

# MCH EXCHANGE

RESEARCH

## Welcome to the MCH Research Exchange

Welcome to the second volume of the *MCH Research Exchange*, a newsletter of the Maternal and Child Health Bureau (MCHB) Research Program. We are delighted with the enthusiastic response we have received from the previous two issues of the newsletter and hope that you find this issue equally beneficial.

This issue retains many of the features of previous editions, including the director's corner, a description of articles recently published by grantees, and a description of the newly funded grants. We have introduced a guest column in this issue. Dr. Rose Li, health scientist administrator-demographer at the National Institute of Child Health and Human Development (NICHD), will describe the joint NICHD-MCHB workshop on Hispanic maternal and child health (MCH). This issue also presents a summary of an interview with Zolinda Stoneman, Ph.D., Chair of the MCHB Research Grants Review Committee. A description of the latest guidance materials is also included. The revised guidance document contains a description of the comprehensive research agenda for the Maternal and Child Health Bureau.

The development and dissemination of the *MCH Research Exchange* has two broad purposes. The first is to inform the maternal and child health community about the MCHB Research Program—including how priorities are determined, how the grant review process operates, what research has been funded by the program, and what findings have resulted from active and completed research projects. The second purpose is to foster an open dialogue among members of the MCH community.

We hope this issue of the *MCH Research Exchange* fulfills both of these purposes. We encourage your comments about the content of the publication and welcome suggestions about topics of interest for future issues. Comments and suggestions can be forwarded to Michelle Keyes-Welch, at the National Center for Education in Maternal and Child Health, via e-mail at [keyeswem@medlib.georgetown.edu](mailto:keyeswem@medlib.georgetown.edu) or via telephone at (703) 524-7802.

*Michelle Keyes-Welch, M.H.S.A.  
National Center for Education in Maternal and Child Health*

## NEW GUIDANCE MATERIALS AND APPLICATION KIT

New application guidance materials and application kits for the MCHB Research Program are currently available. The MCHB Research Grants Review Committee meets twice each year, in June and in November. Application deadlines are March 1 for the June review and August 1 for the November review. For an application kit, contact the Health Resources and Services Administration (HRSA) Grants Application Center at (888) 300-HRSA. Both the application kit and the guidance materials are available electronically through the MCHB

home page at [www.os.dhhs.gov/hrsa/mchb](http://www.os.dhhs.gov/hrsa/mchb).

The guidance materials contain a description of the Research Program and a comprehensive report of MCHB's research agenda for FY 1997 and beyond. The research agenda is the product of the most recent advisory group, convened June 27–29, 1994, in Columbia, Maryland. It includes a list of research issues or questions identified by the advisory group to be of critical importance for the mission of the Bureau as it enters the year 2000 and beyond, and for the field of — *continued on page 16*

## INSIDE THIS ISSUE

From the Director .....	2
Articles Published by Research Grantees .....	3
Health of African-American Mothers and Children: Studies Funded by MCHB Research Program.....	3
NICHD and MCHB Grantees Meeting on Hispanic Maternal and Child Health .....	8
Interview with Maternal and Child Health Bureau Research Grants Review Committee Chair, Zolinda Stoneman, Ph.D. ....	12

## TEN NEW PROJECTS FUNDED

Ten of the 76 new research applications reviewed by the MCHB Research Grants Review Committee in FY 1996 were recommended for approval and subsequently funded by MCHB. The first-year awards totaled \$1,801,968. Three of the projects focus on the health and development of minority children, and the remaining studies seek to evaluate the efficacy of various treatments and interventions in MCH populations or to follow up cohorts of subjects who had participated in previous MCHB-supported research. The number of randomized clinical trials represented among the new studies (5 of the 10 new projects) continues a long-established trend toward the support of scientifically rigorous studies. All five of the randomized clinical trials are either preventive or curative in intention, use experimental designs with blind measurements, and employ standardized protocols for delivering the services that comprise the interventions. A short description of each project follows. — *continued on page 4*

## AN ANALYSIS OF SELECTED PERFORMANCE INDICATORS FOR THE MATERNAL AND CHILD HEALTH BUREAU RESEARCH PROGRAM: FY 1994-95

Among the many ways that the Maternal and Child Health Bureau meets its national responsibility to promote, safeguard, and improve the health of all mothers and children is through support of an applied research program. This program, officially known as the MCHB Research Program, has been in continuous operation since 1964.

As part of its routine program monitoring and evaluation activities, the MCHB Research Program gathers information on the review process and on the currently active projects portfolio. The program also gathers information on completed research projects through a mandated final report and special follow-up queries; these provide information on the number and types of products generated by these projects, the research findings published, and the number and types of journals that publish the findings. The data gathered by the Research Program provide valuable information on its overall performance.

This article presents and analyzes information on the review process and the research projects active during FY 1994 and FY 1995. A companion article on the number and types of products generated by research projects completed in FY 1994-96 will appear in a future issue of the *Research Exchange*.

### Applications Reviewed and Approved

A total of 183 applications were reviewed by the Research Program during the FY 1994 and FY 1995 review cycles. Forty-five (24.6 percent) of these applications were classified as noncompeting (i.e., continuations), and the remaining 138 (75.4 percent) as competing.

Of the 138 competing applications reviewed in FY 1994 and FY 1995, 126 were new and 12 were competing extensions. The overall category of new applications comprises four subcategories: (1) new applications submitted to the MCHB Research Program for the first time, (2) new applications from the previous cycle, for which the review committee

deferred recommendation for action, (3) revisions of previously disapproved new applications, and (4) revisions of previously approved applications that had remained unfunded because of an insufficient priority score. Competing extension applications are requests to extend, with additional funding, the project period of an ongoing project.

The rate of approval for the first two subcategories of new applications combined was 22.2 percent. In general, the "gross" approval rate of 22.2 percent (the number of new applications recommended for approval by the committee, divided by the total number of new applications reviewed) is relatively low when compared to other federal research programs such as those of the National Institutes of Health (NIH). The "net" approval rate (the number of new applications actually funded divided by the total number of new appli-

cations reviewed) compares quite well with other federal research programs including those of NIH.

The approval rate was lowest (17.4 percent) for applications submitted for the first time and highest (32.5 percent) for revisions of previously disapproved applications. The high approval rate for resubmissions of previously disapproved applications reflects the conscious efforts of the MCHB Research Grants Review Committee to be constructive in their reviews as well as the willingness of disapproved applicants to profit from the reviewers' critiques and suggestions for improvement.

Of all the new applications accepted for review during FY 1994 and FY 1995, 32.7 percent addressed medical concerns; 42.3 percent addressed behavioral health concerns; 13.5 percent addressed the organization, use, and delivery of health — *continued on page 6*

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# MCH RESEARCH EXCHANGE

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## ARTICLES PUBLISHED BY RESEARCH GRANTEES

Since the last issue of the *MCH Research Exchange*, several grantees have published their findings in peer-reviewed journals. Fourteen of the articles have been summarized to provide a sample of the range of MCHB research projects; the remaining articles are listed by reference citation to assist readers in retrieving items of interest.

### **The Characteristics and Needs of Sheltered Homeless and Low-Income Housed Mothers**

Bassuk et al. examine the characteristics of homeless and of low-income housed mothers across economic, psychosocial, and physical health domains using a cross-sectional sample of 220 sheltered homeless mothers and 216 housed mothers receiving welfare. The proportion of homeless mothers with annual incomes of less than \$7,000 was 46 percent, versus 17 percent for housed mothers. Homeless mothers experienced more residential instability and had smaller support networks. More homeless mothers than housed mothers reported being victims of physical and sexual abuse. The research team found no significant differences between the two groups in mental and physical health. However, both groups show higher proportions of major depressive disorders,

posttraumatic stress disorder, and substance abuse compared to the general female population. Also, both groups showed lower levels of physical functioning and a higher prevalence of chronic health conditions compared to the general population. (*JAMA* 276(8):640–646.) MCJ-250809

### **Cognitive and Neurologic Development of the Premature, Small for Gestational Age Infant through Age Six: Comparison by Birthweight and Gestational Age**

McCarton et al. compare the neurologic and cognitive outcomes of premature, small-for-gestational-age (SGA) infants with premature, appropriate-for-gestational-age (AGA) infants through six years of life. The research team found that SGA infants had significantly poorer cognitive scores at each age compared to AGA infants of similar gestational age. Cognitive impairment was closely associated with neurologic abnormality in both SGA and AGA groups. Normal neurologic status was more likely to occur in infants in the AGA group than in SGA infants of comparable gestational age. No differences were found between SGA and AGA children in cognitive and neurologic

outcomes at any age when stratified by birthweight. (*Pediatrics* 98(6):1167–1178.) MCJ-360593

### **Ethnic Disparity in the Performance of Prenatal Nutrition Risk Assessment Among Medicaid-Eligible Women**

Fuentes-Afflick et al. examine the relationship between maternal race and ethnicity and proper nutrition risk assessments by providers of prenatal care. For this study, a sample of 2,939 low-income pregnant women received services under the California Department of Health Services Comprehensive Perinatal Service Program (CPSP). The CPSP regulations specified that these services were to include a complete nutrition assessment. Researchers categorized Latina, white, and African-American women as overweight or underweight based upon their prepregnancy body mass index (BMI). This classification was then compared with the service providers' assessment. The researchers found that obese Latinas were twice as likely as white women to be improperly classified, and that all three ethnic groups were underreported as being underweight. The appropriate classifications of obese — *continued on page 9*

## HEALTH OF AFRICAN-AMERICAN MOTHERS AND CHILDREN: STUDIES FUNDED BY MCHB RESEARCH PROGRAM

In 1990, the Maternal and Child Health Bureau evaluated its minority health research activities. The evaluation included an assessment of the published literature and the activities of other federal agencies, private foundations, and professional associations. Both MCHB and non-MCHB reviews showed a pattern of omission and neglect. Specifically, the reviews showed: (1) the conspicuous absence of investigations on the health, growth, and development of minority mothers and children; (2) an emphasis on outcomes rather than on processes in what little research was being done; (3) a tendency to assess the experience of

minority groups using the white mainstream group as the standard of comparison; (4) a disregard for the diversity inherent in some minority group categories; and (5) a minimization of the effects of such derivatives of the social structure as racism, segregation, prejudice, and discrimination.

The emphasis on comparisons between minorities and the mainstream was judged to be problematic in two ways. First, it was conducive to an interpretation of documented differences as evidence for either the genetic or social inferiority of minority groups. Second, it prevented the acquisition of minority group-specific knowl-

edge crucial to the development of effective and culturally sensitive MCHB programs. Based on these considerations, several initiatives were undertaken. One of the initiatives sought to make research on the health, growth, and development of minority mothers and children a top priority for the Bureau, and, within that priority, to emphasize minority group-specific rather than minority/mainstream comparative studies.

This article describes the group-specific maternal and child health research projects for African-American populations, funded by the Bureau since the new — *continued on page 13*

## TEN NEW PROJECTS FUNDED

### **Infant Environmental Tobacco**

#### **Smoke Exposure: Clinic-Based**

**Maternal Counseling**, a four-year study at the Center for Behavioral Epidemiology at San Diego State University, plans an experimental study to test the effectiveness of maternal counseling provided in a well-baby clinic in reducing environmental tobacco smoke (ETS) among infants. The problem of infant exposure to ETS is a significant one: This exposure may be an etiologic factor in the higher rate of respiratory disease in children who live in households with adults who smoke. An intervention to reduce ETS exposure that can be implemented as part of routine pediatric care may have widespread application and favorable results. FY 1996 award: \$204,485.

**Principal Investigator:** Melbourne F. Hovel, Ph.D., Professor, Center for Behavioral Epidemiology, San Diego State University, 7051 Alvarado Road, Suite B, La Mesa, CA 91941. Phone: (619) 667-4730; fax: (619) 667-0660; e-mail: hovell@mail.sdsu.edu.

### **Early Cortisol Replacement to Prevent Bronchopulmonary Dysplasia: Pilot Study**

a two-year study at Pennsylvania State University, is a randomized clinical trial designed to estimate the benefits and safety of supplementation with physiologic doses of hydrocortisone during the first 12 days of life in order to decrease the incidence of subsequent bronchopulmonary dysplasia (BPD). This pilot study will provide a basis for both multicenter clinical trials of efficacy and further elucidation of the pathophysiology of BPD. A chronic lung disease following neonatal lung injury, bronchopulmonary dysplasia affects a majority of extremely low birthweight babies and is a leading cause of morbidity and mortality in this population. In the neonatal period, the clinical management of BPD accounts for close to \$1 billion dollars in national health care expenditures yearly. Its childhood and adult sequelae manifest as developmental delays and life course deficits in cognitive abilities. FY 1996 award: \$149,130.

### **Principal Investigator:** Kristi L.

Watterberg, M.D., Associate Professor, Milton Hershey Medical Center, Pennsylvania State University, Hershey, PA 17033-0850. Phone: (717) 531-8412; fax: (717) 531-8985; e-mail: klw9@psu.edu.

### **Effect on Breastfeeding of Pacifiers and Bottle Feeding**

a three-year study at the University of Rochester, New York, seeks to evaluate the effects of artificial-nipple exposure in breastfed infants on the incidence of breastfeeding complications and duration of breastfeeding. The study is designed to address one reason for poor continuation of breastfeeding, namely "nipple confusion" brought about by early (in the first few days of life) introduction of pacifiers and/or bottle feedings. The study is a randomized, single-blinded trial with two groups. In group 1, the infants of participating women are randomized to begin pacifier use within two to five days of birth, while those in group begin during the fifth week of life. Within these two groups, infants who require supplemental feedings will be randomly assigned to receive these feedings from a feeding bottle or a cup. Positive findings from this research will likely lead to a change in hospital practice and in how parents are counseled about comforting their infants, and, with these changes, to a possible improvement in the duration of breastfeeding. FY 1996 award: \$185,912.

**Principal Investigator:** Cynthia R. Howard, M.D., Assistant Professor, Rochester General Hospital, Department of Pediatrics, Box 238, 1425 Portland Avenue, Rochester, NY 14621. Phone: (716) 336-3926; fax: (716) 336-3929; e-mail: choward@rghnet.edu.

### **Improving Health/Development of Low-Income Pregnant Women**

a three-year, multicenter, randomized, controlled trial, seeks to assess the impact of a comprehensive prenatal and postpartum program on maternal and infant health outcomes in a low-income population. Women meeting all of the inclusion criteria for the study and consenting to participate will receive either (1) a nurse-man-

aged advocate-volunteer team intervention (intervention group), or (2) the traditional prenatal care delivered by state entitlement maternal and infant support services (control group). FY 1996 award: \$293,310.

**Principal Investigator:** Lee Anne Roman, Ph.D., Co-Director of Prevention Outreach, Butterworth Health System, 100 Michigan, N.E., MC-94, Grand Rapids, MI 49503. Phone: (616) 391-2627; fax: (616) 391-1305; e-mail: lroman@bw.brhn.org.

### **Role of Early Family Supports in Adult Self-Sufficiency**

a four-year study by the University of North Carolina at Chapel Hill, seeks to identify the ecological, personal, and situational factors associated with young adult (age 21) outcomes in subjects who had participated in the Abecedarian Project, a randomized clinical trial of early childhood intervention. The study provides a unique multi-generational perspective on the effects of extensive family support (education, child care, and free pediatric care in the early childhood years) on later life success of low-income African-American children and their parents. To date, significant positive effects of participating in the preschool intervention have been detected consistently for children from 18 months through 15 years, including prevention of mild mental retardation, increases in IQ scores, higher scores on academic achievement tests, lower rates of grade retention, and fewer placements into special education. FY 1996 award: \$180,881.

**Principal Investigator:** Frances A. Campbell, Ph.D., Frank Porter Graham Child Development Center, University of North Carolina at Chapel Hill, 105 Smith Level Road, CB#8180, Chapel Hill, NC 27599-8180. Phone: (919) 966-4529; fax: (919) 966-7532; e-mail: campbell.fpg@mhs.unc.edu.

### **Poverty and the Ecology of African-American Children**

a three-year investigation at The Johns Hopkins University, seeks to understand the ecological, situational, and cultural factors that shape behavior and set African-American children on certain developmental trajectories. The research aims to: (1) examine how differences in the physical and social characteristics of neighborhoods are related to differences in parenting among

African-American parents across the spectrum of socioeconomic status (SES); (2) examine how differences in the physical and social characteristics of neighborhoods directly and indirectly (via effects of parenting) affect the developmental outcomes of African-American children across the spectrum of SES; (3) identify the characteristics of neighborhoods and families that are related to increased resilience of African-American children living in poverty; and (4) explore how the factors of culture, racial identity, and experiences of racial discrimination are associated with parenting and child development outcomes among African Americans across the spectrum of SES. FY 1996 award: \$270,233.

**Principal Investigator:** Patricia J. O'Campo, Ph.D., Associate Professor, Department of Maternal and Child Health, The Johns Hopkins University, School of Hygiene and Public Health, 624 North Broadway Street, Baltimore, MD 21205. Phone: (410) 550-5448; fax: (410) 955-2303; e-mail: pocampo@phnet.sph.jhu.edu.

**Prospective Investigation of Twin Gestation**, a three-year study by the University of Minnesota, addresses the role of diet in explaining the high rates of poor outcomes for twin pregnancies. Of the modifiable factors that potentially influence growth and development in twin fetuses, maternal nutrition is a logical

choice for investigation. The study will focus on answering the following questions: (1) What are the characteristics of diets of women bearing twins? (2) Are caloric balance and/or nutrient density of maternal diets predictive of the birthweight or proportionate growth of twins? (3) Is timing of weight gain or total weight gain in twin gestation related to birthweight, low birthweight, or proportionate growth? (4) Does the gestational age of twins vary by maternal caloric balance or nutrient density of the diet? FY 1996 award: \$199,058.

**Principal Investigator:** Judith E. Brown, Ph.D., Professor, Division of Epidemiology, School of Public Health, University of Minnesota, 1300 South Second Street, Suite 300, Minneapolis, MN 55454-1015. Phone: (612) 626-7934; fax: (612) 624-0315; e-mail: brown\_j@epivax.

**Infant Temperament: Neonatal—Five Years in Rural Appalachia**, is a five-year study that will continue to follow a sample of children and families originally recruited for an MCHB-supported project on poverty-related risks experienced by Appalachian children and families. Two research questions are addressed in this continuation study: (1) What continuity exists between certain temperaments and qualities of the mother-infant relationship identified in infancy and preschool behavior problems and early school adjustment? (2) If these children continue to function

well in the family context, then what is the trajectory leading to a school dropout rate of 50 percent in this population? Results are expected to dispel stereotypes, provide the information needed to better understand both risk and protective factors in this research-neglected cultural group, and suggest types of interventions that might inform the design of culturally relevant intervention programs. FY 1996 award: \$81,158.

**Principal Investigator:** Margaret Fish, Ph.D., Clinical Assistant Professor, Department of Family and Community Health, Marshall University School of Medicine, Huntington, WV 25755. Phone: (314) 935-6632; fax: (314) 935-8511; e-mail: fishm@muvms6.mu.wvnet.edu.

**Choices of Life for Adolescence Success (CLASS)**, a three-year extension of a study originally funded by MCHB, focuses on the important decision of whether or not to continue in high school, from the perspective of a cohort of African-American adolescents. A major aim of the extension is to expand the original follow-up plan of the study through the completion of the senior year of high school. This will permit researchers to capture a key outcome of interest: whether or not students complete high school. The study is based on a known and previously validated theoretical model of rational decision making, Ajzen's Theory of Planned Behavior (TPB). FY 1996 award: \$74,561.

**Principal Investigator:** Larry Early Davis, Ph.D., Associate Professor, School of Social Work, Washington University, One Brookings Drive, St. Louis, MO 63130. Phone: (314) 935-6632; fax: (314) 935-8511; e-mail: larryd@gwb.ssw.wustel.edu.

**San Antonio Triethnic Children's Blood Pressure Study**, a two-year extension of a project previously funded by MCHB at the University of Texas Health Science Center, sought to compare methods for measuring blood pressure (BP) and for developing normative values for BP levels among Mexican-American and non-Hispanic white children. The additional two years' funding extends the study to include African-American

— *continued on page 16*

## RESEARCH ROUNDTABLE SERIES SCHEDULE

Two Research Roundtable presentations will be held in fall 1997. If you are interested in receiving a copy of the brochure describing each roundtable, please contact Michelle Keyes-Welch, National Center for Education in Maternal and Child Health, at (703) 524-7802. All research roundtables are held at the Parklawn building in Rockville, Maryland, and are free and open to everyone.

### Research Roundtable #17                      September 23, 1997 Evaluation of the Guidelines for Maternal Transport

Presenter: Donna Strobino, The Johns Hopkins University  
Reactor: To Be Announced

### Research Roundtable #18                      November 5, 1997 Infant Temperament: Stability and Change in Rural Appalachia

Presenter: Margaret Fish, Marshall University School of Medicine  
Reactor: Keith Crnic, Pennsylvania State University

Continued from page 2

## FROM THE RESEARCH PROGRAM DIRECTOR

services; and 11.5 percent addressed epidemiological issues. This distribution mirrors MCHB's programmatic emphases on prevention, treatment, remediation, program evaluation, and problem definition.

### Characteristics of Active Research Projects

Of the 46 active projects funded in FY 1994 and FY 1995, 27 (58.7 percent) represent new projects in FY 1994 and FY 1995. Nineteen projects (41.3 percent) are continuations of projects active in FY 1992 and FY 1993.

Table 1 describes the active projects according to type of grantee. As expected, the grantees represented are those defined as eligible by the Research Program's authorizing legislation. Recipients of MCHB research grants are predominantly institutions of higher learning (71.7 percent), compared to children's hospitals and other research hospitals (17.4 percent) and state, county, and city health departments (2.2 percent). Within institutions of higher learning, the schools of public health and the schools of medicine received the largest number of grants—23.9 percent and 21.7 percent, respectively. Much needs to be done to increase the level of participation by state, county, and city health departments in the MCHB Research Program.

More women (56.5 percent) than men (43.5 percent) were recipients of MCHB research grants in FY 1994 and FY 1995. A far greater proportion of the male recipients (55 percent) than female recipients (23.1 percent) have an M.D. degree.

if they have stated in their research plan that they seek to elucidate some aspect of the maternal and child health of minorities, using either a within-group or a between-group study design. (Study samples used by projects classified as not having a stated race/ethnicity focus may include more than one racial or ethnic group and may have sufficient numbers in these groups to possibly conduct within-group or between-group analyses.

**Table 2**  
**Racial and Ethnic Group Focus of Active Projects:  
FY 1994 and FY 1995**

Race/Ethnic Focus	Number	Percent
Total—All Projects	21	100
African American Only	9	42.9
African American and Others	4	19.0
Mexican American Only	0	0
Mexican American and Others	3	14.3
Puerto Rican Only	1	4.8
Puerto Rican and Others	2	9.5
Asian American/Pacific Islander Only	0	0
Asian American/Pacific Islander and Others	0	0
Native American Only	0	0
Native American and Others	2	9.5

Nearly 11 percent of the total number of research recipients (5 of the 46) represent African-American, Hispanic, Asian-American, or Native American origins.

Research grants are routinely tracked to determine whether they have a race/ethnicity focus. Projects are classified as such

However, these possibilities may not have been articulated in the research plan.)

Of the 46 active projects in FY 1994 and FY 1995, 21 (45.7 percent) had an articulated race/ethnicity focus. Most of these projects (10 of the 21) addressed a research problem in a single racial or ethnic group category. Nearly one-third of the projects that did not declare a race/ethnicity focus did have sufficient numbers in their samples to conduct minority group-specific or between-group analyses. These possibilities have been communicated to the investigators of these projects, and actions have been taken to help facilitate these analyses. This will help meet current program goals of developing race-, ethnicity-, and social class-specific knowledge bases from which to develop effective and culturally competent intervention programs.

Within the projects having a declared race/ethnicity-focus, African-American populations predominate as study subjects, followed by Mexican-American and

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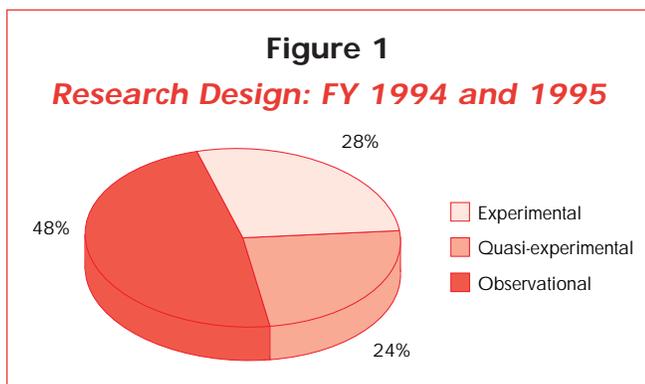
**Table 1**  
**Number and Percent Distribution of Active Projects  
According to Type of Grantee: FY 1994 and FY 1995**

Type of Grantee	Number	Percent
Total—All Types	46	100.0
Research Hospitals	8	17.4
Institutions of Higher Learning	33	71.7
Schools of Medicine	10	21.7
Schools of Public Health	11	23.9
Schools of Nursing	3	6.5
Schools of Social Work	1	2.2
Other Subdivisions	8	17.4
State, County, and City Health Departments	1	2.2
All Other Grantees	4	8.7

Puerto Rican populations. Not a single project in the FY 1995 and FY 1994 active portfolio addressed the maternal and child health problems of Asian-American or Pacific Islander populations—clearly a deficiency in need of correction.

Two characteristics are held to be indicative of the quality of biomedical, behavioral, and health services research: (1) whether the study design employed is experimental/observational, and (2) whether an investigation uses a cross-sectional or a longitudinal design.

Figure 1 presents the 46 active projects according to three study design subcategories: experimental, quasi-experimental, and observational. The experimental subcategory includes randomized clinical control trials; the quasi-experimental subcategory includes case/matched control, case/unmatched control, case/historical control, and interrupted time-series studies; and the observational studies are purely descriptive or correlational.



As seen in figure 1, slightly over half (52 percent) of the 46 active projects employ either an experimental or quasi-experimental study design; the remaining 48 percent are observational. These percentages indicate a high degree of scientific rigor for the research supported by the MCHB Research Program.

A high degree of scientific rigor is also reflected when the time dimension of the study design employed is taken into consideration. As figure 2 indicates, the research projects currently funded by the MCHB Research Program are, overwhelmingly, longitudinal (76 percent). These include short-term as well as long-term longitudinal studies and reflect the nature of the research supported by the program. This research, for the most part,

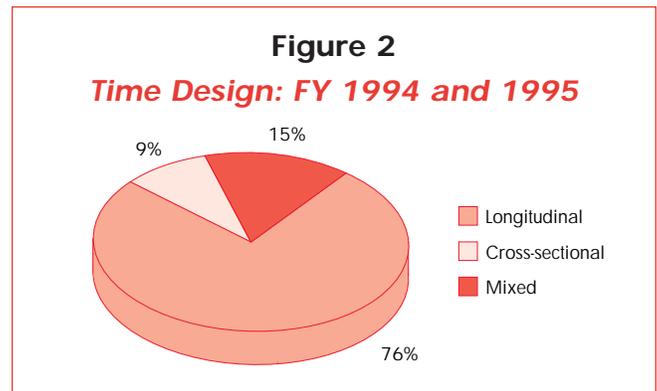
is concerned with characterizing, defining, and measuring risk factors for unwelcome outcomes. This type of research requires that the agent or exposure thought to define risk precede the outcome of concern.

The care emphasis distinguishes projects that are interventional from those that are noninterventional in nature. In medicine and public health, intervention is used for a variety of activities designed to prevent, limit, or improve conditions in order to better the health of individuals and groups. As a group, intervention studies address a variety of maternal and child health problems and represent an inadequately tapped reservoir of tested approaches for solving maternal and child health problems at the state and community levels. Approximately one-third of all active projects in FY 1994 and FY 1995 were interventional in nature. The majority of these studies are preventive rather than remedial or curative in intention, and nearly all of them use experimental designs with blind measurements and employ standardized protocols for delivering and monitoring the delivery of the services comprising the interventions.

ing the delivery of the services comprising the interventions.

### Summary

Data examined for FY 1994 and FY 1995 show that the approval rate of 22.2 percent (for the first two subcategories of new applications) is relatively low, but higher than in FY 1992 and FY 1993. Differentials in approval rates are evident in the type of research, and favor applications focusing on medical and behavioral concerns. It has been conjectured that these differences reflect corresponding differences in research experience and capability among those who apply. The distribution of the active projects by type of grantee suggests that an initiative is needed to generate approvable applications



from certain regions and from state, county, and city health departments.

Information on study design indicates a high degree of scientific rigor for the research supported by the MCHB Research Program. This is corroborated by the high rate of publications per project and the quality of the peer-reviewed journals in which findings are published (see the companion publication on completed projects). The relatively high proportion of intervention research (one out of three projects) represented in the active projects portfolio suggests that the MCHB Research Program is fulfilling extremely well its responsibility to develop new program components for the Bureau. Activities to foster the adoption of these research-tested interventions need to be expanded at the state, county, and city levels.

Data on the race/ethnicity focus of the active projects support the conclusion that the MCHB Research Program has made great strides in addressing the health of minority mothers and children, particularly in African-American populations. More research needs to be conducted in populations of Asian Americans, Pacific Islanders, Native Americans, Puerto Ricans, and Mexican Americans. These needs should not obscure the fact that, based on the percentage of all projects funded, the program is a leader in supporting minority health research.

*Gontran Lamberty, Dr.P.H.  
Director  
Maternal and Child Health Bureau  
Research Program*

# NICHD AND MCHB GRANTEES MEETING ON HISPANIC MATERNAL AND CHILD HEALTH

Data and research that improve our understanding of maternal and child health conditions and their determinants in Hispanic populations are particularly important in the current climate of welfare and immigration reform. The National Institute of Child Health and Human Development, National Institutes of Health, draws on a sustained history of supporting research on Hispanic populations, evidenced by the 1993 Request for Applications (RFA) entitled *Hispanic Child Health: Social, Behavioral, and Cultural Factors*. At the same time, the Health Resources and Services Administration (HRSA) and MCHB have served as focal points for work with underserved, minority populations.

To foster the sharing of information, data, and experiences, a grantee meeting on Hispanic Maternal and Child Health involving projects supported by NICHD and MCHB was held at the Natcher Building at NIH on August 1–2, 1996. The meeting was organized by Rose Maria Li, NICHD, and Gontran Lamberty, MCHB. The research projects presented at this two-day meeting addressed issues such as trends in mortality and fertility, infant mortality and low birthweight, adolescent pregnancy, and the impact of migration on health, with a primary focus on Mexican and Puerto Rican populations. Reflecting a range of methodological approaches and data sources, the presentations were organized around three general topics:

## I. Pregnancy Outcomes

### Topics and Speakers:

The Enigma of Mexican-Origin Pregnancy Outcomes  
Parker Frisbie, University of Texas-Austin

Pregnancy Outcomes in Mexican and U.S.-Born Hispanics  
Martin Kharrazi, California Department of Health Services

Racial/Ethnic Differences in Adverse Pregnancy Outcomes  
Rochelle Shain, University of Texas-San Antonio

Sociocultural Context of Hispanic Adolescent Pregnancy

Pamela Erickson, University of Connecticut

**Discussant:** Isaac Eberstein, University of Florida

## II. Infant and Child Health

### Topics and Speakers:

Intra-Ethnic Differences in Hispanic Child Mortality

Myron Gutmann, University of Texas-Austin

Mexican-Origin Children's Health in a Cultural Context

Lauren Clark, University of Colorado

Use of Child Health Services by Mexican American and Puerto Rican Families

Sharon Telleen, University of Illinois at Chicago

**Discussants:** Cynthia Garcia Coll, Harvard University, and Gabriel Escobar, Kaiser Permanente of California

## III. Puerto Rican Maternal and Child Health

### Topics and Speakers:

Social Context of Puerto Rican Child Health and Growth

Odette Alarcon, Wellesley College

Puerto Rican Maternal and Infant Health Project

Nancy Landale and Sal Oropesa, Pennsylvania State University

Homeless Mothers and Children: A Longitudinal Study

Linda Weinreb, University of Massachusetts, and John Buckner, The Better Homes Fund

**Discussant:** Gontran Lamberty, MCHB

The meeting highlighted a number of areas deserving of more research emphasis. Participants identified the need for increased collaboration between disciplines, particularly between social scientists and clinicians. Hierarchical models that employ multilevel data are needed, and more emphasis should be placed on improving access to databases in managed care organizations, since most surveillance data needed by the public sector increasingly are located within those databases. Inclusion of Native American and Asian-American comparison groups was also seen as a promising way to improve understanding of differential birth outcomes. Better measures of culture, acculturation, human capital, social class, and racism are needed to assess their effects on low birthweight, prematurity, and morbidity. Focusing greater attention on morbidity rather than mortality is increasingly appropriate. Participants expressed the hope that research in these areas ultimately will lead to culturally sensitive approaches to health care delivery for Hispanic children.

*Rose Maria Li, M.B.A., Ph.D.  
National Institute of Child Health and Human Development, NIH*

## DEVELOPMENTAL COMPETENCIES IN MINORITY CHILDREN

More than 75 scholars and researchers contributed ideas culminating in the development of a theoretical paper, *An Integrative Model for the Study of Developmental Competencies in Minority Children*, published in *Child Development* (1996). The article, authored by Cynthia Garcia Coll, Gontran Lamberty, Renee Jenkins, Harriet Pipes McAdoo, Keith Crnic, Barbara Hanna Wasik, and Heidie Vázquez García, presented a conceptual model for the study of child development in U.S. minority populations. The framework incorporated both social position and social stratification constructs to formulate its developmental model. Portions of the paper were presented at the Second National Head Start Research Conference in 1993. (For more information, see *Child Development* 67: 1891–1914.)

## ARTICLES PUBLISHED BY GRANTEES

and underweight did not vary significantly by provider practice setting or provider credentials. (*Public Health Reports* 110:764–773.) MCJ-060620

### Grandmother Co-Residence, Parenting, and Child Development among Low-Income, Urban Teen Mothers

Black et al. report on the relationships between parenting, early child development, and grandmother co-residence among low-income, primarily African-American urban families with adolescent mothers. Children's growth varied between adequate and failure to thrive (FTT). In total, 79 mothers, 42 adequately growing toddlers, and 37 toddlers with FTT comprised the sample for the study. Each mother and child was videotaped during a feeding session, and the Bayley Scales of Infant Development were administered to the children. All mothers completed a questionnaire on family support, perceived parenting stress, and maternal perceptions of their child's temperament. Overall, the research team found that mothers displayed more warmth toward their offspring when the grandmother was not in residence. Among adequately growing children, grandmother co-residence was associated with better motor skills. However, among children with FTT, grandmother co-residence was associated with lower motor skills. (*Journal of Adolescent Health* 18(3):218–226.) MCJ-240568

### Injury Prevention Counseling in an Urban Pediatric Clinic

Gielen et al. discuss their research on injury prevention counseling in an urban pediatric clinic. The purpose of the research was to determine the content of injury prevention counseling and the communication methods used to deliver the information. Audiotapes of 178 pediatric resident/patient encounters were coded to analyze injury topics, prevention strategies, and communication methods. Less than one-half of the visits included injury prevention counseling. During the 83 visits that included counseling, 1.96

injury topics, on average, were discussed, and the average time spent on injury topics was 1.08 minutes. The research team concluded that pediatric residents observed in this study spent little time discussing injury prevention, and problems of importance to this population—such as house fires and firearms—were never mentioned. Communication methods other than eliciting and giving information were rarely used. (*Archives of Pediatrics and Adolescent Medicine* 151(2):146–151.) MCJ-240638

### Parents and Procedures: A Randomized Controlled Trial

Bauchner et al. discuss the effects of a parent-focused educational intervention on the pain levels of children undergoing procedures, clinician performance of the procedure, anxiety of the parents and clinicians, and parental satisfaction. This randomized, controlled trial had three groups: (1) parents present for the procedure and given instruction on how to help their children, (2) parents present but not given instruction, and (3) parents not present. The research team found no significant differences between the groups with respect to pain, the performance of the procedure, clinician anxiety, or parent satisfaction with care. Parents who were present were significantly less anxious than parents who were not present for the procedure, but reported the pain of the children as extreme or severe in comparison to clinician assessments. (*Pediatrics* 98(5):861–867.) MCJ-250602

### Prepregnant Weight in Relation to Risk of Neural Tube Defects

Werler et al. discuss the relationship between prepregnant weight and the risk of neural tube defects (NTDs). Obese women are known to be at increased risk for reproductive complications, including those during labor and delivery. Data were obtained from 604 fetuses or infants with NTDs. The controls were 1,658 fetuses or infants with other major malformations and 93 infants without major malformations. A positive association was

observed between increasing prepregnant weight and NTD risk. The risk of NTDs increased from 1.9 for women weighing 80 to 89 kg to 4.0 for women weighing 110 kg or more. In addition, the research team found that the increased incidence of NTDs was not mediated by folate intake because of a threefold increase in risk estimated for the heaviest women. Intakes of adequate folate reduced the risk of NTDs by 40 percent among women weighing less than 70 kg. Therefore, the research seems to indicate that adequate folate consumption fails to confer protection from NTDs in fetuses of obese women. (*JAMA* 275(14):1089–1092.) MCJ-250567

### A Prospective Randomized Trial Comparing Continuous Versus Intermittent Feeding Methods in Very Low Birthweight Neonates

Asuncion et al. compare the effects of continuous versus intermittent feedings on physical growth, gastrointestinal tolerance, and macronutrient retention in very low birthweight (VLBW) infants (weighing less than 1,500 grams). Eighty-two neonates stratified by birthweight and matched for gestational age, sex, race, and degree of respiratory distress were randomly assigned to either continuous (24-hour) or intermittent (every 3 hours) nasogastric feedings. The researchers demonstrated that VLBW infants in stable condition achieve similar growth and macronutrient retention rates and have comparable lengths of hospital stay whether they are provided with continuous or intermittent feedings. (*The Journal of Pediatrics* 128(6):748–752.) MCJ-260596

### Prospective Surveillance for Otitis Media with Effusion Among Black Infants in Group Child Care

Zeisel et al. prospectively examine the prevalence of otitis media with effusion (OME) among black infants. The study population included 102 children between the ages of 6 and 24 months who were enrolled in center-based child care facilities. All children but one had OME, and the mean incidence of OME was 2.13 episodes per child per year. The research team found

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## Articles Published by Grantees

that persistent bilateral OME occurs quite commonly between 6 and 18 months of age in infants who enter group child care during the first year of life. However, spontaneous resolution of effusion was typical by age two. (*The Journal of Pediatrics* 127(6):875–880.) MCJ-370599

### Psychological Response to HIV Positivity in Hemophilia

Drotar et al. report on the psychological and family adaptation of HIV-positive children and adolescents with hemophilia compared with their seronegative counterparts. The researchers recruited 91 study subjects and 92 controls matched for age, demographic characteristics, and disease severity for this 33-site cross-sectional study. The researchers found that with the exception of a decreased sense of well-being, the psychological and social adaptation of HIV-positive children and adolescents was comparable to that of their seronegative peers. However, mothers of HIV-positive children and adolescents reported significantly higher levels of generalized emotional distress as well as greater distress related to their children's hemophilia than did mothers of HIV-negative children and adolescents. (*Pediatrics* 96(6):1062–1069.) MCJ-390625

### Psychosocial Factors in Maternal Phenylketonuria: Women's Adherence to Medical Recommendations

Waisbren et al. report on the factors that predict adherence to medical recommendations in maternal phenylketonuria, which can result in severe fetal damage. In total, 69 women with phenylketonuria, 68 of their acquaintances, and 69 women with diabetes mellitus were interviewed annually for five years. Unplanned pregnancies, avoidance of birth control, failure to begin a treatment regimen prior to conception, and inadequate metabolic control during pregnancy were alarmingly frequent among women with phenylketonuria. The factors most consistently associated with adherence to medical treatment were social support and attitudes. Women with phenylketonuria differed from their acquaintances and diabetic women in many respects, suggesting

that there is a need for specific intervention programs that focus on improving social support networks and attitudes about treatment. (*American Journal of Public Health* 85(12):1636–1641.) MCJ-250529

### Quality of Center Child Care and Infant Cognitive and Language Development

Burchinal et al. examine the relationship between quality of center-based child care and infant cognitive and language development among 79 African-American 12-month-old infants from low-income and middle-income families. Both structural and process measures of quality of child care were collected through interviews with the center directors and through observations in the infant classrooms. The research team found that quality of infant care positively correlated with scores on standardized assessments of cognitive development, language development, and communication skills. Also, quality of care in the child care centers positively correlated with the quality of care received at home. After the research team adjusted for this association, the quality of child care independently related to the infant's cognitive development, and the infant-adult ratio independently related to the infant's overall communication skills. Neither child nor family factors were found to moderate the association between child care quality and infant development. These findings highlight the importance of high-quality child care and its impact on infant development. (*Child Development* 67(2):606–620.) MCJ-370599

### Utility of a Risk Assessment Questionnaire in Identifying Children with Lead Exposure

Dalton et al. examine the effectiveness of the Centers for Disease Control and Prevention (CDC) Risk Questionnaire in identifying children at high risk for elevated blood lead concentrations. This cross-sectional study was conducted in an urban Massachusetts city known for its high risk of lead exposure. Venous blood samples were taken from 463 children ages 6–72 months. The CDC Risk Questionnaire and a behavioral risk factor questionnaire developed by the researchers were administered to parents. The researchers con-

cluded that the CDC questionnaire was ineffective in identifying children at high risk for lead poisoning in this population, as risk factors may differ by community. It is unlikely that any screening instrument developed at a national level would be effective at the local level in targeting children who should be screened. The researchers recommend the universal screening of children in high-risk areas. (*Archives of Pediatric and Adolescent Medicine* 150(2):197–202.) MCJ-330619

### Variability in Duration of Stay in Pediatric Intensive Care Units: A Multi-Institutional Study

Ruttimann et al. develop a statistical model to predict length of stay (LOS) in pediatric intensive care units (PICUs) that adjusts for patient-related risk factors at admission. Using cluster sampling, the researchers stratified institutional sites using four quality-of-care factors (size, presence of an intensivist, medical school affiliation, and coordination of care) into the 16 combinations. The researchers analyzed 5,415 consecutive medical, surgical, or emergency admissions from the 16 PICUs. The research team found that the Pediatric Risk of Mortality (PRISM) measurement, three admission factors (operative status, inpatient versus outpatient status, and previous PICU admission), and first-day use of mechanical ventilation were among the list of patient-related predictors of LOS. The PICU factors associated with a shorter length of stay include: presence of an intensivist, presence of residents, and coordination of care. Medical school affiliation, admission volume, number of pediatric hospital beds, and PICU mortality rates did not have significant effects on LOS after adjusting for patient conditions. (*The Journal of Pediatrics* 128(1):35–44.) MCJ-110584

Other articles published by research grantees include the following:

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- Wilkins-Haug L, Horton JA, Cruess DF, Frigoletto FD. 1996. Antepartum screening in the office-based practice: Findings from the collaborative ambulatory research network. *Obstetrics and Gynecology* 88(4, Part 1):483-489. (MCJ-117016)

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National Center for Education in Maternal and Child Health

#### RESEARCH PRIORITIES PROCEEDINGS AVAILABLE

*Proceedings of the Fourth National Title V Maternal and Child Health Research Priorities Conference* is available from the National Maternal and Child Health Clearinghouse. The publication includes a summary of the conference proceedings, workshop-specific research priorities, and working papers from constituency groups. To order this publication, which is available free of charge, contact the National Maternal and Child Health Clearinghouse, 2070 Chain Bridge Road, Suite 450, Vienna, VA 22182. Phone: (703) 356-1964; fax: (703) 821-2098.

#### ACTIVE RESEARCH PUBLICATION AVAILABLE

*Maternal and Child Health Research Program: Active Projects FY 1994 and FY 1995*, a publication describing MCHB-funded research projects, will soon be available from the National Maternal and Child Health Clearinghouse. This book contains summaries of research projects funded in FY 1994 and FY 1995 as well as a preaward evaluation synopsis of each project newly approved during those years. To order this publication, which is available free of charge, contact Michelle Keyes-Welch, National Center for Education in Maternal and Child Health, 2000 15th Street, North, Suite 701, Arlington, VA 22201-2617. Phone: (703) 524-7802; fax: (703) 524-9335; e-mail: keyeswem@medlib.georgetown.edu.

## INTERVIEW WITH MATERNAL AND CHILD HEALTH BUREAU RESEARCH GRANTS REVIEW COMMITTEE CHAIR, ZOLINDA STONEMAN, PH.D.

*On March 14, 1997, Michelle Keyes-Welch of the National Center for Education in Maternal and Child Health interviewed Zolinda Stoneman, Ph.D., Chair of the MCHB Research Grants Review Committee. The article below is a synopsis of the questions and responses exchanged during the interview.*

### **Please describe your background and training for Research Exchange readers.**

I received my doctorate in psychology from George Peabody College in Nashville. The program's chief purpose was to train students to enter the workforce in positions focusing on psychology, early intervention, and child mental retardation. The research conducted within the program also focused on these areas. I began my psychology career with an interest in infants and preschool children with mental retardation, but expanded my interests to include family and sibling support issues as well as adults with mental retardation.

### **How long have you been a member of the MCHB Research Grants Review Committee? How has your work on the committee evolved over time?**

I have been a member of the committee since 1992; prior to that I served as an ad hoc reviewer. Being on the committee has been a tremendous learning experience for me. The breadth of research within maternal and child health is astounding. The longer I serve on the committee, the more appreciation I have for the contributions of all committee members, who represent diverse fields and training backgrounds. Getting a group of reviewers that will represent the breadth of the field of maternal and child health is a daunting task, and Dr. Lamberty and MCHB

have done a good job of bringing together a group of reviewers with expertise in a variety of areas.

### **What have you enjoyed most about being a member of the committee?**

Reviewing a well-written and strong grant proposal is the most enjoyable part of being on the committee. Arguing the merits of these proposals during the grant review process is also enjoyable. It is really thrilling to see strong grants being funded and to watch them being implemented. Seeing journal articles describing the results of a grant approved by the committee is very rewarding.

### **What has been the greatest challenge to you as a committee member?**

The tremendous diversity of the proposals and all of the different methodologies being proposed can be difficult to understand at times. It is nice to see the increase in the number of researchers submitting applications, but of course that means an increased workload for an already busy Research Grants Review Committee.

### **What advice would you give to researchers submitting applications for the MCHB Research Program?**

Applicants should recognize that reviewers want to see strong, well-written grants being approved; the review committee is not in place to shoot things down. Our role is to enhance MCH research and offer support to applicants. For those proposals that do not get funded, I hope the applicants review the comments and advice given on the "pink sheets." Applicants need to read and understand the comments and criticisms concerning the application and to make revisions in order to

ensure a strong proposal. It is very rewarding to see a previously rejected application being revised and resubmitted.

Having a strong research team, not just a single researcher, can often be important. Bringing together representatives from the academic community, research, and the field will provide a multitude of perspectives. I think that this type of collaboration will go a long way toward advancing the field of maternal and child health research.

### **Are there any topical areas or subjects for which you would like to see more applications?**

I would like to see applications that show a better understanding of how people can adopt healthy behaviors. We know a great deal about health risks but not as much about promoting healthy behaviors. Understanding how to help children make healthy decisions and understanding how they learn healthy behaviors is of interest. Understanding how health behaviors and effective intervention strategies differ among genders, ethnicities, and cultures is also of interest.

Continued from page 3

## HEALTH OF AFRICAN-AMERICAN MOTHERS AND CHILDREN

minority health initiatives were announced in 1991.

### 1. The San Antonio Children's Blood Pressure Study (African American Component)

**Shirley Menard, R.N., Ph.D., Principal Investigator**

**University of Texas Health Science Center at San Antonio**

The study is an expansion of a previously funded MCHB Research Program project assessing blood pressure measurements in children. The previous project consisted of two independent within-group studies of Mexican-American and non-Hispanic white children. This study will add a third component that evaluates blood pressure in African-American children in San Antonio using auscultatory and oscillometric methods. Results will be analyzed independently and published as a monograph on the normative levels of blood pressure for three ethnic/racial groups. Overall, the three independent studies aim to: (1) develop normative blood pressure standards independently for three ethnic groups using both auscultatory and oscillometric methods; (2) produce conversion factors between blood pressure levels obtained by the two methods; and (3) help determine relationships between blood pressure levels and other variables (i.e., age, gender, weight, height, arm measurement, skinfold thickness, nutrition, and activity).

### 2. Choices of Life for Adolescence Success (CLASS)

**Larry Davis, Ph.D., Principal Investigator**

**Washington University School of Social Work**

This study seeks to investigate how African-American adolescents make the decision to stay in school. This investigation uses the Theory of Planned Behavior (TPB) as the conceptual model in a longitudinal study of 232 African-American high school students. The TPB assesses an individual's intention to engage in a given

behavior by examining the attitudes and beliefs that lead to that behavior, the normative influences of others, and the presence of perceived barriers to engaging in the behavior. The specific aims of the project are to (1) follow up the study sample through completion of the senior year, (2) examine the long-term stability of TPB components, and (3) establish more clearly the role of social norms and racial self-esteem in the decision process.

### 3. Poverty and the Ecology of African American Children

**Patricia O'Campo, M.D., Principal Investigator**

**The Johns Hopkins University School of Hygiene and Public Health**

This investigation seeks to understand the ecological, situational, and cultural factors that shape behavior and set African-American children on certain developmental trajectories. The research aims to: (1) examine how differences in the physical and social characteristics of neighborhoods are related to differences in parenting among African-American parents across the spectrum of socioeconomic status (SES); (2) examine how differences in the physical and social characteristics of neighborhoods directly and indirectly (via the effects of parenting) affect developmental outcomes of African-American children across the spectrum of SES; (3) identify the characteristics of neighborhoods and families that are related to increased resilience of African-American children living in poverty; and (4) explore how the factors of culture, racial identity, and experiences of racial discrimination are associated with parenting and child-development outcomes among African Americans across the spectrum of SES.

### 4. Otitis Media in Children and Later Language and Learning

**Joanne Roberts, Ph.D., Principal Investigator**

**University of North Carolina at Chapel Hill**

This study seeks to determine whether otitis media in young children affects their later language and learning, and examines how other factors, such as the quality of the home and child care environments, might interact with otitis media with effusion (OME) to affect language and learning. A total of 88 African-American children attending community child care programs in two cities in North Carolina participated in the study. Children entered the study at a mean age of eight months and were followed through age four. Further follow-up of these children beyond age four is expected.

### 5. African American Children's Transition to School

**Joanne Roberts, Ph.D., Principal Investigator**

**University of North Carolina at Chapel Hill**

This five-year study seeks to determine why African-American children of low-income status are at greater risk for cognitive failure upon entry into primary school. The study focuses on the social, psychological, and biomedical liabilities of the children to be studied. The study also looks at the issue of individual variability in outcomes, observing that many children from disadvantaged backgrounds do remarkably well. The study also addresses an increasingly important environmental influence on cognitive development—the quality of child care.

### 6. Role of Early Family Supports in Adult Self-Sufficiency

**Frances Campbell, Ph.D., Principal Investigator**

**University of North Carolina at Chapel Hill**

This four-year study aims to identify the ecological, personal, and situational factors associated with young adult (age 21) outcomes in a group of African-American children who participated in the Abecedarian Project, a randomized clinical trial of early childhood educational intervention. The study provides a unique multigenerational perspective on the effects of extensive family support (education, child care, and free pediatric care in the early childhood years) on the later life success of low-income African-American

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Health

children and their parents. To date, the study has consistently detected significant positive effects of participating in the preschool intervention for children from 18 months through 15 years, including prevention of mild mental retardation, increases in IQ scores, higher scores on academic achievement tests, lower rates of grade retention, and fewer placements into special education.

### **7. Three-Generation Intervention Among Adolescent Mothers**

**Maureen Black, Ph.D., Principal Investigator**  
**University of Maryland School of Medicine**

This study is a randomized trial of an intervention aimed at adolescent mothers rearing their infants in family contexts where grandmothers are present. Most interventions studying adolescent parents have focused on the adolescent mother, ignoring the relationship between the adolescent and her own mother. Yet, grandparents are often central figures in organizing the family, supporting the adolescent, and sometimes assuming the role of primary caregiver for the infant. All adolescent mothers participating in the study are African American.

### **8. Clinician Help for Mothers of Infants with Lung Disease**

**Karen Pridham, Ph.D., Principal Investigator**  
**University of Wisconsin at Madison School of Nursing**

This randomized clinical trial will evaluate an intervention to help mothers of extremely low birthweight infants with chronic lung disease use clinician resources in an appropriate, effective, and timely way. The study subjects will be inner-city African-American mothers who are at least 16 years of age and who have infants weighing less than 1,000 grams at birth. Extremely low birthweight infants with chronic lung disease are at high risk for deficient dietary intake and failure to grow. Infants with poor growth are at high risk for acute illnesses, most common respiratory and gastrointestinal illnesses, and developmental problems.

### **9. Crossing Cultural Barriers: An Ethnographic Study**

**Cheryl Mattingly, Ph.D., Principal Investigator**  
**University of Southern California**

This ethnographic study aims to examine how the problems of African-American children with special health needs are variously understood or framed by family members and health care practitioners, what influence these different frames or misunderstandings about the intervention process have, what processes family members and practitioners undertake to negotiate or impose alternative views, and what impact these multiple perspectives have on the effectiveness of interventions. In essence, the research involves investigating the cross-cultural boundaries created by the multiple worlds that intersect in clinical interactions. Both family members and practitioners live and operate in a multiplicity of cultural domains shaped by their profession, economic class, ethnicity, race, and community affiliation. When practitioners and family members interact, their values, assumptions, and perceptions about the interaction are shaped by their membership in these cultures. Thirty African-American children with special health needs and their families, along with the health care providers that serve them, will be followed for approximately three years.

### **10. Injury Prevention in an Urban Pediatric Clinic**

**Andrea Gielen, Sc.D., Principal Investigator**  
**The Johns Hopkins University**

This study will evaluate the extent to which clinic-based interventions of varying levels of resource intensity improve parents' injury prevention practices among a sample of economically disadvantaged, primarily African-American families living in an urban area. The study design is a randomized controlled trial involving two cohorts of parents who will be enrolled at a well-child visit when their infants are between two weeks and six months of age. They will be followed until their children are between 15 and 18 months old. Cohort 1 will be randomized to receive standard care or enhanced anticipatory guidance. When follow-up is completed for cohort 1, an on-site resource center will be opened, and cohort

2 will be recruited. All parents in the second cohort will receive enhanced anticipatory guidance and access to the resource center, while one-half of cohort 2 will be randomly assigned to receive a home visit intervention as well. All parents will be interviewed at enrollment and when their child is 15–18 months old. In-home observations will be used to confirm self-reported injury prevention practices.

### **11. Pediatric Health Supervision to Promote Literacy**

**Robert Needlman, M.D., Principal Investigator**  
**Case Western Reserve University School of Medicine**

This study aims to evaluate the efficacy of a pediatric health supervision intervention designed to promote literacy in children. The investigation will use a prospective, randomized, clinical, controlled trial design with three years of follow-up. The population to be studied consists of African-American children receiving primary care at the Pediatric Primary Care Center of Rainbow Babies and Children's Hospital in Cleveland, Ohio. Infants will be randomly assigned to receive either books and guidance at every visit beginning at six months, or a placebo intervention consisting of toys. Principal outcome measures will include measures of home book use, book reading interactions, and receptive language at 25 months; measures of receptive and expressive language and emergent literacy skills at 43 months; and measures of compliance with health supervision.

### **12. Growth and Development: Longitudinal Followup**

**Maureen Black, Ph.D., Principal Investigator**  
**University of Maryland School of Medicine**

This five-year study seeks to evaluate the cognitive, sociocultural, emotional, and academic development of two cohorts of African-American children at four and six years of age, using a longitudinal design. The children come from studies previously funded by MCHB and the National Center for Child Abuse and Neglect (NCCAN). The MCHB study consisted of a randomized trial of a home intervention targeting non-organic-fail-

## MATERNAL AND CHILD HEALTH JOURNAL

A new quarterly publication entitled *Maternal and Child Health Journal* will be available beginning in 1997. This peer-reviewed publication aims to provide a forum to advance the scientific and professional knowledge base of the MCH field. The following areas of MCH practice, policy, and research will be featured in upcoming issues:

- MCH Epidemiology, Demography, and Health Status Assessment
- Innovative MCH Service Initiatives
- Implementation of MCH Programs
- MCH Policy Analysis and Advocacy
- MCH Professional Development

For submission information, contact Milton Kotelchuck, Ph.D., Editor, *Maternal and Child Health Journal*, University of North Carolina, School of Public Health, Chapel Hill, NC 27599-7400. Phone: (919) 966-5981; fax: (919) 966-0458; e-mail: mkotelchuck@sophia.unc.edu

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ure-to-thrive (NOFTT) infants. The NOFTT infants were the matched control group for the MCHB intervention study, which had tested several developmental outcomes. The follow-up study will collect and provide longitudinal data on over 200 African-American children between the ages of eight months and six years who come from a low-income, inner-city population.

### 13. Lactose Tolerance in Black Pregnant Women

**David Paige, M.D., Principal Investigator**

**The Johns Hopkins University**

This project seeks to investigate lactose status—their digestion of lactose, tolerance of a glass of milk, and change in lactose status as pregnancy progresses—among a group of African-American pregnant women. The nature of the study was influenced by the 1990 Institute of Medicine (IOM) report *Nutrition During Pregnancy*, which underscored that only a few studies had been conducted on lactose tolerance among African-American pregnant women. The IOM review suggested that the decreased consumption of dairy products evident in African-American women may result from their

higher prevalence of lactose intolerance and may explain the avoidance of milk and dairy products reported by published studies. The IOM report called for special attention to lactose intolerance and the consumption of relatively low amounts of milk, and noted the absence of previous data on which to base nutritional recommendations for African-American women.

### 14. Impact of Maternal Lead Stores on Fetal Lead Exposure

**Morri Markowitz, M.D., Principal Investigator**

**Montefiore Medical Center, Bronx, New York**

In the human life cycle, the most susceptible stage for adverse effects of lead at the lowest amount is during fetal development. Toxicity is dose-dependent: high-level exposure to lead in pregnancy results in abortions and stillbirths; at lower levels of exposure, diminished cognitive skills, preterm deliveries, and miscarriages occur. This project aims to conduct a matched case-controlled study to investigate the impact of maternal lead stores on fetal lead exposure in a cohort of African-American pregnant women. The principal investigator will use a new technique for

measuring lead in bone, L-line x-ray fluorescence (LXRF), to identify pregnant women at risk for causing fetal lead poisoning due to the release of lead from skeletal stores. Once such a population is identified, further studies would direct efforts at developing strategies to prevent the release of stored skeletal lead during pregnancy.

### 15. Maternal Psychosocial Factors and Use of Well-Child Care

**Suzanne Orr, Ph.D., Principal Investigator**

**The Johns Hopkins University**

This investigation will assess the relationship between mothers' exposure to stressors over the past 12 months, depressive symptoms as measured by the Center for Epidemiological Studies Depression Scale (CES-D), maternal use of prenatal care, and mothers' use of well-child care for their two-year-old children. The study assumes that enduring and chronic stressors often associated with the lives of women of low-income status precede depressive symptoms and that these stressors and symptoms are likely to hinder the use of prenatal care, delay the timing of their child's first immunization, and hinder the completion of immunizations and well-child care at 24 months. The study sample is composed of 738 African-American infants born between summer 1991 and summer 1993. These infants are children of women enrolled in a prospective cohort investigation of race, psychosocial factors, and low birthweight funded by the National Institute of Mental Health (NIMH).

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Continued—  
New Projects Funded

children. When completed, the new portion of the study will identify both auscultatory and oscillometric normative BP levels for three ethnic groups of children from kindergarten through 12th grade. The available national normative BP levels do not address ethnic differences in BP levels for adolescents, even though such differences have been emphasized in the adult population. FY 1996 award: \$163,240.

**Principal Investigator:** Shirley W. Menard, Ph.D., Associate Professor, University of Texas Health Science Center at San Antonio School of Nursing, 7703 Floyd Curl Drive, San Antonio, TX 78284-7950. Phone: (210) 567-5882; fax: (210) 567-5822; e-mail: menard@uthscsa.edu

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Continued—  
New Guidance Materials

maternal and child health in general. The agenda was first published as chapter 3 of the *Proceedings of the Fourth National Title V Maternal and Child Health Research Priorities Conference*. (For a copy of this publication, contact the National Maternal and Child Health Clearinghouse at (703) 356-1964.)

The version of the agenda included in the guidance materials recategorizes the research issues and questions according to their relevance to MCHB program topics. This alternative classification of the components should facilitate matching the research interests of prospective applicants with those of the Bureau. It should also help Bureau staff as well as state and local staff gauge the applied significance of the new research agenda.

For more information about the MCHB Research Program, contact Gontran Lamberty, Dr.P.H., Director, MCHB Research Program, at (301) 443-2190.

## REPORT ON MATERNAL WEIGHT GAIN

The Maternal and Child Health Bureau convened an expert work group to address maternal weight gain at a meeting held May 6–7, 1996, in McLean, Virginia. The purposes of the meeting were to consider additional research and issues in maternal weight gain and its consequences since publication of the Institute of Medicine study *Nutrition During Pregnancy* (1990), and to recommend future directions for research and training. Gontran Lamberty, Director of the MCHB Research Program, provided an overview of the Research Program. Panel presentations focused on determinants of maternal weight gain and loss, consequences of long-term maternal weight retention, and infant outcomes. The report is entitled *Maternal Weight Gain: A Report of an Expert Work Group*.

## EARLY DISCHARGE OF MOTHERS AND NEONATES

On June 6–7, 1996, MCHB sponsored a scientific summit, *Beyond the Fourth Dimension: Assuring Quality Health Care for Moms and Babies*. The purpose of the scientific summit was to review the state-of-the-art research in this area and to share expertise in gathering the necessary knowledge to make sound clinical decisions. Following three panel presentations on maternal, infant, and family health, work group participants attended breakout sessions to discuss key research needs in their respective areas. The findings from the scientific summit will enable the Maternal and Child Health Bureau and the Health Resources and Services Administration to take evidence-based and outcome-focused steps to strengthen America's families.