37.
- 58. Weiss NS, Dhillon P, **Etzioni R**. Case-control studies of the efficacy of cancer screening: Overcoming bias due to non-random patterns of screening in the source population. *Epidemiology*.2004 Jul 15(4): 409-413.
- 59. Inoue L, **Etzioni R**, Slate EH, Morrell C. Combining longitudinal studies of PSA. *Biostatistics*. 2004 Jul;5(3): 483-500.
- 60. **Etzioni R**, Thomas DB. [Invited Editorial] Modeling the effect of screening for cervical cancer on the population. *Lancet*. 2004 Jul 17;364 (9430):224-6.
- 61. Lai JS, Brown LG, True LD, Hawley SJ, **Etzioni R**, Higano CS, Ho SM, Vessella RL, Corey E. Metastases of Prostate Cancer Express Estrogen Receptor-Beta. *Urology.* 2004 Oct 64:814-820.
- 62. **Etzioni R**, Falcon S, Gann PH, Kooperberg C, Penson DF, Stampfer MJ. PSA and free PSA in the early detection of prostate cancer: do combination tests improve detection? *Cancer Epidemiology, Biomarkers, and Prevention.* 2004 Oct 13(10):1640-5.
- 63. Zeliadt SB, Potosky AL, **Etzioni R**, Ramsey SD, Penson DF. Racial disparity in primary and adjuvant treatment for nonmetastatic prostate cancer: SEER-Medicare trends 1991 to 1999. *Urology*. 2004 Dec; 64(6):1171-6.
- 64. Feuer EJ, **Etzioni R**, Cronin K, Mariotto A. The Use of Modeling to Understand the Impact of Screening on US Mortality: Examples from Mammography and PSA Testing. *Statistical Methods in Medical Research*. 2004 Dec; 13(6) 421-42.
- 65. Shaw PA, **Etzioni R**, Zeliadt SB, Mariotto M, Karnofski K, Penson DF, Weiss NS, Feuer EJ. An Ecologic Study of PSA Screening and Prostate Cancer Mortality in Nine Geographic Areas of the US. *American Journal of Epidemiology*. 2004 Dec 160(11):1059-69.
- 66. Ramsey SD, Howlader N, **Etzioni R**, Donato B. Chemotherapy Use, Outcomes, and Costs for Older Persons with Advanced Non-Small Cell Lung Cancer: Evidence from SEER-Medicare. *Journal of Clinical Oncology*. 2004 Dec 15; 22(24): 4971-8.
- 67. Moore S, Knudsen B, True L, Hawley S, **Etzioni R**, Wade C, Gifford D, Coleman I, Nelson PS. Loss of stearoyl-CoA desaturase expression is a frequent event in prostate carcinoma. *International Journal of Cancer*. 2005 April 20; 114(4): 563-571.
- 68. **Etzioni R,** Hawley S, Billheimer D, True LD, Knudsen B. Analyzing patterns of staining in immunohistochemical studies: application to a study of prostate cancer recurrence. *Cancer Epidemiology, Biomarkers and Prevention.* 2005 May; 14(5): 1040-6.
- 69. Zeliadt SB, **Etzioni R**, Penson DF, Thompson IM, Ramsey SD. Lifetime implications and cost-effectiveness of using finasteride to prevent prostate cancer. *American Journal of Medicine*. 2005 August; 118(8): 850-7.

- 70. **Etzioni R**, Howlander N, Shaw P, Ankerst DK, Penson DF, Goodman P, Thompson IM. Long-term Effects of Finasteride on PSA Levels: Results from the Prostate Cancer Prevention Trail. *Journal of Urology.* 2005 September; 174(3): 877-81.
- 71. Friedrichsen DM, Hawley S, Shu J, Humphrey M, Sabacan L, Iwasaki L, **Etzioni R**, Ostrander EA, Stanford JL. IGF-I and IGFBP-3 polymorphisms and risk of prostate cancer. *Prostate*. 2005 Sep 15; 65(1):44-51.
- 72. Zeliadt SB, **Etzioni R**, Kristal AR. Estimated impact of the prostate cancer prevention trial on population mortality. *Cancer*. 2005 Oct 1; 104(7):1556-1557.
- 73. DeConde R, Hawley SJ, Falcon S, Clegg N, Knudsen B, **Etzioni R**. Combining Results of microarray experiments: A Rank Aggregation Approach. *Statistical Applications in Genetics and Molecular Biology*.2006 June. 5(1): Article 15.
- 74. Kristal AR, Chi C, Tangen CM, Goodman PJ, **Etzioni R**, Thompson IM. Associations of demographic and lifestyle characteristics with prostate-specific antigen (PSA) concentration and rate of PSA increase. *Cancer*. 2006 Jan 15;106(2):320-8.
- 75. Zeliadt SB, Potosky AL, Penson DF, **Etzioni R.** Survival benefit associated with adjuvant androgen deprivation therapy combined with radiotherapy for high- and low-risk patients with nonmetastatic prostate cancer. *International Journal of Radiation Oncology, Biology, Physics* 2006 Oct 1;66(2):395-402. Epub 2006 Aug 14.
- 76. Pinsky P, **Etzioni R**, Howlader, N, Goodman P, Thompson, I. Modeling the Effect of a Preventive Intervention on the Natural History of Prostate Cancer: Application to the Prostate Cancer Prevention Trial. *International Journal of Biostatistics*. 2006 2(1): Article 12. Available at: http://www.bepress.com/ijb/vol2/iss1/12

- 77. Zeliadt SB, **Etzioni RD**, Ramsey SD, Penson DF, Potosky AL. Trends in treatment costs for localized prostate cancer: the healthy screenee effect. *Medical Care*. 2007 Feb; 45(2):154-159.
- 78. **Etzioni RD**, Ankerst DP, Thompson IM Re: Detection of life-threatening prostate cancer with prostate-specific antigen velocity during a window of curability. Commentary *Journal of the National Cancer Institute*. 2007 Mar 21;99(6):489-90.
- 79. Mariotto AB, **Etzioni R**, Krapcho M, Feuer EJ. Reconstructing prostate-specific antigen (PSA) testing patterns among black and white men in the US from Medicare claims and the National Health Interview Survey. *Cancer.* 2007 Mar 19;109(9):1877-1886.
- 80. Ramsey SD, Howlader N, **Etzioni R**, Brown M, Warren J, and Newcomb P. Lack of Correlation of Surveillance Endoscopy with Improved Survival for Older Individuals Diagnosed with Local and Regional Stage Colorectal Cancer. *Cancer*. 2007 Jun 1;109(11):2222-8.
- 81. Inoue LYT, Neira M, Nelson CC, Gleave M, **Etzioni R**. Cluster-based network models for time-course gene expression data. *Biostatistics*. 2007 Jul; 8(3):507-525.
- 82. Kawachi MH, Bahnson RR, Barry M, Carroll PR, Carter HB, Catalona WJ, Epstein JI, **Etzioni RB**, Hemstreet GP 3rd, Howe RJ, Kopin JD, Lange PH, Lilja H, Mohler J, Moul J, Nadler RB, Patterson S, Pollack A, Presti JC, Stroup AM, Urban DA, Wake R, Wei JT; National Comprehensive Cancer Network. Prostate cancer early detection. Clinical practice guidelines in oncology. *Journal of the National Comprehensive Cancer Network: JNCCN.* 2007 Aug;5(7):714-36.

83. **Etzioni R,** Ankerst DP, Weiss NS, Inoue LYT, Thompson IM. Is PSA Velocity Useful in Early Detection of Prostate Cancer? A Critical Appraisal of the Evidence. *Journal of the National Cancer Institute*. 2007 Oct 17; 99:1510-1515.

2008

- 84. Inoue LYT, **Etzioni R**, Morrell C, Müller P. Modeling Disease Progression with Longitudinal Markers. *Journal of the American Statistical Association*. 2008 Mar; 103(481):259-270. DOI: 10.1198/016214507000000356
- 85. **Etzioni R,** Tsodikov A, Mariotto A, Szabo A, Falcon S, Wegelin J, diTommaso D, Karnofski K, Gulati R, Penson DFG, Feuer EJ. Quantifying the Role of PSA Screening in the US Prostate Cancer Mortality Decline. *Cancer Causes and Control.* 2008 Mar;19(2):175-81. PMCID: PMC3064270
- 86. Telesca D, Gulati R, **Etzioni R**. Estimating Lead Time and Overdiagnosis Associated with PSA Screening from Prostate Cancer Incidence Trends. *Biometrics*. 2008 Mar;64(1):10-9. DOI: 10.1111/j.1541-0420.2007.00825.
- 87. **Etzioni R**, Feuer E. Studies of prostate-cancer mortality: caution advised. *Lancet Oncology*. 2008 May;9(5):407-9. DOI:10.1016/S1470-2045(08)70112-8.
- 88. **Etzioni R**. Statistical Issues in the Evaluation of Screening and Early Detection Modalities. *Urologic Oncology*. 2008 May-Jun;26(3):308-15. DOI: 10.1016/j.urolonc.2006.11.008
- 89. **Etzioni R**, Gulati R, Falcon S, Penson DF. Impact of PSA screening on the incidence of advanced stage prostate cancer in the United States: a surveillance modeling approach. *Medical Decision Making*. 2008 May-Jun;28(3):323-31. DOI: 10.1177/0272989X07312719,
- 90. Thompson I, Ankerst DP, **Etzioni R**, Wang T. It's Time to Abandon an Upper Limit of Normal for Prostate Specific Antigen: Assessing the Risk of Prostate Cancer. *The Journal of Urology*. 2008 Oct;180(4):1219-22. DOI:10.1016/j.juro.2008.07.089

- 91. Shaw PA, Pepe MS, Todd A, **Etzioni R**. Methods for Assessing Improvement in Specificity When a Biomarker is Combined With a Standard Screening Test. *Statistics in Biopharmaceutical Research*. Feb 2009, 1(1): 18-25. PMCID: PMC2802069
- 92. Fesinmeyer MD, Gulati R, Zeliadt S, Weiss N, Kristal AR, **Etzioni R**. Effect of population trends in body mass index on prostate cancer incidence and mortality in the United States. *Cancer Epidemiology Biomarkers and Prevention*. 2009 Mar;18(3):808-15 PMCID: PMC2750884
- 93. Draisma G, **Etzioni R**, Tsodikov A, Mariotto A, Wever E, Gulati R, Feuer E, de Koning H. Lead time and overdiagnosis in prostate-specific antigen screening: importance of methods and context. *Journal of the National Cancer Institute*. 2009 Mar 18;101(6):374-83. PMCID: PMC2720697
- 94. Telesca D, Inoue LY, Neira M, **Etzioni R**, Gleave M, Nelson C. Differential expression and network inferences through functional data modeling. *Biometrics*. 2009 Sep;65(3):793-804. PMCID: PMC2956129

- 95. Kawachi MH, Bahnson RR, Barry M, Busby JE, Carroll PR, Carter HB, Catalona WJ, Cookson MS, Epstein JI, Etzioni RB, Giri VN, Hemstreet GP 3rd, Howe RJ, Lange PH, Lilja H, Loughlin KR, Mohler J, Moul J, Nadler RB, Patterson SG, Presti JC, Stroup AM, Wake R, Wei JT. NCCN clinical practice guidelines in oncology: prostate cancer early detection. *J Natl Compr Canc Netw.* 2010 Feb;8(2):240-62.
- 96. Wolf AM, Wender RC, **Etzioni RB**, Thompson IM, D'Amico AV, Volk RJ, Brooks DD, Dash C, Guessous I, Andrews K, DeSantis C, Smith RA; American Cancer Society Prostate Cancer Advisory Committee. American Cancer Society guideline for the early detection of prostate cancer: update 2010. *A Cancer Journal for Clinicians*. 2010 Mar-Apr;60(2):70-98. Epub 2010 Mar 3. doi:10.3322/caac.20066
- 97. Yu EY, Gulati R, Telesca D, Jiang P, Tam S, Russell KJ, Nelson PS, **Etzioni RD**, Higano CS. Duration of first off treatment interval is prognostic for time to castration resistance and death in men with biochemical relapse of prostate cancer treated on a prospective trial of intermittent androgen deprivation. *Journal of Clinical Oncology*. 2010 Jun 1;28(16):2668-73. Epub 2010 Apr 26. PMCID: PMC2881848
- 98. Gulati R, Inoue L, Katcher J, Hazelton W, **Etzioni R**. Calibrating disease progression models using population data: A critical precursor to policy development in cancer control. *Biostatistics*. 2010 Oct; 11(4):707-19. Epub 2010 Jun 7. doi:10.1093/biostatistics/kxq036. PMCID: PMC2950791
- 99. Fedewa SA, **Etzioni R**, Flanders WD, Jemal A, Ward EM. Association of insurance and race/ethnicity with disease severity among men diagnosed with prostate cancer, National Cancer Database 2004-2006. *Cancer Epidemiology, Biomarkers and Prevention*. 2010 Oct;19(10):2437-44. Epub 2010 Aug 12. PMID: 20705937
- 100. Zeliadt SB, Hoffman RM, **Etzioni R**, Ginger VA, Lin DW. What Happens After an Elevated PSA Test: The Experience of 13,591 Veterans. *Journal of General Internal Medicine*. 2010 Nov;25(11):1205-10. Epub 2010 Aug 10. PMCID: PMC2947635

- 101. Ramsey SD, **Etzioni R**. Case-control studies of cancer surveillance procedures. *Journal of Clinical Epidemiology*. 2011 Jan;64(1):44. PMID: 21130351
- 102. Zeliadt SB, Hoffman RM, **Etzioni R**, Gore JL, Kessler LG, Lin, DW. Influence of Publication of US and European Prostate Cancer Screening Trials on PSA Testing Practices. *Journal of the National Cancer Institute*. 2011 Mar 16:103(6):520-3.
- 103. Gulati R, Wever E, Tsodikov A, Penson DF, Inoue LYT, Katcher J, Lee SY, Heijnsdijk E, Draisma G, de Koning H, **Etzioni R**. What if I don't treat my PSA-detected prostate cancer? Results from three natural history models. *Cancer Epidemiology, Biomarkers and Prevention.* 2011 May;20(5):740-50. PMCID: PMC3091266
- 104. Williams LH, Miller DR, Fincke G, Lafrance JP, **Etzioni R**, Maynard C, Raugi GJ, Reiber GE. Depression and incident lower limb amputations in veterans with diabetes. *Journal of Diabetes and its Complications*. 2011 May-Jun;25(3):175-82. Epub 2010 Aug 30. PMCID: PMC2994948
- 105. Massarweh NN, Park JO, Bruix J, Yeung RS, **Etzioni RB,** Symons RG, Baldwin LM, Flum DR. Diagnostic imaging and biopsy use among elderly medicare beneficiaries with

- hepatocellular carcinoma. *Journal of Oncology Practice*. 2011 May;7(3):155-60. PMCID: PMC3092654
- 106. Zeliadt S, Buist D, Reid R, Grossman D, Chen S, **Etzioni R**. PS2-43: Prostate-Specific Antigen Tests in Clinical Practice over the Past Decade: Is the Threshold for Recommending Biopsy Dropping? *Clinical Medicine & Research*. 2011 Nov;9(3-4):146-7.
- 107. Gulati R, Mariotto AB, Chen S, Gore, JL, **Etzioni R.** Long-term projections of the harmbenefit trade-off in prostate cancer screening are more favorable than previous short-term estimates. *Journal of Clinical Epidemiology*. 2011 Dec;64(12):1412-7. PMCID: PMC3517213

- Zeliadt SB, Buist DS, Reid RJ, Grossman DC, Ma J, Etzioni R. Biopsy follow-up of prostate-specific antigen tests. Am J Prev Med. 2012 Jan;42(1):37-43. PMCID: PMC3556898
- 109. Rubinsky AD, Sun H, Blough DK, Maynard C, Bryson CL, Harris AH, Hawkins EJ, Beste LA, Henderson WG, Hawn MT, Hughes G, Bishop MJ, Etzioni R, Tonnesen H, Kivlahan DR, Bradley KA. AUDIT-C alcohol screening results and postoperative inpatient health care use. J Am Coll Surg. 2012 Mar;214(3):296-305 e1.
- Gulati R, Tsodikov A, Wever EM, Mariotto AB, Heijnsdijk EA, Katcher J, de Koning HJ, Etzioni R. The impact of PLCO control arm contamination on perceived PSA screening efficacy. Cancer Causes Control. 2012 Jun;23(6):827-35. PMCID: PMC3556907
- 111. Mandelblatt J, Schechter C, Levy D, Zauber A, Chang Y, Etzioni R. Building better models: if we build them, will policy makers use them? Toward integrating modeling into health care decisions. Med Decis Making. 2012 Sep-Oct;32(5):656-9. PMCID: PMC4503228
- 112. Xia J, Trock BJ, Cooperberg MR, Gulati R, Zeliadt SB, Gore JL, Lin DW, Carroll PR, Carter HB, **Etzioni R**. Prostate Cancer Mortality following Active Surveillance versus Immediate Radical Prostatectomy. *Clin Cancer Res.* 2012 Oct 1;18(19):5471-8. PMCID: PMC3604990
- 113. **Etzioni R**, Gulati R, Tsodikov A, Wever EM, Penson DF, Heijnsdijk EA, Katcher J, Draisma G, Feuer EJ, de Koning HJ, Mariotto AB. The prostate cancer conundrum revisited: Treatment changes and prostate cancer mortality declines. *Cancer*. 2012 Dec 1;118(23):5955-63. doi:10.1002.cncr.27594 PMCID: PMC3424303
- 114. **Etzioni R**, Mucci LA, Chen S, Johansson JE, Fall K, Adami HO. Increasing use of radical prostatectomy for non-lethal prostate cancer in Sweden. *Clin Cancer Res.* 2012 Dec 15;18(24):6742-7. doi: 10.1158/1078-0432.CCR-12-1537 PMCID: PMC3711175

2013

115. Inoue LY, Gulati R, Yu C, Kattan MW, **Etzioni R.** Deriving benefit of early detection from biomarker-based prognostic models. *Biostatistics*. 2013 Jan;14(1):15-27. PMCID: PMC3577108

- 116. Ayala G, Frolov A, Ittman M, Mohammed S, LeBlanc M, Falcon S, Rowley D, **Etzioni R**. Biological correlates of biochemical recurrence free survival using multiple markers in a large tissue microarray cohort. *Ann Clin Lab Sci.* 2013 Winter;43(1):11-21.
- Etzioni R, Durand-Zaleski I, Lansdorp-Vogelaar I. Evaluation of new technologies for cancer control based on population trends in disease incidence and mortality. J Natl Cancer Inst Monogr. 2013;2013(46):117-23. PMCID: PMC3748002
- 118. Gulati R, Gore JL, **Etzioni R.** Comparative effectiveness of alternative prostate-specific antigen--based prostate cancer screening strategies: model estimates of potential benefits and harms. *Ann Intern Med.* 2013 Feb 5;158(3):145-53. PMCID: PMC3738063
- 119. Etzioni R, Gulati R, Cooperberg MR, Penson DM, Weiss NS, Thompson IM. Limitations of Basing Screening Policies on Screening Trials: The US Preventive Services Task Force and Prostate Cancer Screening. *Med Care*. 2013 51(4):295-300 PMCID: PMC3604989
- 120. **Etzioni R**, Gulati R. Response: Reading between the lines of cancer screening trials: using modeling to understand the evidence. *Med Care.* 2013 Apr;51(4):304-6. PMCID: PMC3670760
- 121. **Etzioni RD**. Review of evidence concerning PSA screening for prostate cancer has limitations as basis for policy development. *Evid Based Med.* 2013 18(2):75-76.
- 122. Xia J, Gulati R, Au M, Gore JL, Lin DW, **Etzioni R**. Effects of screening on radical prostatectomy efficacy: The prostate cancer intervention versus observation trial. *J Natl Cancer Inst.* 2013 105(8):546-50. PMCID: PMC3691943
- 123. Gulati R, **Etzioni R**. Alternative Prostate Cancer Screening Strategies. *Ann Intern Med* 2013 158(10):778-779. PMCID: N/A --- Commentary
- 124. Etzioni R, Gulati R, Mallinger L, Mandelblatt J. Influence of study features and methods on overdiagnosis estimates in breast and prostate cancer screening. *Ann Intern Med*. 2013 Jun 4;158(11):831-8. PMCID: PMC3733533
- 125. Carter HB, Albertsen PC, Barry MJ, **Etzioni R**, Freedland SJ, Greene KL, Holmberg L, Kantoff P, Konety BR, Murad MH, Penson DF, Zietman AL. Early detection of prostate cancer: AUA Guideline. *J Urol.* 2013 Aug;190(2):419-26. PMCID: PMC4020420
- 126. Schenk JM, Hunter-Merrill R, Zheng Y, Etzioni R, Gulati R, Tangen C, Thompson IM, Kristal AR. Should Modest Elevations in Prostate-Specific Antigen, International Prostate Symptom Score, or Their Rates of Increase Over Time be Used as Surrogate Measures of Incident Benign Prostatic Hyperplasia? Am J Epidemiol. 2013 Sep 1;178(5):741-51. PMCID: PMC3755644
- 127. Gold LS, Buist DS, Loggers ET, **Etzioni R**, Kessler L, Ramsey SD, Sullivan SD. Advanced diagnostic breast cancer imaging: variation and patterns of care in Washington state. *J Oncol Pract*. 2013 Sep 1;9(5):e194-202. PMCID: PMC3770510

- Gulati R, Inoue LY, Gore JL, Katcher J, Etzioni R. Individualized estimates of overdiagnosis in screen-detected prostate cancer. J Natl Cancer Inst 2014 106(2):djt367. PMCID: PMC3952196
- 129. Unger JM, Barlow WE, Martin DP, Ramsey SD, Leblanc M, Etzioni R, Hershman DL. Comparison of Survival Outcomes Among Cancer Patients Treated In and Out of Clinical Trials. J Natl Cancer Inst. 2014 106(3):dju002 Epub. PMCID: PMC3982777

- 130. Inoue LY, Trock BJ, Partin AW, Carter HB, **Etzioni R**. Modeling grade progression in an active surveillance study. Stat *Med.* 2014 33(6):930-9. PMCID: PMC3955104
- 131. **Etzioni R**, Gulati R. RE: A model too far. J Natl Cancer Inst 2014 106(4):dju058. PMCID: PMC3982895
- 132. **Etzioni** R and Thompson IM. What do the screening trials really tell us and where do we go from here? Urologic Clinics of North America. 41(2):223-228. PMCID: PMC4380283
- Loeb S, Bjurlin MA, Nicholson J, Tammela TL, Penson DF, Carter HB, Carroll P, Etzioni
 R. Overdiagnosis and overtreatment of prostate cancer. Eur Urol. 2014 65(6):1046-1055.
 PMCID: PMC4113338.
- 134. Pataky R, Gulati R, **Etzioni R**, Black P, Chi KN, Coldman AJ, Pickles T, Tyldesley S, Peacock S. Is prostate cancer screening cost-effective? A microsimulation model of prostate-specific antigen-based screening for British Columbia, Canada. Int J Cancer 2014 135(4):939-947. PMCID: PMC4410808
- 135. **Etzioni R**. Impact of Prostate-specific Antigen Screening: Building Confidence. Eur Urol. 2014 Feb 14. pii: S0302-2838(14)00123-7. doi: 10.1016/j.eururo.2014.02.005. PMCID: N/A (editorial)
- 136. Weiner AB, **Etzioni R**, Eggener SE. Ongoing Gleason Grade Migration in Localized Prostate Cancer and Implications for Use of Active Surveillance. Eur Urol. 2014 Mar 4. pii: S0302-2838(14)00180-8. doi: 10.1016/j.eururo.2014.02.051. PMCID: PMC4155020
- 137. Xia J, Trock BJ, Gulati R, Mallinger L, Cooperberg MR, Carroll PR, Carter HE, **Etzioni R**. Overdetection of recurrence after radical prostatectomy: estimates based on patient and tumor characteristics. Clin Cancer Res 2014 20(20):5302-10. PMCID: PMC4203422.
- 138. Gulati R, Tsodikov A, **Etzioni R**, Hunter-Merrill RA, Gore JL, Mariotto AB, Cooperberg MR. Expected population impacts of discontinued prostate-specific antigen screening. Cancer. 2014; 120(22):3519–26. doi: 10.1002/cncr.28932. PMCID: PMC4221407
- 139. Habbema JDF, Wilt TJ, Etzioni RD, Nelson HD, Schechter CB, Lawrence WF, Melnikow J, Kuntz KM, Owens DK, Feuer EJ. Models in the development of clinical practice guidelines. Ann Intern Med 2014 161(11):812–8. PMCID: N/A No funding cited

- 140. Weiner AB, Patel SG, **Etzioni R**, Eggener SE. National trends in the management of low-and intermediate-risk prostate cancer in the United States. J Urol. 2015 193(1):95–102. doi: 10.1016/j.juro.2014.07.111. PMCID: N/A (proceedings)
- 141. Birnbaum JK, Feng Z, Gulati R, Fan J, Lotan Y, Wei JT, **Etzioni R**. Projecting benefits and harms of novel cancer screening biomarkers: A study of PCA3 and prostate cancer. Cancer Epidemiol Biomarkers Prev 2015 24(4):677–82. PMCID: 4383671
- 142. Ankerst DP, Xia J, Thompson Jr IM, Hoefler J, Newcomb LF, Brooks JD, Carroll PR, Ellis WJ, Gleave ME, Lance RS, Nelson PS, Wagner AA, Wei JT, **Etzioni R**, Lin DW. Precision medicine in active surveillance for prostate cancer: development of the Canary-Early Detection Research Network Active Surveillance Biopsy Risk Calculator. Eur Urol 2015 [Epub ahead of print] PMCID: PMC4583313
- 143. **Etzioni** R, Gulati R, Lin DW. Measures of survival benefit in cancer drug development and their limitations. Urol Oncol 2015 33:122-127. PMCID: PMC4403641

- 144. Barrington WE, Schenk JM, Etzioni R, Arnold KB, Neuhouser ML, Thompson IM, Lucia MS, Kristal AR. Associations of obesity with prostate cancer risk differ between U.S. African-American and non-Hispanic white men: results from the selenium and vitamin E cancer prevention trial. Cancer Epid Biom Prev 2015 24:765 PMCID: N/A (Meeting abstract)
- 145. Habbema JD, Wilt TJ, **Etzioni R**. Models in the development of clinical practice guidelines. Ann Intern Med 2015 162:530–531 (Letter)
- 146. Jeldres C, Cullen J, Hurwitz LM, Wolff EM, Levie KE, Odem-Davis K, Johnston RB, Pham KN, Rosner IL, Brand TC, L'Esperance JO, Sterbis JR, Etzioni R, Porter CR. Prospective quality-of-life outcomes for low-risk prostate cancer: Active surveillance versus radical prostatectomy. Cancer 2015 121(14):2465–73. PMCID: PMC4490040
- 147. Loggers ET, Gao H, Gold LS, Kessler, L, Etzioni R. Buist DS, ADVICE Investigators. Predictors of preoperative MRI for breast cancer: differences by data source. J Comp Eff Res 2015 11:1–12 [Epub ahead of print] PMCID: PMC4641841
- 148. Elmore JG, **Etzioni R**. Effect of screening mammography on cancer incidence and mortality. JAMA Intern Med 2015 175(9):1490–1. (Invited commentary)
- 149. Barrington WE, Schenk JM, Etzioni R, Arnold KB, Neuhouser ML, Thompson IM Jr, Lucia MS, Kristal AR. Difference in association of obesity with prostate cancer risk between US African American and non-Hispanic white men in the Selenium and Vitamin E Cancer Prevention Trial (SELECT). JAMA Oncol 2015 1(3):342–349 PMCID: PMC4570268
- 150. Birnbaum JK, Ademuyiwa FO, Calson JJ, Mallinger L, Mason MW, **Etzioni R**. Comparative effectiveness of biomarkers to target cancer treatment: modeling implications for survival and costs. Med Decis Making 2015 [Epub ahead of print]
- 151. Oeffinger KC, Fontham ET, Etzioni R, Herzig A, Michaelson JS, Shih YT, Walter LC, Church TR, Flowers CR, LaMonte SJ, Wolf AM, DeSantis C, Lortet-Tieulent J, Andrews K, Manassaram-Baptiste D, Saslow D, Smith RA, Brawley OW, Wender R. Breast cancer screening for women at average risk: 2015 guideline update from the American Cancer Society. JAMA 2015 314(15):1599–1614. PMCID: In process (PMC Journal)
- 152. Carroll PR, Parsons JK, Andriole G, Bahnson RR, Barocas DA, Castle EP, Catalona WJ, Dahl DM, Davis JW, Epstein JI, **Etzioni RB**, Farrington T, Hemstreet GP 3rd, Kawachi MH, Lange PH, Loughlin KR, Lowrance W, Maroni P, Mohler J, Morgan TM, Nadler RB, Poch M, Scales C, Shaneyfelt TM, Smaldone MC, Sonn G, Sprenke P, Vickers AJ, Wake R, Shead DA, Freedman-Cass D. Prostate Cancer Early Detection, Version 2.2015. J Natl Compr Canc Netw 2015 13(12):1534–1561. PMCID: In process
- 153. Wingate JT, **Etzioni R**, MacDonald DM, Brand TC. Treatment trends for stage I testicular seminoma in an equal-access medical system. Clin Genitourin Cancer 2015 doi:10.1016/j.clgc.2015.12.021 [Epub ahead of print]

- 154. **Etzioni R**, Gulati R. Recognizing the limitations of cancer overdiagnosis studies: A first step towards overcoming them. J Nat Cancer Inst 2016 108(3):pii:djv345. doi: 10.1093/jnci/djv345 PMCID: In process (PMC Journal)
- 155. **Etzioni** R, Gulati R. Active surveillance for ductal carcinoma in situ: shining light into the modeling abyss. J Natl Cancer Inst 2016 108(5):pii: djv378. doi: 10.1093/jnci/djv378 PMCID: (N/A Invited commentary)

- 156. Birnbaum J, Gadi VK, Markowitz E, Etzioni R. The effect of treatment advances on the mortality results of breast cancer screening trials: A microsimulation model. Ann Intern Med 2016 doi 10.7326/M15-0754 [Epub ahead of print]
- 157. Kumar A, Coleman I, Morrissey C, Zhang X, True LD, Gulati R, **Etzioni R**, Bolouri H, Montgomery B, White T, Lucas JM, Brown LG, Dumpit RF, DeSarkar N, Higano C, Yu EY, Coleman R, Schultz N, Fang M, Lange PH, Shendure J, Vessella RL, Nelson PS. Substantial interindividual and limited intraindividual genomic diversity among tumors from men with metastatic prostate cancer. Nature Medicine 2016 doi: 10.1038/nm.4053 [Epub ahead of print] PMCID: In process
- 158. Gulati R, Feuer E, **Etzioni R**. Conditions for valid empirical estimates of cancer overdiagnosis in randomized trials and population studies. Am J Epidem 2016 (in press)
- 159. **Etzioni R**, Gulati R. Recent trends in PSA testing and prostate cancer incidence: A look at context. JAMA Oncol 2016 doi:10.1001/jamaoncol.2015.6310 [Epub ahead of print]
- 160. Roth JA, Gulati R, Gore JL, Cooperberg MR, **Etzioni R.** Economic analysis of prostate-specific antigen screening and selective treatment strategies. JAMA Oncol 2016 doi: 10.1001/jamaoncol.2015.6275 [Epub ahead of print]
- 161. Gulati R, **Etzioni R**. A matched cohort analysis of prostate cancer screening in younger men in Sweden. Eur Urol. Doi:10.1016/j/euro.2016.04.006 [Epub ahead of print]

In Press

Book Chapters

- 1. **Etzioni R**, Carlin B. Bayesian analysis of the Ames Salmonella/microsome assay. In *Bayesian Statistics in Science and Technology: Case Studies*. Springer-Verlag, New York, C Gatsonis, RE Kass, JS Hodges, ND Singpurwalla, eds. 1992.
- 2. **Etzioni R** and Penson DF. Mathematical issues: PSA testing. In *Prostate Cancer Screening*. Humana Press, Totowa, New Jersey. IM Thompson, MI Resnick, EA Klein, eds. 2001.
- 3. **Etzioni R**, Di Tommaso D, Kessler LG. Using public health data to evaluate screening programs: application to prostate cancer. In: *Monitoring the Health of Populations Statistical Principles and Methods for Public Health Surveillance, Brookmeyer R and Stroup DF*, eds. Oxford University Press, New York, 2003.
- 4. Etzioni D, Howlader N, **Etzioni R**. Basic Statistical Methods. In: *Clinical Research Methods for Surgeons*. Humana Press, Totowa, New Jersey. Penson DJ, Wei J eds. Sept 2006.
- 5. **Etzioni** R, Gulati R, Mariotto A. Overview of US Prostate Cancer Trends in the Era of PSA Screening. In: *Prostate Cancer Screening*. Humana Press. IM Thompson, ed. 2009.

Funding History

Current

1. "Modeling to Improve Prostate Cancer Outcomes Across Diverse Populations" PI: Etzioni, Tsodikov, de Koning. NIH/NCI \$863,975 (Annual Direct), 3.0 calendar, 9/1/15 – 8/31/20.

- 2. "Estimation and Communication of Overdiagnosis in Cancer Screening" PI: Etzioni, NIH/NCI \$318,305 (Annual Direct). 3.0 calendar, 5/1/15 4/30/19.
- 3. "PROMISS Prostate Modeling to Identify Surveillance Strategies" PI: Etzioni, Lin, Penson. NIH/NCI, \$358,907 (direct), 3.0 calendar, 09/30/13 8/31/18.
- 4. "Pacific Northwest Prostate Cancer SPORE Core C: Biostatistics Core" PI: Nelson Core Director: Etzioni, NIH/NCI, \$85,251 (Core Annual Direct), 1.2 calendar, 9/1/13 8/31/18.
- 5. "Toward the practice of precision medicine: a biomarker validation coordinating center" PI: Scher, Project Lead: Mostaghel. DoD PCRP, \$125,000 (direct), 0.6 calendar, 9/30/14 9/29/16.
- 6. "PALS: Prostate Cancer Active Lifestyle Study" PI: Wright, NIH/NCI \$348,675 (Annual Direct), 0.6 calendar, 6/1/15 5/31/19.

Completed

- "Modeling prostate cancer control: prevention, screening, treatment, follow-up care: Cancer Intervention Surveillance Modeling Network (CISNET)" PI: Etzioni, Tsodikov, de Koning, NIH/NCI, \$959,172 (Direct), 2.4 Calendar Months, 09/09/10 – 08/31/15.
- 2. "Women's Health Initiative-Clinical Coordinating Center." PI: Anderson, NIH/NHLBI, \$11,013,293, Biostatistician, 0.6 Calendar, 09/01/11 03/31/16.
- 3. "Biostatistics Core: Pacific Northwest Prostate Cancer SPORE," PI: Etzioni, NIH/NCI, \$60,000 (Annual Direct), Principal Investigator Core C, 1.2 Calendar Months Effort, 09/14/07–08/31/12*. *With cost extension through 8/31/13
- 4. "Core A: Mechanisms and Markers of Prostate Cancer Metastases," PI: Vessella, Subaward PI: Etzioni, \$44,102 (Subaward Annual Direct), Co-Investigator, 0.6 Calendar Months Effort, 08/26/09-07/31/14.
- "Outcomes Based Guidelines Development for Prostate Cancer Screening and Treatment," PI: Etzioni, NIH/NCI, \$166,958 (Annual Direct), 1.8 Calendar Months Effort, 09/01/08-07/31/12*. *NCE approved through 7/31/13
- 6. "CANTRANce: A tool to translate intermediate endpoints to mortality in CE studies." PI: Etzioni, NIH/NCI, \$232,003 (Annual Direct), 2.4 Calendar, 09/20/10 08/30/13
- 7. "Integrated Sensor Technology for Real-Time Recording of Food Intake" PI: Kristal, NIH/NCI, \$478,858 (Annual Direct), 0.60 Calendar months, 01/01/10 12/31/13.
- 8. "Cancer Intervention Surveillance Modeling Network (CISNET): Administrative Supplement", PI: Etzioni, NCI/NIH, \$199,207 (Annual Direct), Principal Investigator, 1.2 Calendar Months Effort, 09/30/09 09/29/12.
- 9. "Assessing Diagnostics and Variations for Innovative Comparative Effectiveness Research in Cancer (ADVICE)" PI: Kessler, NIH, \$341,276 (Initial Direct), Co-Investigator, 0.6 Calendar, 09/29/09 09/28/12.
- 10. "Significance of Microenvironment for Prostate Cancer Initiation and Progression," PI: Plymate, NIH/NCI, \$65,774 (Annual Direct), Co-Investigator, 0.24 Calendar Months Effort, 09/30/06 08/31/11.
- 11. "Modeling US Prostate Cancer Trends: PSA, Treatment and Risk: Cancer Intervention Surveillance Modeling Network (CISNET)," PI: Etzioni, NIH/NCI, \$852,290 (Total Direct), Principal Investigator, 1.8 Calendar Months Effort, 09/01/00 08/31/10.

- 12. "Resistance and Response Mechanisms to Prostate Cancer Therapy," PI: Beer, NIH/OHSU, \$92,645 (Subcontract), Co-Investigator, 0.24 Calendar Months Effort, 12/01/05 3/31/10.
- 13. "Exploiting a Molecular Gleason Grade", PI: Nelson, DOD, \$114,111 (Annual Direct), Co-Investigator, 0.36 Calendar Months Effort, 02/15/07 02/14/10.
- 14. "Development of a Urological CD Cell Typing System," PI: Nelson, NIH, \$209,382 (Annual Direct), Co-Investigator, 0.48 Calendar Months Effort, 12/01/05 12/31/09.
- 15. "Primary Prevention Versus Screening for Prostate Cancer," PI: Etzioni, NIH/NCI, \$178,000 (Initial Direct), Principal Investigator, 1.2 Calendar Months Effort, 6/1/03 5/31/09.
- 16. "Tissue Lysates for Studies of Protein Phosphorylation," PI: Knudsen, NIH/NCI, \$135,000 (Annual Direct), Co-Investigator, 0.6 Calendar months Effort, 9/8/08-8/31/10
- 17. "Modeling ovarian cancer screening for CEA" PI: Urban, NIH/NCI, \$166,250 (Annual Direct), Co-Investigator, 0.6 Calendar Months Effort, 07/01/02 06/30/07.
- 18. "CanCORS: Lung/Colon Cancer Outcomes: Cancer Research Network," PI: Weeks, NIH/NCI with subcontract from Dana Farber, \$72,286 (Annual Direct), Co-Investigator, 0.36 Calendar Months Effort, 9/1/00 8/31/04.
- 19. "Endogenous Sex Hormones, Genetics, Prostate Cancer," PI: Chu Chen NIH/NCI, Co-Investigator, 04/01/99–03/31/03.
- 20. "Statistical Methods for Prostate Cancer Research," PI: Etzioni, NIH First Award, Principal Investigator, 1996–2001.
- 21. "Natural History Estimation in Prostate Cancer," PI: Etzioni, NIH, Principal Investigator, 1994–1995.
- 22. "Stochastic Simulation Modeling of Screening for Prostate Cancer," PI: Etzioni, NIH, Principal Investigator, 1995–1996.
- 23. "Feasibility of Linking Health Symptoms Data to Cancer Registry Data in Washington State," PI: Scott Ramsey, NIH), Co-Investigator, 2000–2001.
- 24. "Surgery for Emphysema: A Multi-Center Assessment and Prospective Patient Registry Cost Effectiveness Analysis," PI: Ramsey, NIH/NHLBI, \$322,167 (Annual Direct), Co-Investigator, 1.2 Calendar Months Effort, 05/01/98 12/19/04.
- 25. "Burden of Illness and Direct Costs of Medical Care of Colon Cancer," PI: Scott Ramsey, Aetna Foundation, Co-Investigator, 2000–2001.(PI:).
- 26. "Cost-Effectiveness of Ovarian Cancer Screening," PI: Nicole Urban, NIH, Co-Investigator, 1992–1993.
- 27. "Community Trial of Breast Cancer Screening Promotion," PI: Nicole Urban, NIH, Co-Investigator, 1993–1998.

Pending Applications

1. "The Effectiveness, Safety, and Costs of Guideline-Concordant Lung Nodule Care" PI: Farjah, NIH/NCI \$60,634 (subaward direct), 0.6 calendar, 7/1/16 – 12/31/19.

Conferences and Symposiums (Invited Oral Presentations, and Seminars)

- "Translating Evidence into Policy: The case of prostate cancer screening." Canadian Center for Applied Research in Cancer Control, Annual Conference, Vancouver BC, May 2013
- "What We Can (and cannot) Learn From ERSPC and PLCO." American Urology Association Annual Meeting 2013, PSA Screening Short Course.
- "An overview of CISNET and CISNET Prostate Modeling Projects." European Randomized Study of Prostate Cancer Screening semi-annual meeting, Goteborg, Sweden, May 2013
- "Navigating the Maze of Data on Prostate Cancer Screening and Treatment." Mayo School of Continuous Professional Development, Phoenix, AZ January 2013
- The "D" Recommendation for Prostate Cancer Screening: Difficult Data Deserve Due Diligence." Northwest Urologic Society Annual Meeting, Bellevue WA, December 2012
- The "D" Recommendation for Prostate Cancer Screening: Difficult Data Deserve Due Diligence." Society of Urologic Oncology Annual Meeting, Rockville MD, November 2012
- "Projecting the absolute risk of latent prostate cancer: A path to quantifying overdiagnosis." NIH Biostatistics Symposium, Bethesda MD, November 2012
- "How many prostate cancers are overdiagnosed? Overcoming challenges and avoiding mistakes." Forum on Overscreening, Overdiagnosis, and Overtreatment in Cancer: The Prostate Example, Eleventh Annual AACR International Conference on Frontiers in Cancer Prevention Research, Anaheim, CA, October 2012
- "What can we learn from cancer simulation modelling? Mt. Hood 2012 Challenge, Baltimore MD, June 2012
- "Avoiding Overdiagnosis and Overtreatment of Common Cancers." ASCO Annual Meeting, Chicago IL, June 2012
- "Statistical Perspectives on PSA Testing." PSA: A Town Hall Debate, American Urology Association Annual Meeting, Atlanta GA, May 2012
- "CISNET Prostate Cancer Group", Mid-Year Meeting, Bethesda, MD, May 2012
- "Can Prostate Screening be Saved?" 8th Annual Canary Symposium, Stanford CA, May 2012
- Invited speaker at Workshop on Methodology and Applications in Evaluation of Service Screening for Cancer, University of London, United Kingdom, January 2012
- Invited Speaker at McGill University, Montreal, CA, October 2011
- Invited speaker at "Epidemiology meets Heath Policy" symposium for the North American Congress of Epidemiology, Montreal, CA, June 2011
- "A Statistician at the Policy Table: Integrating Modeling into the Development of Public Health Guidelines" Speaker with Lunch, Health Policy Statistics Section, Joint Statistical Meetings, Vancouver BC, August 2010
- "Modeling and Cancer Screening" presented at the Division of Cancer Control and Population Sciences Cancer Screening Think Tank, National Cancer Institute, Bethesda, Maryland, July 2010
- Invited participant, Cancer Surveillance Planning Workshop, National Cancer Institute, Bethesda, MD, November 2009.

- "Simulation Modeling to Interpret Trends in Cancer Mortality: The Case of Prostate Cancer," Workshop on Methods and Applications for Population-Based Survival, Villa Mondragone, Italy, September 2009.
- "Modeling Drivers of Cost and Benefit for Policy Development in Cancer," Workshop on Combining Epidemiology and Economics for Measurement of Cancer Costs, Villa Mondragone, Italy, September 2009.
- "PSA Screening: Benefit at what cost?" Frontiers in Cancer Prevention Research conference sponsored by the American Association for Cancer Research, Houston, TX, December 2009.
- "CISNET Prostate: Macro-level models of disease mortality seeking micro-level assistance" CISNET-ICBP Joint Workshop, Washington DC, March 2009.
- "How to assess prostate specific antigen (PSA) screening on trends of prostate cancer incidence and mortality in the United States" at the Public Health and Cancer Screening: Promises and Perils symposium of the Journées Annuelles de Santé Publique symposium, Montreal, Canada, October 2006.
- "Estimating Lead Time and Overdiagnosis Due to PSA Screening from US Prostate Cancer Trends" American Statistical Association, August 2006.
- "PSA and Free PSA in the Early Detection of Prostate Cancer: Do Combination Tests improve Detection?" Israel Statistical Association Annual Meeting, Beit-Daniel, Zichron Yaakov, May 2006.
- "Making Inferences from Population Cancer Trends: The Case of PSA Screening" University of Michigan Biostatistics Department, November-December 2005.
- "Trends in prostate cancer incidence and autopsy series" at the International Workshop on Overdiagnosis in Cancer Screening, Florence, Italy, November 2005.
- Invited panel member: Epidemiology and natural history committee, Sixth International Consultation on Prostate Cancer and Prostate Diseases, Paris, France, June 2005.
- "PSA and free PSA in the early detection of prostate cancer: do combination tests improve detection?" Memorial Sloan-Kettering Cancer Center, Department of Biostatistics, March 2005.
- "Ecologic analysis of PSA screening and prostate cancer mortality in the US." International Biometrics Society Meeting, July 2004
- "Phases of Biomarker Development." AACR, Frontiers in Cancer Prevention Research, October 2003.
- "Overdiagnosis in PSA Testing: Lessons from US prostate Cancer Incidence Trends." ENAR Spring Meeting, Spring 2002.
- "Overdiagnosis in PSA Testing: Lessons from US Prostate Cancer Incidence Trends." M. D. Anderson, invited presentation, January 2002.
- "Overdiagnosis in PSA Testing: Lessons from US Prostate Cancer Incidence Trends." NCI DCCPS Biostatistics Colloquium, fall 2001.
- "CDC Future Directions for Public Health Practice and Research in Prostate Cancer." Invited participant, San Diego, December 2000.
- "Estimating Long-Term Costs in Cancer Research." Seattle Symposium on Cancer Outcomes Research, September 2000.

- "PSA Testing and US Prostate Cancer Mortality Trends." ENAR Spring Meeting, Spring 2000.
- "Using SEER-Medicare Data to Estimate Medical Care Costs." SEER-Medicare Data Users Workshop, June 1998.
- "Estimation of Long-Term Costs of Cancer Treatment." International Conference on Health Policy Research, December 1997.

Formal Teaching

Course Director, Health Services 523, Advanced Health Services Research Methods, Extended Degree Program, Department of Health Services, University of Washington (3 credits), Fall 2008, Fall 2009, Fall, 2010, Fall 2011, Fall 2012

Course Director with Paul Fishman, Health Services 523, Advanced Health Services Research Methods, Extended Degree Program, Department of Health Services, University of Washington (3 credits), Fall 2007

Advising and Formal Mentoring

PhD Dissertations, chair

Steve Zeliadt, PhD (Health Services: graduated 2004): chair

Andrew Brunskill, PhD (Health Services: graduated 2009): chair

Anna Rubinsky, PhD (Health Services; graduated 2012): chair

Joseph Unger, PhD (Health Services; graduated 2013): chair

Masters Theses, chair

Laura Loll, MS (Biostatistics; graduated 1996): chair

Margret Au, MS (Biostatistics; graduated 2009): chair

Mentored Scientists and Postdocs

Chengcheng Hu (Biostatistics; graduated 2001): Research assistant from 1996-2001 on: "Statistical Methods for Prostate Cancer Research."

Lurdes Inoue (Assistant Professor, Biostatistics): 2003-present

Megan Fesimeyer (Fellow, Biostatistics): 2007-2009

Donatello Telesca (Statistics; graduated 2007)

Nadia Howlader (Biostatistics; graduated 2004)

Jeanette Birnbaum (Health Services; graduated 2015)

MS and PhD committees in non-chair role

Lori Dodd, PhD (Biostatistics; graduated 2001): reading committee member (Margaret Pepe, Chair)

Preet Dhillon, PhD (Epidemiology; graduated 2002): reading committee member (Noel Weiss, Chair)

Kristin Berry, PhD (Biostatistics): reading committee member (Eugene Huang, Chair)

Aruna Kamineni, PhD (Epidemiology; graduated 2010): reading committee member (Noel Weiss, Chair)

Paul Doria Rose, PhD (Epidemiology; graduated 2003): reading committee member (Noel Weiss, Chair)

Holly Janes, PhD (Biostatistics): reading committee member (Margaret Pepe, Chair)

Melissa A Romaire, MS (Health Services)

Anna De Benedetti, PhD (Health Services)

Alison Brenner, PhD (Health Services)

Joe Unger, PhD (Health Services)

Ernesto Ulloa (PhD, Biostatistics)

Other Mentoring

Dhamanpreet Kaur (High School Student)

Ellsley Syme (High School Student)