ORWH CAREER DEVELOPMENT PROGRAMS FY 2002

Building Interdisciplinary Research Careers In Women's Health (BIRCWH)

The Office of Research on Women's Health (ORWH) developed an institutional career development award for Building Interdisciplinary Research Careers in Women's Health (BIRCWH) Career Development Programs. These Programs support research career development of junior faculty members, known as Interdisciplinary Women's Health Research (IWHR) Scholars, who have recently completed clinical training or postdoctoral fellowships, and who are commencing basic, translational, clinical and/or health services research relevant to women's health.

The goal of this initiative is to promote the performance of research and transfer of findings that will benefit the health of women. The Programs will accomplish these goals by bridging advanced training with research independence, as well as bridging scientific disciplines or areas of interest. This will increase the number and skills of investigators at awardee institutions through a mentored research experience leading to an independent scientific career addressing women's health concerns. This RFA uses the NIH Mentored Research Scientist Development Program Award (K12) mechanism.

A need was identified for expanded support for interdisciplinary research bridging the completion of training with an independent career in research addressing women's health as described in the "Agenda for Research on Women's Health for the 21st Century, A Report of the Task Force on the NIH Women's Health Research Agenda for the 21st Century," Volume 2, pp. 187-198, Career Issues for Women Scientists, and pp. 223-228, Multidisciplinary Perspectives. ORWH has as one of its priorities "facilitating research initiatives that foster multidisciplinary collaborations." Program grant awards from this RFA met the specified need by providing clinical, health or life sciences, or public health departments, centers, and institutes, both developing and established, an opportunity to build national capacity for junior investigators in women's health research, here defined as including research on sex and/or gender differences, as well as research on factors that contribute to disparities in health status or health outcomes for different populations of women.

Investigators with established research programs covering a broad range of basic and applied biomedical and behavioral science or health services research, in the Principal Investigator's and collaborating departments, centers, or institutes, form an intellectual and technical research base for mentoring IWHR Scholars. Mentors from collaborating departments are encouraged to provide needed expertise and resources, as long as the emphasis of IWHR Scholars' projects is on research relevant to women's health. Projects are basic, translational, clinical, or health services research, but must be within the biomedical and behavioral purview of NIH and/or the health services research purview of AHRQ. Health services research includes the study of the quality, appropriateness, outcomes and effectiveness of health care services, as well as the cost, use and access to health care services.

In FY 02 a second meeting for was held for center directors and the following data was presented by NICHD on the 8 grants they administer.

8 NICHD SITES
Baylor College Of Medicine
Univ. Of Michigan
Univ. Of North Carolina, Chapel Hill
Univ. Of Alabama, Birmingham
Univ. Of Connecticut
UCLA
New Jersey Medical School
Washington Univ.

PROGRAM UPDATE
Available Slots: 3
Slots Filled: 37
Completed Training: 2
Resigned: 2
Female Scholars: 21
Male Scholars: 16

PROGRAM UPDATE
Racial/Ethnic Composition
White/Non-Hispanic: 28
Hispanic: 3
Asian: 4
Black/Non-Hispanic: 2
Underrepresented Minorities: 5

PROGRAM UPDATE
Scholar Degrees
MD: 19
PhD: 9
MD/PhD: 6
CNM/PhD: 1
DDS/PhD: 1
PharmD: 1

BIRCWH SCHOLAR RESEARCH AREAS
Molecular Biology/Genetics
Genetics of Endometriosis
Effects of Fluoride/PTH on osteoblast growth using microarrays
Sex/Gender
Sex differences in Crohns Disease
Sex differences in HIV therapies
Gender & Lipid metabolism
Gender and Long term care

BIRCWH SCHOLAR RESEARCH AREAS
Hormone Replacement Therapy
Estrogen and Cardiovascular disease
Health Disparities
Exercise and High BP in African American women
Mental Health
Depression and Growth Hormone Axis
Depression and Age
Reproduction
Exercise and Reproduction
Genes and Oocyte development

PROGRAM/SCHOLAR ACCOMPLISHMENTS
Publications: 40
Abstracts: 31
Presentations: 42
NIH Grants: 3
Industry/Institutional Grants: 15

PROGRAM/SCHOLAR ACCOMPLISHMENTS
NIH Grants (K23 and K01)
Doris Duke Award
Berlex Junior Faculty Award
American Assoc. Trauma Surgery Scholarship Award
Society for Gynecological Investigation Award

PROGRAM/SCHOLAR ACCOMPLISHMENTS
Ethan Sims Young Investigator Award
Interdisciplinary Teaching Faculty Assoc. Award
Kellogg Foundation Award
American Heart Assoc. Award
Pfizer Scholars Development Award
GlaxoSmithKline Development Fellowship

NIH Loan Repayment Programs (www.lrp.nih.gov)
Clinical Researchers LRP
Clinical Researchers from Disadvantaged Backgrounds LRP
Minority Health Disparities Research LRP
Pediatric Research LRP
Contraception and Infertility Research LRP

Future Plans and Recommendations

Development of Database for Tracking Scholars
Convening Scholars Research Symposium
Expansion of BIRCWH Program
Increase name recognition for the BIRCWH program
Develop a permanent group of BIRCWH scholars

- Develop a scholar exchange program between sites
- Improve outcome assessment and reporting of program successes, such as publications, grants received, and positions obtained
- Partner with other institutions, such as Veteran's Affairs, who have fellowship programs
- Bring current and former BIRCWH scholars together once a year at the same time each year
- Link the websites of all research sites, and link them to the ORWH website
- Use the same terminology to identify BIRCWH scholars currently receiving funding B former scholars could be termed "BIRCWH Alumni"
- Bring current scholars into NIH to meet program officers and talk to grant people. (NIH/scholar meetings are part of BIRCWH 2.)

BIRCWH I Scholar Activities

Twelve BIRCWH Scholars from BIRCWH I Centers participated in the March 21, 2002 ACRWH meeting and described their programs. Some participated in a panel discussion led by Dr. Tim Johnson, PI, U MI. Building Intramural Research Careers in Women's Health (BIRCWH) Program Scholars B Panel Discussion at the March 2002 ACRWH Meeting

ORWH invited BIRCWH I Centers to each send a BIRCWH Scholar to participate in this ACRWH meeting. Timothy Johnson, M.D., Principal Investigator for the Michigan Initiative for Women's Health: Career Development Program, the NIH-funded BIRWCH site, introduced and moderated the panel of BIRCWH scholars. He described the program as a mentored junior faculty career development award (K 12), originally envisioned by Dr. Vivian Pinn and conceptualized by Dr. Donna Vogel and Ms. Joyce Rudick. For this discussion, Dr. Johnson asked six of the current scholars to participate in a panel to discuss four areas of their BIRCWH program: education and training background; a brief overview of individual research topic and interests; a description of the relationship between the scholar and her/his mentor; and a description of what participation in the BIRCWH program has meant to their research careers.

Kim Boggess, M.D. (Cornell University; State University of New York/StonyBrook Medical School; completed a Residency in OB-GYN at the University of Washington in Seattle):
Dr. Boggess' chief research interest is high-risk pregnancies. Dr. Boggess studied herpes expression and shedding during pregnancy as part of a one-year STD training grant, and was introduced to basic scientific research while studying placental pathology and metabolism during a Society for Maternal-Fetal-Medicine Foundation Fellowship. Following two year on the faculty of Duke University, she was recruited to the University of North Carolina (UNC) due to her interest in infectious diseases and pregnancy outcome, particularly in high-risk pregnancies. She was awarded a BIRCWH scholarship after several months on the UNC faculty.

Dr. Boggess noted the BIRCWH scholarship has funded her research in chronic maternal infection during pregnancy, particularly around peri-conception and peri-implantation, and has provided "protected time" to conduct research. Also, the formal and structured mentorship fostered by the BIRCWH program has allowed the identification of mentors in Ob-Gyn and other disciplines, thereby fostering truly interdisciplinary work. Other helpful aspects of the BIRCWH program include faculty development, grant writing, development of mentors, and tutelage in writing for, and presenting at, national meetings.

Susan Brundage, M.D., M.P.H., F.A.C.S. (Trauma Surgeon and Assistant Professor of Surgery at the Baylor College of Medicine; Medical Degree from the University of Iowa College of Medicine; Residency in General Surgery at the George Washington University Medical Center; Fellowship in Trauma and Surgical Critical Care and Masters in Public Health, supported by the NIH and CDC, from the University of Washington in Seattle; Board-certified in general surgery, trauma and critical care): Dr. Brundage reported that trauma is a major public health problem and the number one killer of women between the ages of one and 44. It is also the number one etiology of years of potential life lost. Dr. Brundage said that County hospitals that specialize in trauma are too busy to allow time for research. She concluded that without the BIRCWH program, it would be difficult to find the mentors, and the research time, to be a true academic surgeon.

Paulina Essah, M.D. (Assistant Professor of Internal Medicine at the Virginia Commonwealth University and the Medical College of Virginia Hospital; Medical Degree from Johns Hopkins Medical School; Internal Medicine Residency at the University of Missouri in Kansas City): Dr. Essah's primary research interest is the relationship between Type 2 diabetes and obesity in women. Her major research project is looking at interventions to reduce visceral adipose tissue in Type 2 diabetic obese women, primarily those of reproductive age and pre-menopausal women. The advantage of being a BIRCWH scholar is the protected time it allows, Dr. Essah said. Previously, she spent all of her time on clinical work. Now, she spends 75 percent of her time on research, with the remainder on clinical work. She has taken formal courses and training in clinical research and plans to participate in a grant-writing workshop. After she completes the BIRCWH training program, Dr. Essah hopes to become an independent investigator. BIRCWH has given her the time and opportunity to improve her knowledge and education in clinical research, for which she is grateful.

Josephine Kasa-Vubu, M.D. (Pediatric Endocrinologist and Assistant Professor in Pediatrics in the Department of Pediatrics at the University of Michigan; Board-certified in Pediatrics and Pediatric Endocrinology; medical training and degree from the University of Louvain in Belgium; specialty training in General Pediatrics and Pediatric Endocrinology at the University of Michigan in Ann Arbor; completed a Fellowship in Pediatric Endocrinology): Dr. Kasa-Vubu is focusing her research in the area of puberty and young adulthood and investigating the effect of environmental insults, mostly exercise, on the reproductive potential of young adults. Although a Pediatrician, she is interested in the 16 - 20 age group in young women. There is very little normative data on adolescent young women ages 16-20. Most health care advice is inferred from data from older women. Support from the BIRCWH award freed up the time to allow her to focus on clinical studies and study the effect of exercise on normal gonadotropin profiles. Dr. Kasa-Vubu also praised the opportunity provided by the BIRCWH program to sit down regularly with other BIRCWH scholars, to share their interests, and to look beyond the field of Endocrinology.

Catherine Lewis, M.D. (Assistant Professor of Psychiatry, University of Connecticut Health Center; studied Medicine at Yale University School of Medicine and completed a Residency in General Psychiatry at the University of Michigan; completed a Fellowship in Forensic Psychology at Yale): Dr. Lewis is currently studying the impact of ethnicity and socioeconomic status on health service utilization in a maximum-security women's prison in Connecticut, where she performs structured interviews and prospectively follows women, doing chart review and monitoring their mental health to see how well they utilize health care services. As a BIRCWH Scholar, Dr. Lewis relies on having protected research time and has developed "amazing

mentorships." Her initial studies were primarily descriptive. To take the step into nondescriptive studies as an M.D. is extremely challenging and the Ph.D. consultation allows her to take the step to be a neophyte researcher. BIRCWH has provided support that allowed her to develop the courage to take this step.

Ann Rasmusson, M.D. (Assistant Professor of Psychiatry, Yale University School of Medicine; undergraduate work at North Dakota State University in Medicine; M.D. from the University of Chicago; Pediatric Residency at Johns Hopkins Children's Medical and Surgical Center): Dr. Rasmusson transferred to Yale for a Postdoctoral Fellowship in Neuropsychopharmacology at the Yale Child Study Center, where she focused on anxiety disorders in children; researched animal models and the effect of stress on prefrontal cortical function; performed an adult Residency in Psychiatry at Yale, and was Medical Director of in-patient treatment at the Veterans Administration National Center for Post Traumatic Stress Disorder (PTSD) where she studied men with Vietnam combat related PTSD. Dr. Rasmusson described her BIRCWH program and expressed gratitude for the opportunity to research gender differences in hypothalamic-pituitary-adrenal axis regulation. She is using the Program to investigate the additional confound of nicotine use on women with PTSD. Her mentors are very helpful, particularly for providing an inter-disciplinary focus.

The remaining BIRCWH Scholars introduced themselves:
Bettina Mittendorfer, Ph.D. (Research Instructor in the Department of Medicine at Washington University School of Medicine; Ph.D. in Nutritional Biochemistry/ Metabolism from the University of Texas Medical Branch; completed Post-doctoral Research Fellowship at Washington University; Visiting Scientist at the University of Dundee in Scotland and Harokopio University in Athens, Greece): Dr. Mittendorfer is researching the effect of gender on substrate metabolism, particularly differences in lipid and lipoprotein metabolism between men and women. The BIRCWH program enabled her to obtain a grant to study gender differences, as well as a junior faculty position. Erica Gunderson, Ph.D. (Research Scientist in the Division of Research, University of California at San Francisco, which joined forces with Kaiser Permanente to apply for the BIRCWH scholarship program; Bachelor's Degree in Biology from Stanford University; joint Master's of Public Health and Nutritional Sciences from the University of California at Berkeley; practiced for 14 years in diabetes and pregnancy care in California as a Public Health Nutritionist; Ph.D. in Epidemiology, University of California at Berkeley): Dr. Gunderson's research focuses on the effect of pregnancy on women's health, including the physiologic, metabolic, physical, and emotional challenges for pregnant women, and how pregnancy affects long-term health. Dr. Gunderson is particularly interested in the effect of pregnancy on cardiovascular disease and Type II diabetes in women and changes in risk factors for those diseases. Her current research uses data from the Cardia Study, a multi-center cohort study on coronary artery risk development in young adults that was funded by NHLBI in the 1980s. Dr. Gunderson is studying women in that cohort to investigate the effect of having babies on changes in serum lipids, serum glucose, weight, and central adiposity in those women. The BIRCWH program has been instrumental in allowing Dr. Gunderson to progress in her research career.

Javier I. Torrens, M.D., F.A.C.P. (Assistant Professor, OB-GYN and Women's Health, New Jersey Medical School; medical training at Boston University School of Medicine; U.S. Army Health Professional Scholarship; Internal Medicine Residency, and sub-specialty training in Medical Endocrinology at Walter Reed Army Medical Center; on the staff of the Hispanic

Center of Excellence in the New Jersey Medical School's Department of Medicine): Before the BIRCWH program, Dr. Torrens felt he was lacking significant mentorship in studying how health behaviors influence the genetic expression of diabetes and the metabolic syndrome, primarily in non-Mexican American Latino women. At New Jersey Medical School, as a BIRCWH scholar, Dr. Torrens found mentors who supported his transition from an unstructured program into a very rigorous training program where he is attending classes with graduate students and studying human genetics and advanced biology in preparation for researching at the molecular level how environmental factors lead to the expression of disease.

Michele Martin, Ph.D. (Assistant Professor of Medicine, Division of Preventive Medicine, University of Alabama at Birmingham (UAB); Doctoral Degree in Clinical Psychology from UAB): Dr. Martin has pursued studies of women with fibromyalgia, studies of breast and cervical cancer prevention in women from underserved communities, and studies on the gap in mortality in breast cancer patients between African American and Caucasian patients. She thanked the Advisory Committee for not only their investment in the BIRCWH Scholars, but also their belief in them. Through the BIRCWH program, she has learned she can recruit participants and conduct research. Her current research topic is American women who are hypertensive and the impact of exercise on this problem.

Alice Thornton, M.D. (Assistant Professor of Medicine, University of Kentucky at Lexington; M.D. degree at Marshall University; trained in Internal Medicine at the Bowman Gray School of Medicine at Wake Forest University; trained in Infections Diseases at Indiana University): Dr. Thornton joined the Division of Infectious Diseases at the University of Kentucky, where she has been a BIRCWH scholar for the last year and a half. She directed her research efforts to trichomoniasis, but needed support in the area of Sexually Transmitted Diseases (STDs), which was lacking at the University of Kentucky. She was able to network with her former colleagues at Indiana to obtain the mentoring to pursue her research topic. Dr. Thornton said she appreciates the opportunity, which BIRCWH affords, to network with mentors to do interdisciplinary studies in STD's and epidemiology.

Lisa Kane-Low, Ph.D. (Bachelors' Degree in Nursing, University of Michigan; Midwifery Degree, University of Illinois in Chicago; Education Program for Midwifery at the University of Michigan; Ph.D. Degree, Interdisciplinary Studies, in the School of Nursing): Through the BIRCWH program, Dr. Low researched birth care practices for adolescents, focusing on intervention strategies and the role of doulas, and doing cost analysis of birth care practice strategies while looking for better inclusive models for prenatal and post-partum care for adolescents in particular, but also for all women. At the University of Michigan, Dr. Low enjoys

an interdisciplinary environment with the BIRCWH scholars, and is able to take advantage of multiple mentors in the whole program who are actively involved with all of the scholars. She appreciates having protected time, since her appointment is in the medical school.

A discussion followed the BIRCWH Scholars panel and presentations, in which both Scholars and ACRWH attendees acknowledged the advantages of the BIRCWH Program as well as the challenges to continuing the new model of interdisciplinary women's health research stimulated by the BIRCWH program.

BIRCWH II

Based upon the impressive interest from the scientific community and the response to BIRCWH I, ORWH reissued the BIRCWH I RFA (RFA-OD-02-001) in December 2001 with minor changes. ORWH received 36 Letters of Intent. Applications will be received March 14, 2002. This RFA will use the National Institutes of Health (NIH) Mentored Research Scientist Development Program Award (K12) mechanism. The K12 awards will be for a period of five years. The anticipated award date is September 30, 2002. A need has been identified for expanded support for interdisciplinary research bridging the completion of training with an independent career in research addressing women's health, including sex/gender similarities or differences.

The goal of this initiative is to promote the performance of research and transfer of findings that are relevant to women's health, including sex/gender similarities or differences in biology, health or disease. The Programs will accomplish this by bridging advanced training with research independence, as well as bridging professions, scientific disciplines, or areas of interest. This will increase the number and skills of investigators at awardee institutions through a mentored research and career development experience leading to an independent interdisciplinary scientific career addressing women's health. Research on sex/gender similarities or differences is a continuing priority for ORWH. Program grant awards resulting from this RFA will meet the specified needs by providing clinical, health or life sciences, or public health departments, centers, and institutes, both developing and established, an opportunity to build a national capacity for junior investigators in women's health research, including research on sex/gender differences, as well as research on factors that contribute to disparities in health status or health outcomes for different populations of women.

In addition to ORWH, seven NIH Institutes* the NIH Office of Dietary Supplements, and the Agency for Healthcare Research and Quality (AHRQ) co-sponsor this program. By uniting cosponsors from a breadth of scientific areas, the program encourages researchers from different disciplines to apply their knowledge in new ways to study important topics in women's health, including sex and gender factors in health and disease. Awardee institutions are:
Boston University
Brown University
Duke University
Magee-Women's Health Corporation
University of Maryland
SUNY Downstate Medical Center
Oregon Health and Science University
University of Pennsylvania
Stanford University
Tulane University
University of Utah
Vanderbilt University

SUNY Downstate Women's Health Research: From Molecules to Therapies
SUNY Downstate

Brooklyn, New York
Principal Investigator: Dr. John Larosa

Downstate proposes a program that will link SUNY Downstate Medical Center in research and training collaborations with two minority institutions, Kings County Hospital and the Arthur Ashe Urban Health Institute (AAIUH). The program is organized into mentored research areas as a function of groups of research team mentors. Scholars will have opportunities to interact with over 18 mentors. Six core research areas spanning basic and clinical aspects related to women's health are planned: sex/gender differences in pain and analgesic response, early detection of breast cancer, neurological disorders and epilepsy, diabetes, progression of AIDS using a variety of methodological expertise, health care disparities and well-being.

Utah BIRCWH Career Development Program in Women's Health
University of Utah
Salt Lake City, Utah
Principal Investigator: Dr. Eli Adashi

The University of Utah presents a program that represents a collaboration of the Colleges of Health, Nursing Pharmacy and Medicine. The program will involve seventeen mentors from various disciplines in these schools. Four principal areas of research emphasis will be offered to scholars : aging disorders, cardiovascular disorders, cognitive/neurological disorders and oncologic disorders. Selected scholars will be afforded the choice of two levels, entry (limited research experience) and advanced (significant prior research experience). Scholars will also have the option of pursuing an innovative program leading to a Masters of Science degree.

Duke BIRCWH
Duke University
Durham, North Carolina
Principal Investigator: Dr. R. Sanders Williams

Duke University joins forces with North Carolina Central University (NCCU) to design a program to contribute to improvement in women's health. The research plan revolves around four main themes: clinical trials and outcomes, decision-making research, health disparities and basic and translational research which includes a wide array of topics such as the genetics and molecular biology of either breast or ovarian cancer, neuromuscular physiology and pharmacology of the pelvic floor to the molecular biology of nicotine addiction. Over twenty-five mentors that cut across disciplines and professions are involved. Two tracks will serve scholars with substantial or limited prior research experience. Scholars also have the opportunity of working towards a Masters degree in Health Sciences or Clinical Research.

Oregon Scholars in Women's Health Research Across the Lifespan
Oregon Health & Science University
Portland, Oregon
Principal Investigator: Dr. Christine Cassel

Oregon Health & Science University (OHSU) presents a program based in the School of Medicine but that draws on the participation of four exceptional OHSU centers including the Center for Women's Health, Heart Research Center, Oregon Regional Primate Research Center

and the Cancer Institute. Scholars will be exposed to twenty-seven mentors that conduct research in areas of women's health that extend across the life span. The research plan builds on a unifying theme of women's health across the life span that is centered around six specific research areas: fetal environments and cardiovascular development, reproduction and health, neurobiology and gender differences, substance abuse, cancer in women, in addition to aging and end of life issues.

U Penn Career Development in Women's Health Research and Gender
University of Pennsylvania
Philadelphia, Pennsylvania
Principal Investigator: Dr. Jerome Strauss

This program located in the Center for Research for Reproduction and Women's Health at University of Pennsylvania involves thirty-three mentors who are built around six research clusters : brain & behavior, metabolism & aging, cell & tissue homeostasis, hormones, reproduction & urologic function, infection & immunity and cardiac & pulmonary. The program plans to have a steady state of scholars and depending on their background, this might include enrollment in a M.S. or PhD program. Two phases are planned, the first being a period of mentored research training prior to transition into the second phase of independent research with faculty appointment.

Magee-Women's Health Corp BIRCWH
Magee Women's Research Institute
Pittsburgh, Pennsylvania
Principal Investigator: Dr. James Roberts

This program will be orchestrated through the Magee Women's Research Institute to provide an integrated approach to interdisciplinary research in women's health, focused on four themes that cover women's health from preconception to aged women: gender-specific developmental biology, women's behavioral health, prevention of adverse reproductive outcomes and chronic diseases, aging and cancer. Scholars in this program will have the option of working with the thirty-six mentors whose research areas are encompassed under the umbrella of the four theme leaders.

Vanderbilt BIRCWH
Vanderbilt University
Nashville, Tennessee
Dr. Rose Robertson

This program represents a partnership between Vanderbilt University and Meharry Medical College. The research plan is designed around six interdisciplinary research themes: cancer/neoplasia, cardiovascular/diabetes, clinical pharmacology, neurosciences/behavioral health, endometrial biology/reproductive toxicology, health services/outcomes research. Selected scholars will have the opportunity to interact with twenty-five mentors from a variety of departments/schools including school of medicine, clinical departments, preventive medicine, psychiatry and the Institute for Public Policy Studies.

Tulane BIRCWH
Tulane University
New Orleans, Louisiana
Principal Investigator: Dr. Paul Whelton

Tulane in partnership with Xavier University proposes a program with a strong focus on patient-oriented research related to cardiovascular health, particularly among African-American Women. Four scholars will be selected and will have access to fifteen mentors with a broad range of basic, biomedical, behavioral and health services research experience across the schools of Tulane and Xavier University. The areas of research will focus on two highly under-researched areas in women's health, cardiovascular disease and hypertension with the ultimate goal of training scientists to address sex-gender and disparities issues in cardiovascular health.

Maryland's Organized Research Effort in Women's Health
University of Maryland
Baltimore, Maryland
Principal Investigator: Dr. Patricia Langenberg

The University of Maryland presents a program that includes collaboration with Morgan State University and Howard University. Three broad research themes underlie the program: life changes in women's health (including steroid hormone regulation of angiogenesis to the psychometrics of human sexual behavior), adverse conditions and diseases in women (including ovarian hormones and neurological diseases and cancer disparities) and gender differences in pain. Nineteen mentors drawn from the schools of Dentistry, Medicine, Nursing and Pharmacy are involved. Selected scholars will two tracks are available, depending on scholar's research background.

Brown University BIRCWH Career Development Program
Women & Infants Hospital
Providence, Rhode Island
Principal Investigator: Dr. Donald Coustan

Brown University and its affiliated hospitals present a cross-institutional program organized around five major areas: prevention and behavior change, gender issues in women's health, health services research, HIV/AIDS in women and obstetric and gynecologic research, including perinatal diagnosis and management, screening in early pregnancy, transitional immunology, and developmental biology and cell dynamics. In addition, there are formal ties with Tugaloo College in Mississippi and links to Xavier University in New Orleans. Scholars will have access to twenty mentors that cut across institutions including Women & Infants Hospital, George Anderson Outcomes Measurement Unit and Woods Hole Marine Biological laboratory.

Stanford Mentoring & Interdisciplinary Research in Women's Health
Stanford University
Stanford, California
Principal Investigator: Dr. Linda Guidice

Stanford University proposes a center with the theme of mentoring in women's health research from bench to bedside, from basic to clinical research. Over twenty-three mentors from a variety of disciplines encompassing twelve major research areas under basic and clinical research divisions including: midlife aging/cardiovascular disease, adolescent health, medical information technology, medicine/CV/diabetes, cancer, reproductive/urogenital health, genetics, cancer biology and tissue engineering. Scholars will have two pathways available, basic and clinical research.

BU Interdisciplinary Research Careers in Women's Health
Boston Medical Center
Boston, Massachusetts
Principal Investigator: Dr. Rebecca Silliman

Boston University's program will address the need to increase the number of outstanding investigators trained in clinical research, clinical epidemiology and health services research. Over thirteen mentors are proposed around five major research areas: prevention research, health services outcomes and effectiveness research, addiction medicine, issues of aging women and the consequences of multiple caregiver roles. Scholars will enter in one of two pathways, basic (those who have not had formal research training) and advanced research. Scholars also have the option pursuing a Masters of Science degree in Epidemiology.

SUMMER RESEARCH PROGRAM FOR HIGH SCHOOL STUDENTS (OIR)

The National Institutes of Health (NIH) has just announced the fourteenth annual Summer Research Program for High School Students. This program exposes students from a diverse background, including at least 50% women and a high percentage of minorities and under-represented minorities, to biomedical research at a time when they are still forming their future plans and thereby enhances the possibility that they will choose science careers.

All Metropolitan Washington high schools are invited to nominate their two best science majors for the program. The students can be either juniors or seniors. From this pool of applicants (approximately 150 students), 25 students are selected based on academic achievement, aptitude, and interest in future careers in scientific disciplines as well as on the evaluation by teachers or previous preceptors. In addition, the program provides for up to 15 students to return for a second and even third year.

Selected students work in one of the research laboratories at the NIH, becoming involved in ongoing research protocols and experiencing what a research career would be like first-hand. They meet as a group on Wednesdays from 11:30 am to 1:30 pm with Dr. Michael Gottesman, DDIR, and/or Dr. Joan Schwartz, Assistant Director, OIR. Over the summer each student gives a talk on his/her summer project, thus providing training in oral presentations. The laboratory mentor works closely with the student to develop a presentation that will be readily understandable by other students.

Objectives for the 2002 High School Student Program

1. To increase knowledge base of modern biomedical research, as well as familiarity with techniques by performing empirically a subset of techniques through participation in a laboratory project,
2. To develop a network of NIH scientists to serve as consultants for their future career paths, and
3. To encourage a diversity of students to consider a career in biomedical research.

For the program, scholar candidates with an interest in disadvantaged populations will be particularly sought. Limited-experience and advanced tracks feature individualized curricula. Among a total of 24 mentors, seven from obstetrics-gynecology form a subgroup of reproductive health, with 17 others from a diverse group of 11 different departments.

ACHIEVING EXCELLENCE IN SCIENCE (AXXS)

ORWH, in conjunction with The American Society for Cell Biology and the National Institute of Environmental Health Sciences, convened AXXS 99 to explore the roles of scientific societies in advancing science by building the careers of all women in science, from the pre-doctoral stage to the senior scientist level. The workshop was held December 9-10, 1999, as a satellite meeting to The American Society for Cell Biology's Annual Meeting in Washington, D.C. More than 140 participants representing more than 50 scientific societies, organizations, and government agencies gathered to:

- Develop action items that societies could consider for their membership,
- Contribute to an annotated bibliography of the career resources that could be made available as a national resource on the Internet, and
- Exchange information with other workshop participants on the strengths and weaknesses of existing and planned societal programs and resources for their women members.

AXXS 99 INITIATIVES

Leadership, Visibility and Recognition

- Develop forums to highlight successes of women scientists
- Formalize mechanisms for opportunities, awareness, and development for women in science
- Increase the number of women in society leadership roles
- Find and implement new strategies for leadership development programs within societies
- Provide training and facilitate understanding regarding the rules of the game as they pertain to networking, promotion, tenure, etc.

Mentoring and Networking

- Establish a national mentoring system for women
- Establish mentoring as a core activity of professional societies
- Develop effective mentoring programs
- Create a networking website for scientists

Best Practices

- Design best practices for the advancement of women
- Establish a best practices clearinghouse

Oversight, Tracking and Accountability

- Create an umbrella organization of professional societies to facilitate networking and exchange of information and ideas:
- Develop a database of women scientists
- Establish a report card on the status of women in science and engineering

The full report on AXXS 99 is available on-line at www4.od.nih.gov/axxs/. As follow up to the Achieving XXcellence in Science (AXXS) meeting in December 1999, ORWH developed, designed, launched, and now maintains an AXXS Web page, which will serve as a primary resource for women in biomedical sciences. http://www4.od.nih.gov

OVERVIEW OF THE AXXS JUNE 2, 2000 MEETING

Sponsored by the Office of Research on Women's Health (NIH), in cooperation with The American Society for Cell Biology, AXXS 2000 was launched on June 2, 2000 at a meeting of a small, representative subset of AXXS 99 participants. Invitees came prepared to take the next critical step toward meeting AXXS's 99 goals by building on the 14 recommended initiatives from AXXS 99. Thirty-one participants gathered at the National Institutes of Health to:

- Prioritize and refine initiatives developed at AXXS '99 for promoting women's scientific careers, and
- Consider necessary actions for implementing these initiatives, both within and across scientific societies.
- The group was intentionally small to allow participants to develop detailed initiatives, while also keeping in mind the big picture, i.e., eliminating redundant efforts, identifying what societies might do to take action on their recommendations, and defining possible mechanisms for continued AXXS support.

In FY 01, the following plans were developed for an initiative called ACT. The ACT team has a clear objective; to move quickly from AXXS plans to society-driven initiatives to advance the careers of women in science by turning plans into actions to advance the careers of women in science. Specifically, this project moves to implement two-three initiatives into societies and/or academic institutions within the first six months. Further, it is intended to refine one or more complex initiatives (e.g., mentoring) and move them into one or more societies and/or academic institutions within the first year. Future plans include a meeting in spring 2002 AXXSC2002 hosted by the NAS for clinical societies.

It is the mission of AXXS to make women more visible and to advance their careers by increasing the recognition of their scientific accomplishments. Formal mechanisms and processes to support the development of women scientists will be created, supporting the engendering of networking and mentoring opportunities and increasing the public's awareness of opportunities for women in science. It is crucial that more women occupy leadership roles in societies and that these societies understand that diversity is critical to their unique mission.

Achieving XXcellence: The role of professional societies in advancing women's careers in science and clinical research FY 2002

The Committee on Women in Science and Engineering (CWSE) of the National Academy of Sciences held a one-and-a-half-day workshop in July 2002, to gather representatives of clinical societies and discuss ways for the societies to enhance the participation of women scientists in the clinical research workforce. The workshop was a follow-up to AXXS 1999 (Achieving Excellence in Science), in which representatives of science societies gathered to identify ways to improve the advancement of women in their respective fields. The meeting build upon a foundation established at the first AXXS workshop held in 1999.

The goals of the 2002 meeting were to:
- Identify barriers to success in biomedical careers for women.
- Share strategies for promoting careers.
- Develop effective programs to build careers.

Focus was placed on identifying initiatives and action items that clinical societies can adopt, ways for clinical societies to disseminate successful strategies and ways to collaborate among societies. Data from several sources confirm what has been characterized variously as the leaking/hemorrhaging of women advancing to senior positions in the academic biomedical research pathway. Thus, a significant pool of talent is wasted or underutilized in the biomedical enterprise with associated financial implications. Perpetuating this situation, there are fewer senior women to serve as role models and mentors. Moreover, recent studies at several institutions have revealed subtle differences in resources made available to women versus men that may negatively impact career development for women. Adding to the complexity of the situation, primary care responsibility for children and aging parents more often compete with the time women can devote to career than men at the same level and women often have a collaborative research and leadership style that can be mistaken for lack of independence or credit assignment for achievements.

With these issues in mind, what specific barriers exist and what initiatives and action items can clinical societies adopt to facilitate more gender balance and advancement of women's careers in research, both basic and clinical? Breakout groups were formed to ponder these questions and report back to the reassembled body. Not surprisingly, there was significant overlap regarding recommendations between the various groups.

The following are examples of strategic ideas & action items that emerged from these "think-tanks":
Utilize a networking strategy to inculcate values and effect change in the current scientific culture/mindset that prevents optimal capitalization of women resources;

- Incorporate mentorship into promotion criteria to recognize the critical role of mentoring in academic success
- Expand the accepted notion of scholarship to include collaborative/team ventures and increase appreciation of clinical research.

- Collect data and disseminate information regarding: how leadership within Professional Societies reflects its member demographics; costs of faculty recruitment versus retention; (Wisdom suggests that it will be cost saving to retain and recruit women from within.); collect or develop models -websites, directories, programs, practices
- Promote mentoring via awards including financial and national recognition
- Reward department chairs who effectively develop women's careers
- Develop criteria for excellence in clinical research and present the criteria to a committee of deans for diffusion to all academic health centers
- Initiate society report cards to recognize discipline and institutional successes
- Inform public of the value of clinical research via outreach efforts
- Feature career development and leadership workshops within society programming
- Contribute to funding or co-sponsor NIH funding for proposed AXXS initiatives

AXXS evaluated the collected recommendations from this meeting and propose action items to adopt in a forthcoming report. AXXS is actively seeking to collect, publish and strategies that have been developed and utilized successfully by different groups. The American Society for Cell Biology and the American Psychological Society have both contributed several strategies. AXXS distributed a booklet of them at the meeting for consideration by other groups and their website will offer more. AXXS Goals:

Goal 1: A new cultural norm for women:
Where gender bias is eliminated, women's leadership and communication styles are honored, the image and perception of women are highly valued, and science and family are compatible roles for women and men in this society.

Goal 2: Equity with male counterparts:
Where women are equally represented in their disciplines and societies compared to their male counterparts, and where women's society memberships, honorary awards, grants, faculty positions, leadership roles, pay rates, journal editorships, and so forth, are on a par with men.

Goal 3: High visibility and recognition:
Where there is widespread professional respect for the accomplishments and contributions of women scientists, large numbers of well-known women deliver keynote addresses, and women routinely receive awards for their scientific achievements.

Goal 4: Mentoring as an integral part of career development and advancement for women:
Where mentoring is gender-neutral and encompasses both one-to-one and institutional programs, characterized by men seeking out women mentors, and the mentoring of women as an integral part of high schools, academia, professional societies, and scientific organizations and institutions.

Goal 5: Varied and valued career options for women:
Where expanded career possibilities for women in science are widely promoted and highly visible at all stages of the career pathway, more teen girls opt to take high school science, an incubator environment provides conditions favorable to the advancement of women in science, and greater numbers of mid- and upper-level women scientists remain on chosen career tracks.

Goal 6: Readily available networking, resources, and support:
Where women have access to, and are included in, non-gender-biased networks, which are both formal and informal, as well as faculty- and employer-sponsored.

Goal 7: Professional advancement and skill building through scientific societies:
Where there is significant support within societies to help women in science to advance their careers, in the form of mechanisms to promote an individual's career, funding for skill building and development, affirmative public statements from scientific societies, and job access and advancement through societies.

Goal 8: Inner and outer empowerment:
Where women are comfortable with themselves and their careers, feel valued and effective, and hold empowered attitudes B free from any victim-like mentality (inner empowerment); and where there is collaboration and exchange from peers and role models, and MIT- type studies initiated.

The workshop focused on: 1) initiatives and action items clinical societies can adopt within their organizations to enhance women's advancement in the clinical research field; 2) ways for clinical societies to disseminate successful strategies to advance women's careers; and 3) ways that clinical societies can collaborate to promote women's contributions to their fields. The ACTeam encourages and assists scientific societies and other professional organizations to implement and sustain initiatives to advance the careers of women in science.

In June 2000, the Office of Research of Women's Health sponsored a follow-up meeting to prioritize and refine the AXXS 99 initiatives and to develop action plans for implementing these initiatives, both within and across scientific societies. The four key strategies that came from that meeting are: Enhance Women in Leadership Positions; Enhance Mentoring Programs; Promote the Visibility of Women in Science; and Gather, Evaluate, and Publish Best Practices. These were presented at the FY 2002 meeting.

EFFECTIVE PRACTICES

Effective Practices are programs, policies, or other initiatives within and/or offered by an organization that are proven tools for the advancement of women in science.

Effective practices may fit into, but are not limited to, the following categories:

- Leadership Development Mentoring
- Professional Advancement Women's Committees
- Increasing Women's Representation/Visibility

One of the key strategies that emerged from the follow-up meeting to AXXS '99 was to "gather, evaluate, and publish" best practices. The Core ACTeam created a submission form and put out a call for such practices beginning in October 2001.

Submission Format

1. Name of Sponsoring Organization
2. Title of the Effective Practice
3. Aim/Intention of the Effective Practice
4. Description of the Effective Practice
5. Description of how organization knows the Effective Practice is successful.
6. Contact Information (name and contact information) for those who desire more information about the Effective Practice.

Begun in 1995, last year over 600 people attended the lunch, which is typically fully subscribed. The list of discussion leaders reads like a list of Who's Who in Cell Biology and includes many current and former officers of the Society. How Do We Measure Success? The lunch meeting has been held for seven consecutive years.

Developing Country Scientist Program at NIH ***FIC***

In conjunction with FIC, ORWH will support a meeting with experts to consider this new program and how it could meet the needs of women scientists in particular. The funding would bring together senior scientists from the developing world to provide insights into the obstacles faced by women in academic and public health institutions in those settings. FIC, OIR, and other NIH partners develop and support a program to expand participation in the Visiting Program from the developing world, provide supplementary training in addition to scientific training, and support, on a competitive basis, re-entry grants on the scientists' return home.

The NIH Visiting Program provides opportunities for young scientists from abroad to learn research techniques and conduct related research in all fields of biomedicine and behavioral science. On their return home these scientists are encouraged to compete for NIH extramural awards, to partner with U.S. scientists on collaborative research projects, and to assume leadership positions. As NIH works to address global health challenges and to advance critical areas of science, including HIV/AIDS, malaria, tobacco-related illness, and the health challenges facing women. Scientists from the developing world contribute their scientific and cultural knowledge, which allow them to design and conduct research studies that are scientifically valid and that take into account local as well as international cultural norms.

Of the roughly 2500 foreign scientists in the NIH Visiting Program, only 20 are from sub-Saharan Africa. This trend is similar for Asia, with the notable exceptions of India and China, and for most of Latin America. In addition, based on consults with current Visiting Fellows, there is a perceived need for supplementary training in areas that would bolster skills to take on leadership positions on return home. Further, Visiting Fellows would be more likely to return home and to continue to work productively in their field if small amounts of re-entry support could be provided.

AWIS SEMINAR SERIES

The Association for Women in Science (AWIS) Bethesda Chapter was founded in 1994 to address the issues and concerns of women in science. The goals of the organization are:

- To increase, at all levels, the number of women obtaining their degrees in science and technology,
- To increase the number of women participating in the scientific and technological workforce at all levels,
- To raise public awareness of the scientific and technological skills and contributions of women,
- To work with other scientific, educational, and women's organizations in developing national and community programs that meet the above goals, and
    - To provide awards for the recognition of individual women scientists in order to advance the above goals.

With these goals in mind, the organization is conducting a year-long seminar series. The series is entitled, "Networking for Career Success." This ninth annual series consists of approximately five seminars held at the campus of the National Institutes of Health (NIH) bi-monthly. The topics covered in each series are very diverse, ranging from issues of particular interest to women.

WOMEN'S REPRODUCTIVE HEALTH RESEARCH CAREER DEVELOPMENT CENTERS

ORWH joined NICHD in the development of a Request For Applications (RFA) to invite institutional career award applications for Women's Reproductive Health Research Career Development Centers in FYs 98 and 99. These Centers support research career development of obstetrician-gynecologists, known as Women's Reproductive Health Research (WRHR) scholars, who recently completed postgraduate clinical training, and were commencing basic, translational and/or clinical research relevant to women's health. The goal of this initiative is to promote the performance of research on women's reproductive health and transfer findings that will benefit the health of women. The Centers serve to bridge clinical training with independent research, increasing the number and skills of obstetrician-gynecologist investigators at awardee institutions through a mentored research experience leading to an independent scientific career addressing women's reproductive health issues.

In FY 98 12 Centers were funded: Magee-Women's Hospital Pittsburgh, Oregon Health Sciences University, Stanford University, University of California, San Francisco, University of California, Los Angeles, University of Cincinnati, University of Pennsylvania, University of Texas Health Sciences Center/Houston, University of Texas Medical Branch/Galveston, University of Washington, Wake Forest University School of Medicine, and Wayne State University Detroit. In FY 99, eight Centers were added: Brigham and Women's Hospital, Case Western Reserve University, Columbia University, University of Alabama at Birmingham, University of California, San Diego, University of Colorado, University of Rochester, and University of Utah. Funding in FY 2001 continues for the 20 centers at the same funding levels.

ORWH/NIH REENTRY PROGRAM

The ORWH Reentry Program was developed in 1992 as a pilot program to help fully

trained scientists (women and men) reestablish careers in biomedical or behavioral science after taking time off to care for children or parents, or to attend to other family responsibilities. This program was originally started as a pilot program to encourage fully trained women and men to reenter an active research career after taking time off to attend to family needs. The success of this pilot program was the impetus to expand the program across the NIH. All NIH ICs support the program. The aim of these supplements is to encourage fully trained individuals to reenter research careers within the missions of all the program areas of NIH. This program will provide administrative supplements to existing NIH research grants for the purpose of supporting full-time or part-time research by these individuals in a program geared to bring their existing research skills and knowledge up to date. It is anticipated that at the completion of the supplement, the scientist will be in a position to apply for a career development (K) award or for a research award. ORWH currently provides funding of $20,000 for each of 2 years. In FY 01, ORWH sponsored 2 new reentry candidates and continued Year 2 funding for 2 others.

PI:	Maryellen L. Giger, Ph.D.
Institution:	University of Chicago
Title:	Computerized Radiographic Analysis of Bone Structure
Grant Number:	3R01AR42739-04A2S1
Awardee:	Tamara Vokes, M.D.

The research examines the ability of texture analysis to detect bone fragility in vivo (estimated from prevalent vertebral fractures) and compare its predictive value to methods currently used for diagnosing osteoporosis. The study subjects undergo texture analysis, assessment of bone mass by several commonly used methods, and examination of lateral spine for prevalent vertebral fractures. The presence and degree of prevalent vertebral fractures will be used to diagnose and quantify bone fragility. The diagnostic performance of texture analysis (with and without heel BMD) in detecting the prevalent vertebral fractures will be compared to that of methods currently used for diagnosing osteoporosis (central and peripheral BMB, and heel ultrasound).

The study subjects will be postmenopausal women recruited from the pool of patients referred to the Bone Clinic for bone density measurement as part of their routine medical care. We plan to study 650 subjects over 2.5 years. We will make a special effort to include patients who are likely to have vertebral fractures based on their appearance, history of fractures, or age.
The proposed research is closely related to the research objectives of the parent grant. Because Dr. Vokes has significant clinical experience and a large cohort of patients with osteoporosis, she will be in a unique position to recruit the patients for the studies proposed in the parent as well as in the supplemental grant. Furthermore, as a director of the Endocrinology clinic of which the densitometry program is a part, she is responsible for the day-to-day densitometry operation and will be able to identify suitable candidates for enrollment into the proposed studies. Because of her enthusiasm and interest in

research, she has already made significant contribution to further developing the project described in the parent grant. The supplement would provide her with protected time, which would allow her to actually carry out the exciting and promising studies proposed in the parent as well as in the supplemental grant.

Despite the success and accomplishments achieved during her fellowship training and early faculty appointment, she voluntarily chose to make a change in her career path after having her first daughter. Consequently, she took a position as a clinical endocrinologist in a multi-specialty group, which allowed greater flexibility and enabled her to be with her children and providing a much more vital understanding of the importance of clinical research in bringing state-of-the-art care to the physician-patient encounter. In 1999, she returned to academic medicine at the University of Chicago as an Assistant Professor of Clinical Medicine in the Section of Endocrinology. Based upon these successes, Dr. Vokes has applied for an NIH K award so this reentry grant may only be needed for 1 year.

PI:	Robert Kimberly, M.D.
Institution:	U AB at Birmingham
Title:	Mononuclear Phagocyte Function in Immunologic Diseases
Grant Number:	3R01AR33062-19S1
Awardee:	Julie G. Baskin, Ph.D.

Dr. Baskin took time off from her research career for child-rearing purposes from 1993-present She completed a post-doc and published a manuscript on this work in 1995 and also taught in high school and at the university level during this time.

Dr. Baskin's research will initially focus on the analysis of a series of a-chain receptor chimeras in order to characterize the unique contributions of each a-cytoplasmic domain. Using cells lines (P388D1, RBL and IIA1.6) transfected with wild type and cytoplasmic domain truncation mutants, she will define the impact of the cytoplasmic domain on early signal transduction and gene transcription. This research is proposed for several reasons: (1) it will require that she master techniques of molecular biology to construct the chimeric receptors, (2) it will require that she master transfection and assessment of expression by flow cytometry, (3) it will require that she master techniques related to signal transduction, and (4) it will provide the opportunity to become familiar with gene expression arrays.

The research training environment and the mentoring relationship between the Principal Investigator and the candidate are tightly interwoven and will provide rigorous training in research methods and a strong appreciation for interdisciplinary challenges and opportunities. The accelerating impact of the human genome project has heightened awareness of the convergence and interdependence of clinical and more fundamental scientists, and a basic understanding of pathophysiologic mechanisms and molecular techniques will help inform research initiatives, not only at the bench but also in the clinic. This understanding is also essential for the application of news diagnostic technologies and therapeutic modalities that are now reaching into the effective practice

of medicine.

The interdisciplinary environment fostered by the University-wide Interdisciplinary Arthritis and Musculoskeletal Center positions Dr. Baskin at the intersection between mechanism-based research, its application to clinical medicine, and its impact on disease outcomes. Furthermore, the new opportunities developed within the UAB Arthritis and Musculoskeletal Center, including its Methodology Core and its Biomedical Research Cores, underscore the range of expertise and technologies available to the candidate.

Systemic lupus erythematosus (SLE) is an autoimmune disease characterized by the production of multiple autoantibodies. These autoantibodies, including IgG antibodies specific for nuclear material, form immune complexes with autoantigens. Circulating immune complexes can deposit in tissues, induce inflammation, and cause organ damage, including glomerulonephritis. Mononuclear phagocytes that bear cell surface receptors for the Fc portion of immunoglobulin (FcR) facilitate clearance of these circulating immune complexes and therefore can potentially influence disease susceptibility.

Grant: 5 R01 HL23671-19
Title: Renal Functional Derangements in Hypertension
P.I. Gabriel L. Navar, Ph.D.
Institution: Tulane University School of Medicine
Awardee: Shirley A. Williams-Scott, Ph.D.

Dr. Scott was awarded a minority supplement that is being converted to a reentry supplement to be co-funded by NHLBI and ORWH. She will work with the senior faculty and staff at Tulane University Medical School Physiology Department. The focus of this activity is to define and characterize the mechanisms responsible for the intrarenal hormonal, microcirculatory and transport derangements that occur in ANG II dependent hypertension and to develop an understanding of the experimental methods used to study renal uptake, and augmentation of intrarenal ANG II levels during ANG II induced hypertension. I propose to work with Dr. L. Gabdel Navar for the next four years to develop the skills and knowledge to become an independent investigator in renal physiology with a focus on the hypertensinogenic influence of ANG II. In keeping with the overall objective of the parent grant, the applicant will perform pertinent studies that will define and characterize mechanisms responsible for microvascular and tubular reabsorption derangements that occur in ANG II dependent hypertension. (Year 2.)

Grant: 5 R01 DA13016-01
Title: Impacts of Managed Care on Substance Abuse Services Linkages
P.I.: Joseph P. Morrissey, Ph.D.
Institution: U NC at Chapel Hill
Awardee: Kathleen Thomas, Ph.D.

"Impacts of Managed Care on Substance Abuse Services Linkages," is an interorganizational study that examines the effect of managed care on linkages between outpatient drag abuse treatment programs and both primary care and mental health

services. This 29-month reentry supplement request will provide support for Dr. Kathleen Thomas who has had a break in her career for child rearing responsibilities.

Dr. Thomas will undertake a more in-depth assessment of the costs of interagency linkages than proposed in the original application. She will focus on understanding how service relationships are impacted by the introduction or intensification of managed care payment practices for providers serving persons with dual substance abuse and mental disorders. Her work will investigate how to cost out linkages between treatment units and other mental health/primary care agencies, determine the most cost-effective linkage to meet a specific goal, develop a strategy for measuring the effectiveness of the linkages, and consider ways to extend this system level study to the client level. Dr. Thomas plans to develop a research plan for such a study and submit it as a separate R01. (Year 2.)

SACKLER SCHOLARS NIH U.S.-ISRAEL STUDENT EXCHANGE PROGRAM

In conjunction with the NIH Office of Intramural Research, a Bi-national Student Exchange Program in Women's Health Studies was initiated in FY 2001 with the Sackler Faculty of Medicine, Tel Aviv University (TAU), Tel Aviv, Israel, with preliminary arrangements such as scholar applications, review, and logistics which began in FY 2000.

This program aims to expose excellent M.D.-Ph.D. or Ph.D. Israeli students in the biomedical field to the leading research programs at the NIH. The program encourages those interested in research related to women's health, whether basic, patient-oriented, or population-based. The program should facilitate and enhance biomedical research in Israel, establish scientific collaborations between Israel and the NIH, and train promising students for postdoctoral studies at the NIH. The Sackler Faculty of Medicine represents the largest medical faculty in Israel with two medical schools (an Israeli program and an American-international school), a dental school, a school of health professions, a school of continuing medical education and a graduate school. To attain the best medical and scientific education for better service to the community, the best training opportunities are required and the NIH, as the largest biomedical research institute in the world, offers a unique location for this education. The new program offers an opportunity to present new horizons for research into women's health issues and should provide a pioneering model for other medical faculties and other countries.

A joint TAU-NIH will choose the best students to join the program each year, with a maximum of ten at any given time. These students will have an Israeli advisor and an American advisor. The students perform 10-months/year of research in the Israeli laboratory and up to two months/year in the NIH laboratory, for a total of four-five years of research. Once a year, the American supervisors will visit Israel for a joint scientific meeting of all enrolled in the program. The program will favor excellence, students enrolled in the M.D./Ph.D. program, women and minorities. In FY 2002, 5 students were supported for a summer experience in NIH intramural laboratories.

ORWH/Office of Science Education (OSE) Programs

The partnership between the ORWH and the Office of Science Education (OSE) supports educational programs for pre-college age students and those interested in health with materials and resources that complement those found in schools and communities. These programs are developed with a focus on the important role education plays in providing young people, especially adolescent girls, with the tools necessary to deal successfully with the many risks to health that they will encounter throughout their lives.

ORWH/OSE Speakers Bureau: A program designed to increase national visibility of the NIH through employees who are available to speak at schools and other organizations about NIH research. Speakers are from a variety of occupations including administrators, healthcare workers, librarians, and historians as well as research scientists and clinicians. They address a total of 49 topics, such as osteoporosis, depression, and breast and ovarian cancer, with 340 sub-topics. The speakers are diverse in their fields of expertise and their gender, race, and ethnic background.

Highlights: The program director continued to respond to requests, recruit new volunteers and provide additional resources to the community. During fiscal 2002, 228 requests for speakers were made on the web (an increase over the 122 from the previous year, or 100%). Seventy-six of the 101 speakers who participated during the year received requests. Of the 228 requests received, 106 were accepted with the following audience potential: 2,650-2,867 students and 2,264-2,464 adults. Of the 228 requests, a total of 167 came from local public school systems, private and charter schools as well as local colleges. The public schools made 70% of the requests; the private/charter schools 10% and a surprising 20% from colleges. In addition, organizations in South Dakota, Georgia, New York, Florida, Pennsylvania and Illinois requested assistance for special events.

Speakers: Of the 101 speakers participating in the program during the year, 87 remained active at the end of the year, a 28% increase from the previous year. During this period of time, 14 speakers dropped out and 30 volunteered to participate. Of the 87 active speakers, 15 came from Fort Detrick (NCI & USAMRIID), and 56 from the NIH, representing 17 of the 27 NIH institutes and centers. In March 2002, 27 speakers and volunteers attended a training session for the Speakers Bureau. They heard from an experienced teacher and an experienced speaker, and were given information on the ethics involved in speaking for the NIH and of sponsored travel.

Presentations: Much of the activity of the Speakers Bureau resulted from the program director's continued promotion through presentations at an NIH Committee Management Officers Meeting, the MIST (Minorities in Science and Technology) conference at GWU, the Frederick Research Festival and the NIH Health and Safety Expo and to groups such as the MCPS Student Academy of Science Sponsors and the NIH Fellows Committee.

Women are Scientists Video and Poster Series: Colorful, informative videos and posters for middle-school students that feature women scientists. The series is designed

to stimulate the interest of girls in science at a time when they are making decisions about the course choices that may affect their career options later. In the middle-school years, many girls are discouraged from pursuing advanced levels of study in math and science. This series is intended to make them aware of the many interesting and rewarding careers in the medical sciences and the educational requirements necessary to pursue them.

Highlights: The supply of the first video kit, Women are Surgeons, has been exhausted and back orders are received regularly. Plans to reprint the kit are underway. The second two video kits, Women are Pathologists and Women are Researchers, have also been extremely popular. The total Women are Pathologists kits distributed in FY 2002 were 2,554; the total kits distributed of Women are Researchers was 3,202. The materials were featured in an article that appeared in the electronic bulletin of the Triangle Coalition. The Coalition is a Washington DC-based nonprofit organization comprising more than 100 organizations with representation from business, education, and scientific and engineering societies. The Coalition provides a forum for the three sectors to work together to promote the improvement of science, mathematics, and technology education.

A forth video is under development. The contract was awarded at the end of the fiscal year and three outstanding women scientists have agreed to participate in the project. Dr. Margaret Nosek also agreed to work on the project, providing overview information. She is developing a searchable database for young women with disabilities who are interested in careers in medical research. This database will fit into the new Life Works science career information Web site being developed by the OSE.

Women in Science Poster Series: A series of free posters, with a companion Web site, aimed primarily at middle-school girls. The series emphasizes that science and medical research offers many different career paths, all of which are open to women.

Highlights: Three posters were available in FY 2002. The research areas represented in the three posters--neuroscience, heart disease, and cancer research-- were the same as the research areas covered in an earlier joint ORWH/OSE project, Curriculum Online. This was done based on the theory that linking various projects would enhance each as well as the program as a whole. Distribution of the posters has been accomplished primarily at science teacher conferences that the OSE attends, and by mail through a request form on the Web site. The posters have been especially popular at conferences, where materials that focus on women in science are lacking.

Howard Hughes Medical Institute (HHMI) Summer Program: A program that gives students who successfully completed an HHMI internship the opportunity to return to the NIH for a second summer. Through the program, returning students further develop or complete their research projects, thus gaining a greater understanding of the total research process. Students are able to present their research at a conference, submit an abstract for publication, and/or help other students.

Ten (10) students -- six girls and four boys -- returned to laboratories for a second summer. One student was selected as an Intel Science Talent Search semifinalist and was awarded a $1,000 scholarship and $1,000 for her school. Several of the students are authors on manuscripts that have been or will be submitted for publication.

Undergraduate Scholarship Program for Individuals from Disadvantaged Backgrounds (UGSP) cosponsored with: Office of Loan Repayment (OIR)

The OLRS, OIR is responsible for the development and management of the Undergraduate Scholarship Program for Individuals from Disadvantaged Backgrounds (UGSP). The UGSP provides scholarships to undergraduate students who have been competitively selected from a nation-wide pool of candidates. An average of 15 scholarships are awarded each year. In FY01, the ORWH provided funding for three scholars. The following is a summary report on the ORWH-sponsored scholars.

Ms. Shari Lee, a student at Delaware State University, received a UGSP award to complete her undergraduate studies in Biology. She performed her Summer 2001 research training under the mentorship of Dr. Steven Jacobson, National Institute of Neurological Disorders and Stroke, on the role of human herpes virus in multiple sclerosis, and received an impressive evaluation. She presented a poster titled, "The Association of Human Herpes Virus-6 and Multiple Sclerosis" at the NIH Poster day in August 2001. Based on financial support provided through the ORWH-UGSP partnership, she also presented this poster at the Annual Biomedical Research Conference for Minority Students in Orlando, Florida. Ms. Lee graduated with a 3.87 GPA, and has been accepted to the doctoral program in Pharmacology, University of Pennsylvania. During the Summer 2002, she will be training with Dr. J. Carl Barrett, National Cancer Institute, whose laboratory focuses on cancer biosystems and aging.

Ms. Yvette Green, also a student at Delaware State University, received scholarship support to complete her undergraduate studies in Biology. She performed her Summer 2001 research training under the mentorship of Dr. Orna Cohen-Fix, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), studying yeast genetics, and received an excellent evaluation. She presented a poster Page Two - Dr. Vivian Pinn titled, Mutational Analysis of the Budding Yeast Anaphase Inhibitor, PDS1" at NIH Poster day in August 2001. Based on financial support provided through the ORWH-UGSP partnership, she presented this poster at the Annual Biomedical Research Conference for Minority Students in Orlando, Florida. Ms. Green graduated with a 3.78 GPA, and has been accepted to the doctoral program in Genetics, Rutgers University. During the Summer 2002, she will continue her research training with Dr. Cohen-Fix in NIDDK, studying yeast genetics.

Ms. Sabrina Martyr, a student at the University of the Virgin Islands, received scholarship support to complete her undergraduate studies in Chemistry. She performed her Summer 2001 research under the mentorship of Dr. Sanford Markey, National Institute of Mental Health, studying the use of mass spectrometry, and received an excellent evaluation. She presented a poster titled, "Structural Studies of DNA

Synthesome Proteins Using Mass Spectroscopic Methods" at NIH Poster day in August 2001. Ms. Martyr will graduate with a 3.4 GPA in Chemistry. During the Summer 2002 she will train with Drs. Mark Gladwin and Griffin Rodgers in the Clinical Center and NIDDK. She will continue her research training at NIH for a full year, focusing on sickle cell disease, before pursuing doctoral studies.

The support of these undergraduate students by ORWH has allowed them to focus on their studies and receive excellent research training and skill enhancement activities at the NIH. These students exemplify measurable development in their biomedical research careers, evidenced, in part, through their acceptances to doctoral programs. They were honored and recognized as ORWH-UGSP scholars on June 7, 2002.

Office of Education
Programs for NIH Trainees in FY-2002

The ORWH provides essential support to the Office of Education for the design and implementation of programs that foster the professional development of NIH trainees, in particular the postdoctoral fellows in both clinical and basic research programs across all institutes and centers. During FY 2002, ORWH-supported programs were again implemented to enhance the training experiences of participants in the NIH Postbaccalauteate Intramural Research Training (IRTA) program, as well.

I. PROGRAMS FOR POSTDOCTORAL TRAINEES

Survival Skills Workshops

In 2002, the OE planned and implemented a broad-based educational program designed to provide NIH postdoctoral fellows with the requisite skills necessary to compete for and sustain careers in biomedical research and science-related occupations. Beth Fischer and Michael Zigmond of the consulting firm Assimilating Survival Skills into Scientific Training (ASSIST) conducted the following workshops:

Writing Research Articles-January 14, 2002

This workshop focused on 20 essential steps to publishing a scientific paper. Participants also learned how to prepare effective tables and graphs and examined effective strategies for dealing with common problems such as writer's block. Attendees: 56

Teaching-February 25, 2002

This workshop was targeted to postdoctoral fellows who have an interest in teaching courses at the FAES or at local colleges or universities. It focused on the basics of effective course design such as selecting a textbook, developing a syllabus, and designing examinations. The workshop also included strategies for balancing an individual's teaching and research goals. Attendees: 37

Job-Hunting-March 18, 2002

This workshop covered when and how to seek career opportunities; what employers look for; researching positions; writing effective cover letters, CV's, resumes, statements of interest, and letters of recommendation. Attendees: 93

Negotiating-April 22, 2002

In this workshop, conducted by Laurie Weingart of Carnegie Mellon University, participants learned the skills that are necessary when negotiating a job offer. The fellows were divided into pairs in order to role-play specific situations and were asked to share these experiences. Attendees: 59

Management Skills – May 13, 2002

This workshop focused on learning how to manage a laboratory and to supervise employees and postdoctoral fellows. Attendees: 65

Interviewing-September 30, 2002

This workshop focused on interviewing and covered the following topics: information to find out; who to talk with; questions to expect; how to convince the interviewer that you have the required skills; questions that you should ask; how to deal with inappropriate or illegal questions, and strategies for moving in pairs. Attendees: 59

Science Communication Classes

Writing about Science

This course, taught by Maggie Meitzler, Editor, Journal of the National Cancer Institute,was offered for five weeks in March, June and September. It was offered in the morning and again in the evening. Taught in a workshop format, this course teaches fellows how to write articles suitable for publication in peer-reviewed scientific journals. Participants learned how to write a research paper using their own laboratory data. During the course, they critiqued the work of others and learned about responsible authorship; the process of publication; dealing with editors and reviewers; and other issues related to scientific writing. Attendees: 90

Speaking about Science

This course was offered for four weeks in March, June, and September. The course was offered in the morning and then a second session was offered in the evening. The course provided participants with information on how to become an exemplary speaker, to excel in job interviews, and how to deliver scientific presentations using visual aids, including video feedback. The instructor for this course is Scott Morgan, a professional actor and the director of Premier Public Speaking, Inc. Attendees: 90

Advanced Speaking about Science

This course is designed to assist NIH postdoctoral fellows in building upon the lessons of the introductory course, provide vocal and other technical instruction, discuss new methods of presentation, and offer a forum for in-depth assistance on each class member's needs. The course was offered twice, once in the summer and again in the fall. The instructor was Scott Morgan, a professional actor and the director of Premier Public Speaking, Inc. Attendees: 25

FARE 2003-June 1-30, 2002
Administered by the Fellows Committee, the Fellows Award for Research Excellence (FARE) program is a competition for $1000 travel awards to attend a scientific meeting in the United States. The competition was open to all Postdoctoral Fellows who have been at NIH for less than five years. Last year's competition featured a total of 828 submissions and produced 203 winners. Participants: 828

NIH Postdoctoral Job Fair-October 15, 2002

The NIH Postdoctoral Job Fair featured 31 exhibitors from academe, biotechnology firms, and government. The program was run by the Office of Education with some assistance from the Fellows Committee. Attendees: 400

II. Programs for Postbaccalaureate Trainees

Postbac Poster Day
The third annual Postbaccalaureate Poster Day was held on May 8, 2002. Postbaccalaureate Poster Day 2002 provided an opportunity for 160 postbaccalaureate trainees to share their research with the NIH community. This is double the size of the program in 2001. The participants represented virtually all Institutes and Centers with intramural programs. Participants: 160

Premed Advising Workshop:

On May 30, 2002 a workshop was held featuring premed advisors from Johns Hopkins University and University of Maryland Baltimore County. The purpose of this workshop is to provide information regarding the admissions process to postbaccalaureate trainees interested in applying to medical school and/or MD/Ph.D. programs. Attendees: 100

NIH Academy Curriculum

The NIH Academy, a postbaccalaureate program for recent college graduates with an interest in pursuing careers that address the issue of domestic health disparities, enrolled its third class during the academic year 2002-2003. ORWH support covered honoraria for four speakers who discussed a range of topics including oral presentations, interviewing techniques, public health programs and the IOM report on health care and minorities. Participants: 15 per session