

Annual Report
July 1, 1999 - June 30, 2000
Department of Epidemiology

Department Overview

During the time period of July 1, 1999 to June 30, 2000, the department was awarded \$10,185,512 in grants. Three of the grants are highlighted in this report.

Dr. **Christine Moe** (Assistant Professor) was awarded a grant entitled "Microbial Contamination of Produce: A Field Study in the Lower Rio Grande Valley" from the US Department of Agriculture. The dates for this project are 12/1/99 through 11/30/01 for the amount of \$416,572. The purpose of this study is to determine what specific farm practices (including on-site processing) are associated with fecal contamination of produce and to use this information to design effective intervention measures. This study will also provide the microbiological analyses for produce samples and aid in the identification of at-risk agricultural/processing practices, identification of significant correlations, and development of recommended handling practices.

Dr. **David Savitz** (Professor & Chair) was awarded a grant entitled "Drinking Water Disinfection By-Products and Spontaneous Abortion" from the American Water Works Association Research Foundation. The project dates are 11/15/99 through 06/15/02 for the amount of \$2,000,000. The study addresses the potential for exposure to elevated levels of drinking water disinfection by-products (DPBs) to increase the risk of spontaneous abortion. The study will also ascertain other potential influences on risk of spontaneous abortion, such as pregnancy history, tobacco, alcohol, and caffeine use. Through these efforts, we will be able to determine whether living in an area served by a water supplier with elevated levels of DBPs is associated with an increased risk of spontaneous abortion and any such association is attributable to exposure to chlorinated DBPs alone or with elevated levels of chlorinated and brominated DBPs in combination.

Dr. **Steven Wing** (Associate Professor) was awarded a grant entitled "Environmental and Public Health Impacts of Industrial Livestock Operations in the Wake of Flooding from Hurricane Floyd" from the Global Resource Action Center for the Environment. The project dates are 1/1/00 through 12/31/00 and the amount awarded was \$50,000. This study will link information on the locations and size of intensive swine operations to data on watersheds and flood levels to evaluate populations at risk from effluent released during the floods. Because of limited access to medical care and environmental remediation in poor and non-white areas of Eastern NC, as well as previous studies showing clear patterns of environmental injustice in the NC swine industry, this study will also evaluate racial and socioeconomic characteristics of affected populations. This study will be able to identify regions of the state that have been most severely impacted by the flooded hog operations, and will be able to provide information on pathogens in specific communities.

The Department of Epidemiology's faculty have been active in various community service and professional activities. Dr. **Irva Hertz-Picciotto** (Professor) presented at a workshop on Exposure Assessment at the National Institute of Environmental Health Sciences, Research Triangle Park, NC. She has also been appointed as Chair of the Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides. This is an Institute of Medicine, National Academy of Sciences Committee. Dr. **Robert Millikan** (Assistant Professor) has been appointed to the following: Environmental Advisory Committee, National Breast Cancer Coalition Fund; Advisory Board, Cherubim Foundation; and Scientific Advisor, Sustainable Sciences Institute. Dr. **Steven Wing** (Associate Professor) is a founding member of the North Carolina Environmental Justice Network. This group facilitates community based research and education relating to public health conditions and/or people of color communities.

Two members of the departmental staff received awards during this time period. **Roger Akers** (Assistant to the Chair for Research) received the Department of Epidemiology Staff Excellence Award. **Gail King** (Administrative Manager) received the UNC-CH University Manager's Association Manager of the Year Award.

Several students received awards and honors. **Helga Agustsdottir** (PhD student) received the 1999 Turner Award, given by the North Carolina Division of the American Association of Dental Research and the 1999 Junior Investigator Award in Geriatric Oral Research at the International Association of Dental Research meetings in Vancouver, British Columbia, Canada. **Annaclaire DeRoos** (PhD student) was selected for a 1999 Lineberger Fellow Public Health Science Award for her work on parental occupational exposures and the risk of neuroblastoma in offspring. **Seronda Jackson** (PhD Student) was awarded The UNC Injury Prevention Research Center's Susan P. Baker Student Research Paper Award. **Jeff Korte** (PhD student) received two awards, the 1999 Society for Risk Analysis Student Award and the 1999 Student Merit Award, Dose-Response Speciality Group of the Society for Risk Analysis. **Marie O'Neill** (PhD Student) has been selected for a Fulbright Student award in Mexico. She will be studying air pollution, mortality and socio-economic conditions in Mexico City, 1994-1998. **Rick Pollitt** (MSPH student) has received a Minority International Research Training Grant to spend the summer studying at INSERM, in France.

During this time the department had faculty and staff additions and departures. We had four additions and two departures from our faculty. Joining our faculty were Dr. **Marilie Gammon** (Associate Professor), Dr. **Jay Kaufman** (Assistant Professor), Dr. **Shermalyn Greene** (Research Assistant Professor), Dr. **Katherine Hartmann** (Assistant Professor) and leaving were Dr. **Rachel Royce** (Assistant Professor) and Dr. **Kathryn Rose** (Research Assistant Professor).

Faculty Activities

Epidemiology Faculty Grants Administered Through Other Departments

Wayne Rosamond

Expanding health services to include CVD prevention, CDC, PI, \$150,000
[administered through Health Promotion/Disease Prevention]

David Savitz

Psychosocial Factors in African-American and Preterm Birth, ASPH/CDC, PI, \$59,334
[administered through Carolina Population Center]

Community-Level Social Influences on Preterm Birth, ASPH/CDC, PI, \$68,018
[administered through Carolina Population Center]

Influence of Iron, Zinc and Folate on Preterm Delivery, NICH/HD, PI, \$639,439
[administered through Carolina Population Center]

1999 Publications

1. **Alexander LK**, Keene BW, Yount BL, Geratz JD, Small JD, & **Baric RS**. (1999). ECG changes following rabbit coronavirus infection. J Electrocardiol, *32*, 21-32.
2. Ananth CV, Berkowitz GS, **Savitz DA**, & Lapinski RH. (1999). Placental abruption and adverse perinatal outcomes. JAMA, *282*, 1646-1651.
3. Andrews KW & **Savitz DA**. (1999). Accuracy of industry and occupation on death certificates of electric utility workers: implications for epidemiologic studies of magnetic fields and cancer. Bioelectromagnetics, *20*, 512-518.
4. Arbuckle TE, **Savitz DA**, Mery LS, & Curtis KM. (1999). Exposure to phenoxy herbicides and the risk of spontaneous abortion. Epidemiology, *10*, 752-760.
5. Arndt V, Vine MF, & **Weigle K**. (1999). Environmental chemical exposures and risk of herpes zoster. Environ Health Perspect, *107*, 835-841.
6. Arbes SJ Jr, **Olshan AF**, Caplan DJ, **Schoenbach VJ**, Slade GD, & Symons MJ. (1999). Factors contributing to the poorer survival of black Americans diagnosed with oral cancer. Cancer Causes & Control, *10*, 513-523.
7. Asimos AW, **Kaufman JS**, Lee C, Williams C, Carter W, & Chiang W. (1999). Tuberculosis exposure risk in emergency medicine residents. Acad Emerg Med, *6*, 1044-1049.

8. Barbee SL, **Weber DJ**, Sobsey MD, & Rutala WA. (1999). Inactivation of *Cryptosporidium parvum* oocyst infectivity by disinfection and sterilization processes. *Gastrointest Endosc*, *49*, 605-611.
9. **Baric RS**. (1999). Recombination in Nidovirales. *Virus International*, *61*, 87-89.
10. **Baric RS**, Sullivan E, Hensley L, Young B, & Chen W. (1999). Persistent infection promotes cross-species transmissibility of mouse hepatitis virus. *J Virol*, *73*, 638-649.
11. Beck JD, **Pankow J**, **Tyroler HA**, & Offenbacher S. (1999). Dental infections and atherosclerosis. *Am Heart J*, *138*, 528-533.
12. Bensen JT, Li RL, Hutchinson RG, Province MA, & **Tyroler HA**. (1999). Family history of coronary heart disease and pre-clinical carotid artery atherosclerosis in African Americans and whites: the ARIC study. *Genet Epidemiol*, *16*, 165-178.
13. Black SJ, Wang Q, Makadzange T, Li Y-L, Van Praagh A, Loomis M, & **Seed JR**. (1999). Anti-trypanosoma brucei activity of non-primate zoo sera. *J Parasitol*, *8*, 48-53.
14. Blackmore-Prince C, Harlow SD, Gargiullo P, Lee MA, & **Savitz DA**. (1999). Chemical hair treatments and adverse pregnancy outcome among Black women in central North Carolina. *Am J Epidemiol*, *149*, 712-716.
15. Blumenthal C, Eng E, & **Thomas JC**. (1999). STEP sisters, sex, and STDs: A process evaluation of the recruitment of lay health advisors. *Am J Health Promot*, *14*, 4-6.
16. Brinker JP, Blacklow, NR, Jiang X, MK Estes, **Moe CL** & Herrmann JE. (1999). Immunoglobulin M antibody test to detect genogroup II Norwalk-like virus infection. *J Clin Micro*, *7*, 2983-2986.
17. Borja-Aburto VH, **Hertz-Picciotto I**, Rojas M, Farias P, Rios C, & Blanco J. (1999). Blood lead levels measured prospectively and risk of spontaneous abortion. *Am J Epidemiol*, *150*, 590-597.
18. Byers T, Bales V, Ford E, Massoudi B, Mokdad A, Myers G, Pruden J, Smith SJ, Will J, Bolduc B, Doctor LJ, Economos C, Garces C, Katz D, Lowney K, Madison M, Palombo R, Stoddard A, Coe K, Fleming K, Smith J, Simpson L, Marshall J, Staten L, Lockwood K, Andersen P, Hilgenberg D, Holliday J, **Rosamond W**, & Ammerman A. (1999). Cardiovascular disease prevention for women attending breast and cervical cancer screening programs, The WISEWOMAN projects. *Prev Med*, *28*, 496-502.
19. **Carpenter MA**, Tockman MS, Hutchinson RG, Davis CE, & **Heiss G**. (1999). Demographic and anthropometric correlates of maximum inspirator pressure - The Atherosclerosis Risk in Communities Study. *Am J Respir Critical Care Med*, *159*, 415-422.
20. Coates RJ, Uhler RJ, Hall I, Potischman N, Brinton LA, Ballard-Barbash R, **Gammon MD**, Brogan DR, Daling JR, Malone KE, Schoenberg JB, and Swanson

- CA. (1999). Risk of breast cancer in young women in relation to body size and weight gain in adolescence and early adulthood. Br J Cancer, 81,167-174.
21. **Conlisk E**, Herrick H, & Passaro K. (1999). Patients' report of counseling on mammography screening by health-care providers--North Carolina, 1997. MMWR, 48, 355-357.
 22. **Conlisk E**, Lengerich E, Schildkraut J, Wahnefried-Denmark W, & Aldrich T. (1999). Prostate cancer, Demographic and behavioral correlates of stage at diagnosis among black and white men in North Carolina. Urology, 53, 1194-1199.
 23. Cook RL, **Royce RA**, **Thomas JC**, & Hanusa BH. (1999). What's driving an epidemic? The spread of syphilis along an interstate highway in rural North Carolina. Am J Public Health, 89, 369-373.
 24. Cooper RS & Kaufman JS. (1999). Is there an absence of theory in social epidemiology? Am J Epidemiol, 150, 127-128.
 25. Coyne-Beasley T, **Schoenbach VJ**, & Herman-Giddens ME. (1999). The epidemiology of adolescent homicide in North Carolina 1990-1995. Arch Pediatr Adolesc Med, 153, 349-356.
 26. Curtis KM, **Savitz DA**, Weinberg CR, & Arbuckle TE. (1999). The effect of pesticide exposure on time to pregnancy. Epidemiology, 112, 112-117.
 27. Diez-Roux AV, Nieto FJ, Caulfield L, **Tyroler HA**, Watson RL, & Szklo M. Neighborhood differences in diet, the Atherosclerosis Risk in Communities (ARIC) Study. J Epidemiol Community Health, 53, 55-63.
 28. Dressler L, Geradts J, Burroughs M, Cowan D, **Millikan R**, & Newman B. (1999). Policy guidelines for the utilization of formalin-fixed, paraffin-embedded tissue sections, The UNC SPORE experience. Breast Cancer Res Treat, 58, 31-39.
 29. Duncan BB, Schmidt MI, Offenbacher S, Wu KK, Savage PJ, & **Heiss G**. (1999). Factor VIII and other hemostasis variables are related to incident diabetes in adults - The Atherosclerosis Risk in Communities (ARIC) study. Diabetes Care, 22, 767-772.
 30. El Sawalhy A & **Seed JR**. (1999). Diagnosis of Trypanosomiasis in experimental mice and field infected camels by detection of antibody to trypanosome tyrosine aminotransferase. J Parasitol, 84, 1245-1249.
 31. Evenson K, **Rosamond W**, Cai J, Toole J, Hutchinson R, Shahar E, & Folsom A. (1999). Physical activity and ischemic stroke risk, The Atherosclerosis Risk in Communities Study. Stroke, 30, 1333-1339.
 32. Fiscus SA, Adimore AA, **Schoenbach VJ**, McKinney R, Lim W, Rugar D, Kenny J, Woods C, Wilfert C, & Johnson VA. (1999). Trends in HIV counseling, testing and antiretroviral treatment of human immunodeficiency virus-infected women and minimal perinatal transmission in North Carolina. J Infect Dis, 180, 99-105.

33. Folsom A, **Rosamond W**, Shahar E, Cooper L, Aleksic N, Nieto J, Rasmussen M, & Wu K. (1999). Prospective study of markers of hemostatic function, inflammation, and endothelial function with risk of ischemic stroke. Circulation, *22*, 1077-1083.
34. Fox KK, **Thomas JC**, Weiner DH, Davis RH, Sparing PF, & Cohen MS. (1999). Longitudinal evaluation of serovar-specific immunity to *Neisseria gonorrhoeae*. Am J Epidemiol, *149*, 353-358.
35. Francesconi I, Wiolson WD, Tanious FA, **Hall JE**, Bender BC, McCurdy DR, Tidwell RT, & Boykin DW. (1999). 2,4-Diphenyl furan diamidines as novel anti-*Pneumocystis carinii* agents. J Med Chem, *42*, 2260-2265.
36. Furberg H, Newman B, Moorman P, & **Millikan R**. Lactation and breast cancer risk. Int J Epidemiol, *28*, 396-402.
37. **Gammon MD**, Hibshoosh H, Terry MB, Bose S, Schoenberg JB, Brinton LA, Bernstein JL, and Thompson WD. (1999). Cigarette smoking and other risk factors in relation to p53 protein expression in breast cancer among young women. Cancer Epidemiology, Biomarkers and Prevention, *8*, 255-263.
38. **Gammon MD**, Hibshoosh H, Terry MB, Bose S, Schoenberg JB, Brinton LA, Bernstein JL, Thompson WD, Li Y, **Millikan R**, Tse, Newman B, Conway K, and Liu E. (1999). Oral contraceptive use and other risk factors in relation to HER-2/*neu* overexpression in breast cancer among young women. Cancer Epidemiology, Biomarkers and Prevention, *8*, 413-419.
39. **Greene SR & Stamm LV**. (1999). Molecular characterization of a chemotaxis operon in the oral spirochete, *Treponema denticola*. Gene, *232*, 59-68.
40. Greenland S, Michels KB, Robins JM, **Poole C**, & Willett WC. (1999). Presenting statistical uncertainty in trends and dose-response relations. Am J Epidemiol, *149*, 1077-1086.
41. Guallar E, Aro A, Jimenez FJ, Martin-Moreno JM, Salminen I, van't Veer P, Kardinaal AFM, Gomex-Aracena J, Martin BC, **Kohlmeier L**, Kark J, Mazaev V, Ringstad J, Guillen J, Rimenersma RA, Huttunen JK, & Kok F. (1999). Omega- fatty acids in adipose tissue and risk of myocardial infarction, the EURAMI study. Arterioscler Thromb Vasc Biol, *9*, 1111-1118.
42. Haile R, Witte J, Gold M, Cressey R, McGeeC, **Millikan R**, Glasser A, Harawa N, Ervin C, Harmon P, Harper J, Derman J, Alamillo J, Barrett K, Nides M, & Wang G. (1999). The health effects of swimming in ocean water contaminated by stormdrain runoff. Epidemiology, *10*, 355-363.
43. Hall HI, Coates RJ, Uhler R, Brinton LA, **Gammon MD**, Brogan DR, Potischman N, & Swanson CA. (1999). Stage of breast cancer in relation to body mass index and bra cup size. Int J Cancer, *82*, 23-27.
44. **Hartmann K**, Throp JM, McDonald TL, **Savitz DA**, & Granados JL. Cervical dimensions and risk of preterm birth, A prospective cohort study. Obstet Gyneol, *93*, 504-509.

45. **Hertz-Picciotto I.** (1999). What you should have learned (in graduate school) about epidemiologic data analysis. Epidemiol, 10, 778-783.
46. Hobbs MM, Alcorn TM, David RH, Fischer W, **Thomas JC**, Martin I, Ison C, Sparling PF, & Cohen MS. (1999). Molecular typing of *Neisseria gonorrhoeae* causing repeated infections, Evolution of porin during passage within a community. J Infect Dis, 179, 371-381.
47. Hobbs MM, Kazeme P, Reed AW, **Miller WC**, Nkata E, Costello Daly C, Chakraborty H, Cohen MS, & Hoffman IF. (1999). *Trichomonas vaginalis* as a cause of urethritis in Malasian men. Sex Transm Dis, 26, 381-387.
48. Hu S-W, **Hertz-Picciotto I**, & Siemiatycki J. (1999). Does arsenic exposure increase the risk for circulatory disease? Canadian J Pub Health, 90, 138-142.
49. Hu SW, **Hertz-Picciotto I**, & Siemiatycki J. (1999). When to be skeptical of negative studies, Pitfalls in evaluating occupational risks using population-based case-control studies. Can J Public Health, 90, 138-142.
50. **Huston SL**, Bunker CH, Ukoli FAM, Rautaharju PM, & Kuller LH. (1999). Electrocardiographic left ventricular hypertrophy by five criteria among civil servants in Benin City, Nigeria, prevalence and correlates. Int J Cardiol, 70,1-14.
51. Irwin DE, **Thomas JC**, Spitters CE, Leone PA, Stratton JD, Martin DH, Zenilman JM, Schwebke JR, & Hook EW. (1999). Self-reported sexual activity and condom use among symptomatic clients attending STD clinics. Sex Transm Dis, 26, 286-290.
52. Janowsky E, Lester G, Weinberg C, **Millikan R**, Schildkraut J, Garrett P, & Hulka B. Association between low levels of 1,25-dihydroxyvitamin D and breast cancer risk. Public Health Nutrition, 2, 283-291.
53. **Kaufman JS.** (1999). How inconsistencies in racial classification demystify the race construct in public health statistics. Epidemiol, 10, 101-103.
54. **Kaufman JS.** (1999). Progress and pitfalls in the social epidemiology of cancer. Cancer Causes and Control, 10, 489-494.
55. **Kaufman JS** & Cooper RS. Seeking causal explanations in social epidemiology. Am J Epidemiol, 150, 113-120.
56. **Kaufman JS**, Owoaje EE, Rotimi CN, & Cooper RS. (1999). Blood pressure change in Africa, A case study from Nigeria. Human Biology, 71, 641-657.
57. Kheifets LI, Gilbert ES, Sussman SS, Guénel P, Sahl JD, **Savitz DA**, & Thériault G. (1999). Comparative analyses of the studies of magnetic fields and cancer in electric utility workers, studies from France, Canada, and the United States. Occup Environ Med, 56, 567-574.
58. Kornman KS, **Pankow J**, Offenbacher S, Beck J, di Giovine F, & Duff GW. (1999). Interleukin-1 genotypes and the association between periodontitis and cardiovascular disease. J Periodontal Res, 34, 353-357.
59. Kromhout H & **Loomis D.** (1999). Uncertainty in the relation between exposure to magnetic fields and brain cancer due to assessment and assignment of exposure and

- analytical methods in dose-response modeling. Ann New York Acad Sci, 895, 141-155.
60. Lea CS, **Hertz-Picciotto I**, Andersen A, Change-Claude J, Olsen JH, Pesatori AC, Teppo L, Westerholm P, Winter PD, & Boffetta P. (1999). Gender differences in the healthy worker effect among synthetic vitreous fiber workers. Am J Epidemiol, 150, 1099-1106.
 61. Li Y, **Millikan R**, Tse, Newman B, **Conway K**, & Liu E. (1999). Germline P57 polymorphisms and risk of breast cancer. Hum Genet, 104, 83-88.
 62. Liao D, Arnett DK, **Tyroler HA**, Riley WA, Chambles LE, Szklo M, & **Heiss G**. (1999). Arterial stiffness and the development of hypertension, The ARIC Study. Hypertension, 34, 201-206.
 63. Liao D, Creason J, **Shy C**, Williams R, Watts R, & Zweidinger R. (1999). Daily variation of particulate air pollution and poor cardiac autonomic control in the elderly. Environ Health Perspec, 107, 521-525.
 64. Liao D, Higgins M, Bryan NR, Eigenbrodt ML, Chambless LE, Lamar V, Burke GL, & **Heiss G**. (1999). Lower pulmonary function and cerebral subclinical abnormalities detected by MRI, The Atherosclerosis Risk in Communities Study. Chest 16, 150-156.
 65. Liao Y, McGee DL, **Kaufman JS**, Cao G, & Cooper RS. (1999). Socioeconomic status and morbidity in the last years of life. Am J Public Hlth, 89, 569-672.
 66. Lief S, **Olshan AF**, **Savitz DA**, & Werler M. (1999). Selection bias and the use of controls with malformations in case-control studies of birth defects. Epidemiology, 10, 238-241.
 67. Lief S, **Olshan AF**, Strauss R, Werler M, Strauss RP, Smith J, & Mitchell A. (1999). Maternal cigarette smoking during pregnancy and risk of oral clefts in newborns. Am J Epidemiol, 150, 683-694.
 68. Lief S, **Olshan AF**, Werler M, **Savitz DA**, & Mitchell AA. (1999). Selection bias and the use of controls with malformations in case-control studies of birth defects. Epidemiol, 10, 238-241.
 69. **Loomis D**, Castillejos M, Gold DM, McDonnell W, & Borja-Aburto VH. (1999). Air pollution and infant mortality in Mexico City. Epidemiol, 10, 118-123.
 70. **Loomis D**, Dufort V, Kleckner RC, & **Savitz DA**. (1999). Fatal occupational injuries among electric power company workers. Am J Ind Med, 35, 302-309.
 71. **Loomis D**, **Hertz-Picciotto I**, & O'Neill M. (1999). Critique of particulate matter risk assessment (letter). Environ Health Persp, 107, 392-393.
 72. **Loomis D**, Lagorio S, Salvan A, & Comba P. (1999). Update of evidence on the association of childhood leukemia and 50/60 Hz magnetic field exposure. J Expo Anal Environ Epidemiol, 2, 99-105.
 73. **Loomis D**, Salvan A, Kromhout H, & Kriebel D. (1999). Selecting Indices of Occupational Exposure for Epidemiologic Studies. Occup Hygiene, 5, 73-91.

74. Lutz S, Ammerman A, Atwood J, Campbell M, DeVallis R, & **Rosamond W**. (1999). Innovative newsletter interventions improve fruit and vegetable consumption in health adults. J Am Diet Assoc, 99, 705-709.
75. Maldonado G & **Poole C**. More research is needed. Ann Epidemiol, 9, 17-18.
76. Marcus P, Newman B, Moorman P, **Millikan R**, Baird D, & Qaqish B. (1999). Adolescent reproductive events and subsequent breast cancer risk. Am J Public Health, 89, 1244-1247.
77. Marcus P, Newman B, Moorman P, **Millikan R**, Baird D, Qaqish B, & Sternfeld B. (1999). Physical activity at age 12 and adult breast cancer risk (United States). Cancer Causes and Control, 10, 293-302.
78. Martin SL, Matza LS, Kupper LL, **Thomas JC**, & Daly M. (1999). Domestic violence and sexually transmitted diseases, The experiences of prenatal care patients. Public Health Rep, 114, 262-268.
79. McKaig RG, **Thomas JC**, Patton LL, Strauss RP, Slade GD, & Beck JD. (1999). Prevalence of HIV-associated periodontitis and chronic periodontitis in a southeastern US study group. J Public Health Dent, 58, 294-300.
80. Michelson KN, **Thomas JC**, Boyd C, & Janssens AH. (1999). Chlamydia trachomatis infection in a rural population, the importance of screening men. Int J STD AIDS, 10, 32-37.
81. **Millikan R**, Ingles S, Diep A, Sparkes R, & Haile R. (1999). Linkage analysis and loss of heterozygosity for chromosome 1p in familial breast cancer. Genes Chromosome Cancer, 25, 354-361.
82. Moore TJ, Vollmer WM, Appel LJ, Sacks FM, Svetkey LP, Vogt RM, Conlin P, Simons-Morton D, **Carter-Edwards L**, & Harsha DW. Effect of dietary patterns on ambulatory blood pressure, results from the DASH trial. Hypertension, 34, 472-477.
83. Moorman P, Newman B, **Millikan R**, Tse C-K, & Sandler D. (1999). Participation rates in a case-control study, The impact of age, race, and race of interviewer. Ann Epidemiol, 9, 188-185.
84. Morris D, **Rosamond W**, Hinn A, & Gorton R. (1999). Time delays in accessing stroke care in the emergency department. Acad Emerg Med, 6, 218-223.
85. Morrison CS, Sekadde-Kigondu C, **Miller WC**, Weiner D, & Sinei SK. (1999). Use of sexually transmitted disease risk assessment algorithms for selection of intrauterine device candidates. Contraception, 59, 97-106.
86. Nardo C, Chambless LE, Light KC, **Rosamond WD**, Sharrett AR, Tell GS, & **Heiss G**. Descriptive epidemiology of the response of blood pressure to change in body positions, The ARIC Study. Hypertension, 33, 1123-1129.
87. Nastiuck KL, Mansuhkani M, Terry MB, Kularante P, Rubin MA, Maleamed J, **Gammon MD**, Ittmann MM, and Krolewski JJ. (1999). Common mutations in BRCA1 and BRCA2 do not contribute to early prostate cancer in Jewish men. Prostate, 4, 172-177.

88. **Olshan AF**, DeRoos AJ, Teschke K, Neglia JP, Stram DO, Pollock BH, & Castleberry RP. (1999). Neuroblastoma and parental occupation. Cancer Causes & Control, *10*, 539-549.
89. **Olshan AF**, Smith J, Cook MN, Grufferman S, Pollock BH, Stram DO, Seeger RC, Look AT, Cohn SL, Castleberry RP, & Bondy ML. (1999). Hormone and fertility drug use and the risk of neuroblastoma, a report from the Children's Cancer Group and the Pediatric Oncology Group. Am J Epidemiol, *150*, 930-938.
90. Parks C, **Moe C**, Rhodes D, Lima A, Barrett L, Tseng F, Baric R, Talal A, & Guerrant RL. (1999). Genetic diversity of "Norwalk-like Viruses" (NLVs), Pediatric infections in a Brazilian Shantytown. J Med Virol, *58*, 426-434.
91. Pastore L, **Hertz-Picciotto I**, & Beaumont J. (1999). Risk of stillbirths from medications, illnesses, and medical procedures. Paediatr Perinat Epidemiol, *13*, 421-430.
92. Pastore L, **Savitz DA**, Thorp JM, Koch GG, **Hertz-Picciotto I**, & Irwin DE. (1999). Predictors of symptomatic urinary tract infection after 20 weeksgestation . J Perinatology, *19*, 488-493.
93. Pastore LM, **Royce RA**, Jackson TP, Thorp JM, **Savitz DA**, & Kreaden US. (1999). Association between bacterial vaginosis and fetal fibronectin at 24-29 weeks' gestation. Obstet Gynecol, *93*, 117-123.
94. Pastore LM, **Savitz DA**, & Thorp JM. Predictors of urinary tract infection at the first prenatal visit. Epidemiol, *10*, 282-287.
95. Petropoulos EA, Felknor S, Ivanov I, & **Loomis D**. (1999). Is short-term training useful in international environmental and occupational health projects? Experience from the Balkans and Latin America. Int J Occup Environ Health, *5*, 223-233.
96. Pierce RL, **Thomas JC**, Sparling PF, Fisher W, Davis RH, Alorn T, & Cohen M. (1999). An epidemiologic evaluation of the use of microbiologic tools for identifying gonorrhea infection networks. Int J STD AIDS, *10*, 316-323.
97. Pilcher CD, **Miller WC**, Beatty ZA, Nickischer D, & Eron J. (1999). Detectable HIV-1 RNA at levels below quantifiable limits by Amplicor HIV-1 monitor is associated with virologic relapse on antiretroviral therapy. AIDS, *13*, 1337-1342.
98. **Poole C**. (1999). Controls who experienced gypothetical causal intermediates should not be excluded from case-control studies. Am J Epidemiol, *150*, 547-551.
99. **Poole C** & Greenland S. (1999). Random-effects meta-analyses are not always conservative. Am J Epidemiol, *150*, 469-475.
100. Potischman N, Swanson CA, Coates RJ, **Gammon MD**, Brogan DR, Curtin J, and Brinton LA. (1999). The intake of food groups and associated micronutrients in relation to risk of early stage breast cancer. Int J Cancer, *82*, 315-321.
101. Raasch RH & **Weber DJ**. (1999). Infections in the intensive care unit. Hospital Practice Special Report, 53-64.

102. Richardson D & **Wing S.** (1999). Greater sensitivity to ionizing radiation at older age, follow-up of workers at Oak Ridge National Laboratory through 1990. Int J Epidemiol, 28,428-436.
103. Richardson D & **Wing S.** (1999). Radiation and mortality of workers at Oak Ridge National Laboratory, Positive associations of doses received at older ages. Environ Health Perspect, 107, 649-656.
104. Richardson D, **Wing S**, Watson J, & Wolf S. (1999). Missing annual external radiation dosimetry data among Hanford workers. Int J Exp Analysis & Environ Epidemiol, 9, 575-585.
105. **Rosamond W**, Broda G, Kawalec E, Rywik S, Pajak A, Cooper L, & Chambless L. (1999). Comparison of medical care and survival of hospitalized patients with acute myocardial infarction in Poland and the United States. Am J Cardiol, 83, 1180-1185.
106. **Rosamond W**, Folsom A, Chambless L, Wang C, McGovern P, Howard G, Copper L, & Shahar E. (1999). Stroke incidence and survival among middle-aged adults, Nine year follow-up of the Atherosclerosis Risk in Communities (ARIC) Study. Stroke, 30, 736-743.
107. **Rose KM**, Newman B, **Tyroler HA**, & Bennett T. (1999). The association between extent of labor force participation and high blood pressure. Women & Health, 29, 13-29.
108. **Rose KM**, Newman B, **Tyroler HA**, Szklo M, Arnett D, & Srivastava N. (1999). Women, employment status, and hypertension, cross-sectional and prospective findings from the Atherosclerosis Risk in Communities Study. Ann Epidemiol 9, 374-382.
109. Rotimi C, Okosun I, Johnson L, Owoaje E, Lawoyin T, Asuzu M, **Kaufman J**, Adeyemo A, & Cooper R. (1999). The distribution and mortality impact of chronic energy deficiency among Nigerian men and women. Eur J Clin Nutr, 53, 734-739.
110. **Royce RA**, Jackson TP, Thorpe JM, Hillier SL, Rabe LK, Pastore LM, & **Savitz DA**. (1999). Race/ethnicity, vaginal flora patterns, and pH during pregnancy. Sex Transm Dis, 26, 96-102.
111. **Royce RA**, Thorp J, Granados LJ, & **Savitz DA**. (1999). Bacterial vaginosis associated with HIV infection in pregnant women from North Carolina. J Acquir Immune Defic Syndr Human Retrovirology, 20, 382-386.
112. Rutala WA & **Weber DJ**. (1999). Disinfection of endoscopes, review of new chemical sterilants used for high-level disinfection. Infect Control Hosp Epidemiol, 20, 69-76.
113. Salomaa V, **Rosamond W**, & Mahonen M. (1999). Decreasing mortality from acute myocardial infarction, Effect of incidence and prognosis. J Cardiovascular Risk, 6, 69-75.
114. Santana VS, **Loomis D**, & **Wing S.** (1999). Bahia-Carolina program in environmental and occupational health, A North-South partnership for workplace and environmental justice. Int J Occup & Environ Health, 5, 218-222.

115. Santana VS, Silva M, & **Loomis D**. (1999). Brain neoplasms among naval military men. Int J Occup Environ Health, 5, 88-94.
116. Santana VS, Silva M, & **Loomis D**. (1999). Por que as neoplasias de cérebro são comuns em militares da marinha? Arq Bras Med Naval, 60, 22-31.
117. Sanz-Gallardo MI, Guallar E, van't Veer P, Longnecker MP, Strain JJ, Martin BC, Kardinaal AFM, Gomez-Aracena J, Thamm M, **Kohlmeier L**, Kok FJ, and Martin-Moreno JM. (1999). Determinants of *p, p'*-DDE concentration in adipose tissue to women from five European cities. Environ Health Perspect, 54, 277-283.
118. **Savitz DA**. (1999). What can we infer from author order in epidemiology? Am J Epidemiol, 149, 401-403.
119. **Savitz DA**, Dole N, Williams J, Thorp JM, McDonald T, Carter AC, & Eucker B. (1999). Determinants of participation in an epidemiological study of preterm delivery. Paediatr Perinat Epidemiol, 13, 114-125.
120. **Savitz DA**, Liao DP, Sastre A, Kleckner RC, & Kavet R. (1999). Magnetic field exposure and cardiovascular disease mortality among electric utility workers. Am J Epidemiol, 149, 135-142.
121. **Savitz DA**, **Poole C**, & **Miller WC**. (1999). Reassessing the role of epidemiology in public health. Am J Public Health, 89, 1158-1161.
122. Schmidt MI, Duncan BB, Sharrett AR, Lindberg G, Saviage PJ, Offenbacher S, Azambuja MI, Tracy RP, & **Heiss G**. (1999). Markers of inflammation and prediction of diabetes mellitus in adults (Atherosclerosis Risk in Communities study), a cohort study. Lancet, 353, 1649-1652.
123. **Seed JR** & Black SJ. (1999). A revised arithmetic model of long slender to short stumpy transformation in the African trypanosomes. J Parasitology, 85, 850-854.
124. Seillier-Moiseiwitsch F, Ramaswami A, Tripputi M, **Pankow J**, & Newman B. (1999). Exploring the role of environmental factors in association and linkage studies. Genetic Epidemiol, 17(suppl 1), S715-720.
125. Sharrett AR, Sorlie PD, Chambless LE, Folsom AR, Hutchinson RG, **Heiss G**, & Szklo M. (1999). Relative importance of various risk factors for asymptomatic carotid atherosclerosis versus coronary heart disease incidence - The Atherosclerosis Risk in Communities Study. Am J Epidemiol, 149, 843-852.
126. Shieh CY-S, Calci KR, & **Baric RS**. (1999). A method to detect low levels of enteric viruses in contaminated oysters. Applied & Environmental Microbiology, 65, 4709-4714.
127. Shultz R, Arndt V, Martin C, **Olshan A**, & **Royce R**. (1999). Effects of short interpregnancy intervals on intrauterine growth retardation and preterm birth. Epidemiology, 10, 250-254.
128. Sorlie PD, Sharrett AR, Patsch W, Schreiner PJ, Davis CE, **Heiss G**, & Hutchinson R. (1999). The relationship between lipids/lipoproteins and atherosclerosis in

- African American and whites, The Atherosclerosis Risk in Communities Study. Ann Epidemiol, 9, 149-158.
129. **Stamm LV** & Bergen HL. (1999). Molecular characterization of a flagellar (*fla*) operon in the oral spirochete *Treponema denticola* ATCC 35405. FEMS Microbiol Lett, 179, 31-36.
 130. Stancil T, **Hertz-Picciotto I**, Schramm M, & Watt-Morse M. (1999). Stress and pregnancy among African-American women. Am J Epidemiol, 149(11, Suppl S), 110.
 131. Steiner MJ, **Hertz-Picciotto I**, Raymond E, Trussell J, Wheelless A, & **Schoenbach V**. (1999). Influence of cycle variability and coital frequency on the risk of pregnancy. Contraception, 60, 137-143.
 132. **Stevens J**, Cai J, Juhaeri, Thun M, Williamson D, & Wood J. (1999). Evaluation of the impact of age on the body mass index (BMI) - Mortality relationship using rate advancement period. Am J Epidemiol, 149(11, Suppl S), 244.
 133. **Stevens J**, Cornell CE, Story M, French SA, Levin S, Becenti A, Gittelsohn J, Going SB, & Reid R. (1999). Development of an instrument to assess knowledge, attitudes and behaviors in American Indian children. Am J Clin Nutr, 69, 773S-8781S.
 134. **Stevens J**, Story M, Becenti A, French S, Gittelsohn J, Going S, Juhaeri LS, & Murray D. (1999). Weight-related attitudes and behaviors in fourth grade American Indian children. Obes Res, 7, 34-42.
 135. Swinker M, Smith CG, **Shy C**, & Storm J. (1999). Pesticide poisoning cases in North Carolina, 1990-1993. A retrospective review. North Carolina Medical Journal, 60, 77-82.
 136. **Thomas JC**, Clark M, Robinson J, Monnett M, Kilmarx PH, & Peterman TA. (1999). The social ecology of syphilis. Soc Sci Med, 48, 1081-1094.
 137. **Thomas JC**, Lansky A, Weiner DH, Earp JA, & **Schoenbach VJ**. (1999). Behaviors facilitating sexual transmission of HIV and STDs in a rural community. AIDS and Behavior, 3, 257-268.
 138. Thomas K & **Thomas JC**. (1999). Things ain't what they ought to be, social forces underlying high rates of sexually transmitted diseases in a rural North Carolina County. Social Science & Med, 49, 1075-1084.
 139. Van Wijngaarden E, **Savitz DA**, Kleckner RC, Mihlan G, Nylander-French LA, Dufort J, Cai J, **Loomis D**, & Kromhout H. (1999). Refinements in magnetic field exposure assignment for a case-cohort study of electrical utility workers. Ann Occup Hyg, 43, 485-492.
 140. Wafford MR, Andrew ME, Brown CA, King D, Pickett RA, **Stevens J**, Wyatt S, & Jones DW. (1999). Obesity hypertension in the atherosclerosis risk in communities cohort, implications of obesity guidelines. J Clin Hyper, 1, 27-32.

141. **Webber JL**, Cunningham-Sabo L, Skipper B, Lytle S, **Stevens J**, Gittelsohn J, ANliker JA, Heller K, & Pablo J. (1999). Portion size estimation training in second- and third-grade American Indian children. Am J Clin Nutr, *69*, 782S-787S.
142. **Weber DJ**, Raasch R, & Rutala WA. (1999). Nosocomial infections in the intensive care unit, the growing importance of antibiotic-resistant pathogens. Chest, *115*(suppl), 34S-41S.
143. **Weber DJ**, Rutala WA, Bennett CN, Jordan M, & Gergen MF. (1999). Faucet aerators, A source of patient colonization with *Stenotrophomonas maltophilia*. Am J Infect Control, *27*, 59-63.
144. **Weber JD** & Rutala WA. (1999). Zoonotic infections. Occup Med - State of the Art Reviews, *14*, 247-284.
145. Weiss HA, Brinton LA, Potischman NA, Brogan D, Coates RJ, **Gammon MD**, Malone KE, and Schoenberg JB. (1999). Breast cancer in young women and history of selected medical conditions. Int J Epidemiol, *28*, 816-823.
146. White A, **Rosamond W**, Chambless L, Thomas N, Cooper L, & Folsom A. (1999). Gender and race differences in short-term prognosis following acute coronary heart disease events. Am Heart J, *138*, 540-548.
147. Wilks R, Rotimi C, Bennett F, MacFarlane-Anderson N, **Kaufman JS**, Anderson SG, Cooper RS, Cruickshank JK, & Forrester T. (1999). Diabetes in the Caribbean, Results of a population survey from Spanish Town, Jamaica. Diabetic Medicine, *16*, 875-883.
148. Williams J, **Tyroler H**, **Rosamond W**, & Folsom A. (1999). Racial disparities in coronary heart disease mortality from 1968-1992 in the state economic areas surrounding the ARIC Study communities. Ann Epidemiol, *9*, 472-480.
149. **Wing S**, Richardson D, & Stewart A. (1999). The relevance of occupational epidemiology to radiation protection standards. New Solutions, 133-151.
150. The WISEWOMAN Study Group (**Rosamond W** member). (1999). Cardiovascular disease prevention for women attending breast and cervical cancer screening programs, the WISEWOMAN Projects. Prev Med, *28*, 496-502.
151. Wood DH, **Hall JE**, Rose BG, Boykin DW, & Tidwell RR. (1999). Pentamidine is a potent inhibitor [³H]idazoxan binding to imidazoline I₂ receptors. Ann NY Acad Sci, *881*, 110-113.