

# MCH RESEARCH EXCHANGE

## FIRST WEBCAST OF MCH RESEARCH ROUNDTABLE WILL FOCUS ON HEALTH OF PUERTO RICAN MOTHERS AND INFANTS

Findings from the Puerto Rican Maternal and Infant Health Study, 33rd in a series of seminars on research projects funded by the Maternal and Child Health Bureau (MCHB), will be webcast on Thursday, May 17, 2001, 12:30–2:00 p.m. EDT. This first webcast of the MCH Research Roundtable Series is a collaborative effort of the MCHB Research Program, the National Center for Education in Maternal and Child Health (NCEMCH) at Georgetown University, and the Center for the Advancement of Distance Education, School of Public Health, University of Illinois at Chicago.

The roundtable will address findings from the Puerto Rican Maternal and Infant Health Study, which are published in two peer-reviewed articles: (1) “Prenatal Care Among Puerto Ricans on the United States Mainland” and (2) “Migration and Infant Death: Assimilation or Selective Migration Among Puerto Ricans?” The study was funded by MCHB, the National Institute of Child Health and Development, and the Centers for Disease Control and Prevention. Investigators collected pooled origin/destination data by surveying and conducting in-person interviews of 2,763 mothers of infants residing in Puerto Rico, Connecticut, Florida, Massachusetts, New Jersey, New York City, and Pennsylvania.

Study coinvestigators and main authors of the two published articles, Nancy S. Landale, Ph.D., Professor, and R. S. Oropesa, Ph.D., Associate Professor, Department of Sociology, Pennsylvania State University, will present study findings. Reaction will be provided by Patricia O’Campo, Ph.D., Associate Professor, Department of Population and Family Health Sciences, The Johns Hopkins University School of Hygiene and Public Health, and Pierre Buekens, M.D., Ph.D., Director, Department of Maternal and

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## MCHB RESEARCH PROGRAM PARTNERS WITH HRSA’S OFFICE OF MINORITY HEALTH TO ENGAGE HISTORICALLY BLACK COLLEGES AND UNIVERSITIES IN MCH RESEARCH

The MCHB Research Program, in partnership with the Office of Minority Health (OMH), Health Resources and Services Administration (HRSA), is actively engaging historically black colleges and universities (HBCUs) in the dissemination and application of research findings through the MCH Research Roundtable Series. First held in 1992, these seminars initially sought to inform MCHB central office professionals about the findings of completed applied research projects supported by Title V funds. For

the most part, the findings are published in peer-reviewed journals before they are presented at MCH Research Roundtable seminars. After the principal research investigator presents the project, an area discussant who is a subject matter expert, a clinician, or a program administrator responds to the presentation. Under the MCHB/OMH agreement, OMH assists in the development and promotion of the

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## SEVENTEEN NEW AND COMPETING EXTENSION RESEARCH PROJECTS FUNDED IN FY 2000

Thirty-one of the 65 new and competing extension research applications reviewed by the MCHB Extramural Research Study Section in fiscal year (FY) 2000 were scored and thus judged to have scientific merit; 17 out of 31 were subsequently funded. Included in the 17 funded projects were 10 projects that had been funded for only 1 year under the FY 1999 1-year project period award policy of HRSA and MCHB. The first-year costs for the 17 funded projects total \$4,612,034. When the approved multi-year requests of the 17 projects is considered, MCHB’s investment in new research increases to \$14,306,265.

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## AN IDEAL RESEARCH ENTERPRISE

*Presented at the October 16, 2000, conference, "Building Bridges for Child Health Research, Policy, and Practice: New Concepts and Paradigms" jointly funded by the Agency for Health Care Research and Quality and MCHB.*

In the following remarks, I first contrast the year 2010 national health promotion and disease prevention objectives and the Omnibus Budget Reconciliation Act of 1989 (OBRA '89) revision of the Title V legislation. These two documents are the sources of responsibility and accountability under which the states and MCHB operate. I then turn my attention to describing an ideal MCHB research enterprise that would offer a platform from which to carry out the responsibility and accountability of the year 2010 and OBRA '89 documents. I conclude with a plea that the states be more realistic about payoffs in research and that they seek to make their organizational cultures less research averse and more research embracing.

The year 2010 objectives and OBRA '89 present an ambitious agenda that seeks to integrate the efforts of a vast cast of players with conflicting agendas and territories to defend. The objectives are also a call to arms. Most of all, the year 2010 objectives are a blueprint for action—a blueprint requiring us to adopt a proactive approach to the health of mothers and children by instituting a rational planning process that assesses needs; coordinates resources; plans, executes, and monitors courses of action; and evaluates at set intervals the effectiveness of the courses of action taken. What the year 2010 objectives expound and require of us is essentially what OBRA '89 expounded and intended us to do a decade or so ago. Are the similarities coincidental? It is hard to say. But whether by design or coincidence, the important point to be made is that these two documents are very much supportive of each other. They are supportive in the proactive orientation they expound and where they place responsibility

and accountability. Responsibility and accountability appear to be placed at all levels. The brunt, however, seems to be placed on the state health departments and the federal agencies charged with safeguarding the health of mothers and children, particularly MCHB.

### An Ideal Maternal and Child Health Research Enterprise

Research has often been viewed as the instrument for solving the seemingly intractable maternal and child health problems the year 2010 and OBRA '89 initiatives have given the states and MCHB responsibility to ameliorate. A case in point is the current racial and ethnic differential in infant mortality. Differences have existed among the states, and among the states and the federal offices, on the strength with which this favorable view of research is held. Differences have also existed on how to go about using research to inform service delivery and policy and on what types of research we

should be supporting. If I were omnipotent, here is how I would go about creating a research enterprise—the products of which I would use to inform, evaluate, and improve service delivery and policy.

Many in the service professions view research as a luxury, partly because they feel that research takes away scarce resources badly needed to support services. I choose to differ with that notion. I see research as a necessity—one that requires a long-term commitment of resources and realistic expectations about payoffs. Without research, the complexities underlying most human problems might never be exposed, efforts toward solutions would be more likely to miss their target, and scarce resources would be expended with little or no payoff.

Nowhere is support for the above view of research more convincing than in the private sector, particularly in the high-tech and biomedical industries. Today, as in

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## MCH RESEARCH EXCHANGE

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An Ideal Research Enterprise

the past, the world's most successful companies in these two industries spend a sizable part of their profits on research and new product development, and allow the investigative processes within their organizations to proceed reasonably unfettered. In addition, these companies have a more realistic long-term view of research than their less-successful counterparts. They know that expansion of the scientific knowledge base through research does not materialize overnight, and that at the research project level the activities subsumed under research often do not produce more than small gains in knowledge. This measured approach to research keeps payoff expectations at a realistic level. The realism, unbelievable as it may seem, fosters rather than hinders risk taking and the pursuit of excellence and innovation. Over time, these pursuits lead to the creation of new products, improvement of existing products, and retention and expansion of markets so necessary for sur-

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MCHB Partners with HBCUs

Roundtables, including selection of reactors and moderators.

The pilot initiative, "African American Mothers, Their Babies, and Their Babies' Fathers," was held on January 27, 2000, in Rockville, MD. Maureen Black, Ph.D., of the University of Maryland School of Medicine, the principal investigator of the research, was the presenter. Charletta Ayers of the University of Medicine and Dentistry and Robert Wood Johnson Medical School, and Yvonne Bronner of Morgan State University, commented on the presentation and launched a question-and-answer session. Approximately 65 participants were in attendance. ○

*Gontran Lamberty, Dr.P.H., and  
Jolene Bertness, M.Ed., C.H.E.S.*

vival in today's extremely competitive world economy.

My conception of the ideal MCHB research enterprise is based on the example of the private sector just described. It would have as a minimum three components: (1) an extramural research program, (2) a knowledge-synthesizing unit, and (3) one or more MCH research and development laboratories.

The extramural research program, using the investigator-initiated approach, would focus on applied and basic MCH science research. The program would study such topics as (1) cost-effective approaches for delivering integrated MCH services; (2) factors influencing the decision-making processes of patients seeking care; (3) what goes on between the caregiver and patient in the health care encounter; (4) best approaches for reaching out to program constituencies and bringing them into care; and (5) determinants of preventive health action behaviors such as those surrounding prenatal care and intended and unintended injuries.

The knowledge-synthesizing unit would be engaged in conducting state-of-the-art assessments of the scientific knowledge base in areas relevant to MCH programmatic concerns, and would also act as the evaluator and synthesizer of the published findings derived from the research funded by the extramural research component. A central role of this unit would be responsibility for mining existing federal and private databases and special surveys. Keeping abreast includes the ability to detect emergent problems, being able to define the nature of the problems, and, in conjunction with the synthesized knowledge, to conceive the first iteration of concept programs that would be further developed and formally tested by the research and development laboratories.

The MCH research and development laboratories would undertake long-term, carefully integrated programs of service delivery and research in preconceptional, prenatal, infant, child, and adolescent services, including services for children with

special health care needs. The laboratories would further develop the first-iteration concept programs envisioned by the knowledge-synthesizing unit. These first-iteration concept programs would be modified in place per continuous evaluation in order for them to reach the prototype stage. Using experimental and quasi-experimental study designs to establish internal validity and generalizability, each prototype would then be tested formally at the MCH laboratory of origin and/or at other health care delivery settings. Formal testing of prototypes could take place singly or as part of a larger effort. Prototypes that successfully meet the rigorous experimental and quasi-experimental evaluation conditions would be promoted for wide-scale use in state, county, and city MCH programs under a controlled demonstration initiative. Controlled demonstrations are prototypes of concept programs of proven efficacy, which are being tested under the gradual lessening of the experimental or quasi-experimental controls to establish their effectiveness or generalizability in real-world organizational contexts.

### Conclusion

Is my ideal MCHB research enterprise possible, or is it an impossible and foolish fancy? Many of you will agree with the latter. I contend that it is possible and that it is likely to be cost-effective. So what's in it for the states, you may ask? A substantial piece of the pie. And how do the states achieve this? Through federal and state partnerships, of course. Partnerships alone, however, will not suffice. States will need to develop their own capabilities for conducting research and interpreting scientific research findings, and to work hard toward creating an organizational culture that promotes rather than hinders scientific research and formal evaluation of the programs they administer. Most of all, states will have to view research as a long-term investment—the payoffs of which will surely come but at a lower rate of accrual than we wish. ○

*Gontran Lamberty, Dr.P.H.*

## 17 Projects Funded

Six of the funded projects address 1 or more of the 15 research priorities established by MCHB for FY 2000 through FY 2003. Nine of the 17 address health and developmental concerns of minority mothers and children. All nine projects restrict their investigation to one racial or ethnic group.

Fourteen of the 31 research applications judged to have scientific merit in FY 2000 were not funded because of a lack of additional program funds. The first-year funds requested by this group of applicants total \$4,185,538.

A short description of each of the 17 new and competing extension projects follows:

### New Projects

**Doula Support for Young Mothers: A Randomized Trial.** This 4-year investigation seeks to determine the efficacy of a paraprofessional doula intervention program for young, low-income African-American mothers and their infants.

**Principal Investigator:** Sydney L. Hans, Ph.D., Associate Professor, Department of Psychiatry, University of Chicago, 5841 South Maryland Avenue, MC 3077, Chicago, IL 60637. Telephone: (773) 702-6313; e-mail: shans@yoda.bsd.uchicago.edu.

**Pregnancy Weight Gain–Birthweight Relationship by Race.** This investigation will address gaps in knowledge about rates of prenatal weight gain related to newborn weight among women of different pre-pregnancy body mass indexes (BMIs) and races. Information generated by this study may be used in the future for development of recommended rates of pregnancy weight gain by BMI, race, and birth-weight groups.

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

**Epidemiology of Abruptio Placentae.** This investigation seeks to study the epidemiology of abruptio placentae (AP) by utilizing an existing maternal second

trimester serum repository, state vital records data, and a hospital discharge diagnosis database. Results of this study may increase the ability to identify pregnant women at increased risk for experiencing AP, to further understand the mechanisms by which AP occurs, and to develop alternative, preventive interventions for AP.

**Principal Investigator:** Michelle Williams, Sc.D., Professor, Associate Director, Center for Perinatal Studies, Swedish Medical Center, 747 Broadway, Suite 463 North, Seattle, WA 98122-4307. Telephone: (206) 386-3107; e-mail: mwilliam@u.washington.edu.

### Epidemiology of Elevated Homocyst(e)ine and Risk of Preeclampsia.

This study seeks to examine the hypothesis that elevated serum homocysteine measured in the second trimester of pregnancy is associated with the later development of preeclampsia. A better understanding of the effect of maternal folate status and homocysteine concentrations on risk of preeclampsia could have practical significance in developing alternative, preventive interventions for preeclampsia and other adverse pregnancy outcomes.

**Principal Investigator:** Tanya Sorensen, M.D., Clinical Assistant Professor, Center for Perinatal Studies, Swedish Medical Center, 747 Broadway, Suite 463 North, Seattle, WA 98122-4307. Telephone: (206) 215-6517; e-mail: kramsey@swedish.org.

**Living with HIV/AIDS: Mother-Child Coping and Adjustment.** Research and clinical evidence suggest that uninfected children of HIV-positive mothers have significant psychosocial adjustment problems. Phase 1 of the study identified specific mother and child variables that predicted these adjustment problems. Owing to its cross-sectional design, however, the study did not consider changes in disease status, social support, or coping strategies over time, which limits the ability to make causal inferences for intervention or predict a child's adjustment in adolescence. The current longitudinal investigation will extend the previous work by determining the stability over time of the relationships among the pre-

dictor variables and child adjustment. It will also determine the utility of this model for predicting future child adjustment problems in adolescence.

**Principal Investigator:** Edythe Hough, Ed.D., Professor, College of Nursing, Wayne State University, 5557 Cass Avenue, Detroit, MI 48202. Telephone: (313) 577-4393; e-mail: ehough@mgfairfax.rr.com.

**Economic Impact of Breastfeeding Promotion Intervention.** This investigation will evaluate the economic benefits of prenatal and postnatal breastfeeding promotion interventions by measuring total health care costs, in addition to providing an estimation of potential intervention-related savings associated with three “breastfeeding sensitive morbidities” in infants—otitis media, gastrointestinal (GI) infections, and respiratory infections. Most health insurance plans do not cover lactation support services, yet it is precisely the type of preventive activity that managed care plans might cover if the economic costs and benefits were known.

**Principal Investigator:** Karen Bonuck, Ph.D., Assistant Professor, Department of Social Medicine, Montefiore Medical Center, 111 East 210th Street, Bronx, NY 10467-2490. Telephone: (718) 798-4285; e-mail: kbonuck@montefiore.org.

**Improving Anemia Screening in Inner-City Children.** Iron deficiency is the most common nutritional deficiency in U.S. children. It disproportionately affects low-income children and is associated with substantial developmental delay and behavior disturbances in the first 5 years of life. Although primary prevention of iron-deficiency anemia (IDA) and iron-deficiency in high-risk populations through the use of dietary iron supplements is routine, the prevalence of these conditions remain high. This study will (1) evaluate currently recommended IDA screening practices; (2) evaluate use of red cell indices to identify high-risk infants with low-normal hemoglobin levels at 8 to 15 months of age; and (3) determine clinical effectiveness of iron therapy in anemic infants. Results of the study could sub-

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stantially improve the accuracy of screening, lower the overall cost of screening, and better focus prevention and treatment efforts for iron deficiency.

**Principal Investigator:** *William Adams, M.D., Division of General Pediatrics, Boston Medical Center, 91 East Concord Street, Mat. Building, Room 4106, Boston, MA 02108. Telephone: (617) 414-4233; e-mail: badams@bu.edu.*

**WIC Families Who Smoke: A Behavioral Counseling Study.** This investigation will test an intervention designed to reduce environmental tobacco smoke (ETS) exposure and parental smoking among low-socioeconomic status English- and Spanish-speaking families recruited from the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) of the San Diego State University Foundation. For children under age 5, ETS exposure causes more deaths than all unintentional childhood injuries combined. If effective, this intervention could be incorporated into standard care at WIC clinics nationwide that serve 7.4 million low-income women, infants, and children each year.

**Principal Investigator:** *Melbourne Hovell, Ph.D., Professor, Center for Behavioral Epidemiology and Community Health, San Diego State University, 9245 Sky Park Court, Suite 230, San Diego, CA 91941. Telephone: (858) 505-4770; e-mail: hovell@mail.sdsu.edu.*

**Competing Extension Projects**  
**Maternal PKU Resource Mothers Program: A Clinical Trial.** This investi-

gation will assess the feasibility and efficacy of the Maternal PKU Resource Mothers Visiting Program. The primary outcome variable to assess the efficacy of the program will be (1) the number of weeks from treatment initiation to maternal metabolic control, (2) offspring birth head circumference, and (3) offspring development at 1 year. Secondary analyses will be performed to assess the cost of the intervention and the ways in which the Resource Mothers Program affects the course of treatment.

**Principal Investigator:** *Susan E. Waisbren, Ph.D., Associate Professor, Children's Hospital, 300 Longwood Avenue, IC Smith Building, Boston, MA 02115. Telephone: (617) 355-4686; e-mail: waisbren@hub.tch.harvard.edu.*

**Assessment of Enhanced Prenatal Care by Ethnically Diverse Women.**

This investigation aims to determine whether enhanced prenatal care services are associated with measurable benefits as assessed by women enrolled in Medicaid managed care plans and in comparison to women who do not receive enhanced prenatal services.

**Principal Investigator:** *Carol C. Korenbrot, Ph.D., Adjunct Associate Professor, School of Medicine, University of California, San Francisco, Box 0936, Room 265, San Francisco, CA 94143. Telephone: (415) 476-3094; e-mail: ckoren@itsa.ucsf.edu.*

**Fetal Antecedents of Infant Outcome.** This investigation is a 3-year continuation of a 4-year study that seeks to evaluate whether fetal development and

behavior, as well as maternal stress, influence infant development and behavior. The investigation represents the most comprehensive study of the relationship between fetal and infant development undertaken to date, and will provide evidence of the duration of the effect of one potential risk factor, maternal stress, on development.

**Principal Investigator:** *Janet DiPietro, Ph.D., Associate Professor, Department of Population and Family Health Sciences, The Johns Hopkins University School of Public Health, 624 North Broadway, Baltimore, MD 21205. Telephone: (410) 955-8536; e-mail: jdipietro@jhsph.edu.*

**Puerto Rican Young Fathers' Involvement with Their Children.** This investigation focuses on the role that mainland Puerto Rican fathers play in optimizing their children's medical, mental, and dental health and their attainment of developmental competencies. The use of two carefully selected communities, Boston and Providence, as the study sites offers the investigators an opportunity to examine the community contexts within which the role of mainland Puerto Rican fathers is defined, transmitted, and either undermined or supported.

**Principal Investigator:** *Sumru Erkut, Ph.D., Senior Research Scientist, Center for Research on Women, Wellesley College, 105 Central Street, Wellesley, MA 02481. Telephone: (781) 283-2533; e-mail: serkut@wellesley.edu.*

**An Intervention for the Transition to Fatherhood.** While the issue of fathers' involvement with children is receiving increasing attention in academic, applied, and public settings, there is still relatively little empirical research specifically dealing with the transition to fatherhood. This randomized investigation seeks to determine whether an educational intervention during the transition to parenthood increases fathers' involvement with children, enhances the quality of father-child relationships, promotes co-parenting partnerships, and decreases parenting stress.

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## MCH RESEARCH PROGRAM DISSEMINATES FINDINGS ON THE WORLD WIDE WEB

The Maternal and Child Health Bureau has been working with the National Center for Education in Maternal and Child Health to disseminate findings from the MCH Research Program on the World Wide Web. Information is now available on the NCEMCH Web site at [www.ncemch.org/research](http://www.ncemch.org/research).

## RESEARCH ROUNDTABLE PRESENTATIONS DISSEMINATE THE RESULTS OF FUNDED PROJECTS

The purpose of the Research Roundtable Series is to disseminate the results of MCHB-funded research to policymakers, researchers, and practitioners in the public and private sectors. The Research Roundtables give researchers an opportunity to discuss their findings with MCH professionals and others interested in the field. These seminars, which take place at the Parklawn Building in Rockville, MD, cover a wide range of topics critical to the delivery of services to mothers and children everywhere. The four Research Roundtables held since the last issue of the MCH Research Exchange are listed below.

### Research Roundtable #28

#### **Welfare Reform and the Perinatal Health of Immigrants: Preliminary Findings**

April 4, 2000

*Presenter: Ted Joyce, Ph.D., Professor of Economics, Baruch College and Graduate Center, City University of New York, and National Bureau of Economic Research, Inc.*

*Reactor: Bernard Guyer, M.D., M.P.H., Chair, Department of Population and Family Health Sciences, Johns Hopkins School of Hygiene and Public Health*

The study's objective was to determine whether the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) will affect the health of immigrant women and their newborns. It was hypothesized that (1) PRWORA will affect the health of immigrant women and their newborns, and (2) maternal-newborn outcomes will vary according to the Medicaid policies of the state in which the women reside.

Dr. Joyce and his colleagues compared changes in the financing of prenatal care, the utilization of prenatal care, and birth outcomes among a subset of the study population: U.S.- and foreign-born Latinos in California, New York City, and Texas between 1995 and 1998. They focused on Latino immigrant women in these areas for three reasons: (1) the

largest proportion of infants born to foreign-born women in California, New York City, and Texas are born to Latinos; (2) more than half of all births of infants born to Latinos in California and New York City in 1995 were financed by Medicaid, and Latinos were therefore particularly vulnerable to the potential withdrawal of benefits under PRWORA, or to becoming confused about eligibility requirements; and (3) a relatively large number of infants are born to U.S.-born Latinos in the three study areas. Because women in the control group are U.S. born, they do not perceive themselves as being threatened, as do many immigrants, with the immediate loss of Medicaid under PRWORA. U.S.-born Latinos, therefore, are a natural comparison group with which to analyze the effects of PRWORA on the perinatal health and behavior of their foreign-born counterparts.

No change was found in the percentage of uninsured; the percentage of births to women who initiated prenatal care early; or the percentage of low-birthweight, very-low-birthweight, and preterm births. Thus, despite reports of widespread fear and confusion in the immigrant community following the implementation of PRWORA, there is no evidence from vital statistics in these locations that basic patterns of care or outcomes among pregnant foreign-born Latinos (as compared to their U.S.-born counterparts) have changed significantly or consistently since PRWORA took effect.

### Research Roundtable #29

#### **Evaluation of the Healthy Start Program**

*Presenter: Anne K. Duggan, Sc.D., Associate Professor of Pediatrics, Johns Hopkins University School of Medicine, and Associate Professor of Health Policy and Management, Johns Hopkins School of Hygiene and Public Health*

*Reactor: Harriet J. Kitzman, R.N., Ph.D., Loretta C. Ford Professor of Nursing, Department of Pediatrics, University of Rochester School of Medicine*

Hawaii's Healthy Start Program (HSP) is a well-established outreach program providing (1) community-based screening to identify newborns at environmental risk for child abuse and neglect, and (2) home visiting by paraprofessionals to promote healthy family functioning and child development through role modeling, education, and linkage with pediatric primary care and other needed community resources during the child's first 5 years of life. The objective of this longitudinal study was to evaluate the HSP in order to add to the existing research on home visiting programs.

Early-identification staff determined risk status for 84 percent of target families. Families with higher risk scores, young mothers with limited schooling, and families with infants at biologic risk for special health care needs were more likely to enroll in home visiting programs. Half of those who enrolled were active 1 year after enrollment, with an average of 22 visits. Families where the father had multiple risk factors and where the mother was abusing substances were more likely to have 12 visits or more; mothers who were unilaterally violent toward the father were less likely to have this range of visits. Most families were linked with a medical home; linkage rates for other community resources varied widely by type of service. Half of families overall, but 80 percent or more of those active 1 year after enrollment, received core home visiting services. Performance varied by program site.

Departures in implementation from the program model reduced overall program effectiveness. At some follow-up points, the program was found to have positively affected enrollees by (1) increasing their access to a medical home, (2) decreasing parenting stress, (3) increasing parenting efficacy, (4) increasing paternal involvement in child care, and (5) improving maternal mental health. Programs at some study sites showed a positive impact on maternal use of nonviolent discipline, mother-child interaction, and child development.

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### Research Roundtable #30

#### Adverse Effects of Cow Milk in Infants

*Presenter: Ekhard E. Ziegler, M.D., Professor of Pediatrics, and Director, Fomon Infant Nutrition Unit, University of Iowa, Iowa City, IA*

*Reactor: Sally A. Lederman, Ph.D., Research Scientist, Columbia University*

The study hypothesis was that cow milk feeding causes medically important fecal blood loss in infants 6 to 12 months of age. Specifically, it was hypothesized that infants lose more fecal blood when they are fed cow milk than when they are fed infant formula, that fecal blood loss is associated with clinical symptoms, and that fecal blood loss leads to lower iron nutritional status.

The results of this and earlier studies suggest that cow milk induces fecal blood loss in infants. The loss is pronounced in young infants, diminishes in intensity during the second 6 months of life, and ceases by 12 months of age. Adverse effects of cow milk on iron nutritional status were difficult to demonstrate, probably because of the short observation periods (mostly 2 months). Fecal blood loss is clinically silent.

Iron deficiency in infants and toddlers is clearly associated with the feeding of cow milk in infancy, especially when started early. The present study establishes that fecal blood loss is probably not the main cause, and certainly not the only cause, of the poor iron nutritional status associated with cow milk feeding in infancy. Whether the main cause is impairment of absorption of dietary iron caused by cow milk remains to be established. Regardless of the mechanism involved, the fact that cow milk feeding affects iron nutritional status negatively, coupled with concern about the high potential renal solute load of cow milk, argues in favor of retaining the general recommendation that cow milk not be fed during the first year of life. However, it is clear that dur-

ing the last 3 months of the first year of life concerns about cow milk diminish to the point at which its advantages (high protein and calcium content, low cost) may begin to outweigh its disadvantages. Until we are able to obtain more information, it seems prudent to continue recommending against feeding cow milk to infants under 12 months of age.

### Research Roundtable #31

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

*Presenter: Kristi L. Watterberg, M.D., Professor of Pediatrics, University of New Mexico*

*Reactors: Marilee C. Allen, M.D., Associate Professor of Pediatrics, The Johns Hopkins University*

*Michael C. Lambert, Ph.D., Associate Professor of Psychology, Michigan State University*

The study team found that many very-low-birthweight (VLBW) infants show evidence of adrenal insufficiency early in life and that such infants are more likely to develop chronic lung disease (CLD). The study hypotheses were as follows: (1) early adrenal insufficiency leads to exaggerated inflammatory responses and/or other abnormalities in lung function, resulting in CLD, and (2) cortisol replacement therapy during the first 12 days of life would prevent this deficiency, thereby decreasing the incidence of CLD.

It was also postulated that cortisol replacement therapy would prevent symptoms of acute adrenal insufficiency, specifically hypotension, hyponatremia, hyperkalemia, and delayed weight loss.

The research objectives of this study were to (1) estimate the efficacy of cortisol replacement therapy during the first 12 days of life for prevention of CLD, (2) estimate the effect of this therapy on the signs of acute adrenal insufficiency listed above, and (3) evaluate the effects of such therapy on adrenal hormone concentra-

tions and on the ability of the adrenal glands to respond to adrenocorticotropic hormone (ACTH).

A total of 40 infants were enrolled (20 in the treatment group and 20 in the placebo group); 17 in each group survived. Birthweight and gestation were similar for treatment (hydrocortisone therapy) and placebo groups.

The findings for each of the three stated research objectives were as follows:

Objective 1 (to estimate the efficacy of cortisol replacement therapy during the first 12 days of life for prevention of CLD): More infants treated with hydrocortisone achieved study success, defined as survival without CLD. Lower birthweight, chorioamnionitis, and preeclampsia were significant risk factors in this regression, whereas study center, prenatal steroids, sex, and ethnicity were not. Hydrocortisone therapy also reduced the number of days on oxygen, days on mechanical ventilation, and oxygen at discharge. No significant differences were detected in adverse outcomes.

Objective 2 (to estimate the effect of this therapy on signs of acute adrenal insufficiency): During the treatment period, infants who received hydrocortisone therapy had significantly less hyponatremia and showed a trend toward lower fluid requirements. Although the direction of effect for blood pressure and inotropic therapy for hypotension favored the treatment group, no significant differences were seen between groups. Within the subset of infants exposed to chorioamnionitis, those infants treated with hydrocortisone received significantly more enteral nutrition during the first month of life, and weighed more at outcome.

Objective 3 (to evaluate the effects on adrenal hormone concentrations and response to ACTH stimulation): Infants treated with hydrocortisone had no suppression of either basal or stimulated cortisol values when tested 3 days after the end of therapy. Additionally, hydrocortisone therapy had no significant effect on

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**Principal Investigator:** William Doherty, Ph.D., Professor, Department of Family Social Science, University of Minnesota, 290 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108-6140. Telephone: (612) 625-4752; e-mail: [bdoherty@che2.che.umn.edu](mailto:bdoherty@che2.che.umn.edu).

**Predicting African-American Children's School Competence—Phase 2.**

This investigation seeks to examine the role of child, family, and school factors in predicting African-American children's school competence during the later elementary school years. Study findings should have important implications for the sociocultural factors that affect the school success of African-American children, many of whom are at risk for school failure.

**Principal Investigator:** Joanne E. Roberts, Ph.D., Research Professor, Frank Porter Graham Child Development Center, University of North Carolina at Chapel Hill, 105 Smith Level Road, CB#8180, Chapel Hill, NC 27599. Telephone: (919) 966-7164; e-mail: [joanne\\_roberts@unc.edu](mailto:joanne_roberts@unc.edu).

**Three-Generation Intervention Among Adolescent Mothers.** This 2-year randomized investigation seeks to devel-

op, implement, and evaluate a home- and center-based intervention among first-time, adolescent mothers that will enhance their parenting and adolescent roles and positively impact their children's development.

**Principal Investigator:** Maureen Black, Ph.D., Professor, Department of Pediatrics, University of Maryland, 655 West Lombard Street, Baltimore, MD 21201. Telephone: (410) 706-5289; e-mail: [mblack@umaryland.edu](mailto:mblack@umaryland.edu).

**EICS Phase IV: Adolescence.** This 4-year investigation is a continuation of the Early Intervention Collaborative Study (EICS) that has been following a sample of children with developmental delays or disabilities and their families from the time they enter early intervention programs in Massachusetts and New Hampshire until they are 10 years of age. Phase IV will now examine the adolescent period, a critical developmental stage that has been virtually unstudied for individuals with disabilities. The findings will help to distinguish families and adolescents who may require a greater investment of health care and other program sources.

**Principal Investigator:** Penny Hauser-

Cram, Ed.D., Associate Professor, School of Education, Boston College, Campion Hall, Chestnut Hill, MA 02467. Telephone: (617) 552-8664; e-mail: [hausercr@bc.edu](mailto:hausercr@bc.edu).

**Community-Based Violence Prevention for High-Risk Youth.** Youth violence and resulting injury is a major public health concern that increasingly threatens the health of American children and adolescents. While much is known about general risk factors for adolescent injury, less is known about repeat injury among children and adolescents presenting to emergency departments for intentional injuries. This investigation extends injury prevention and control to further identify causes and risk factors and develop interventions.

**Principal Investigator:** Tina Cheng, M.D., Assistant Professor, Department of General Pediatrics and Adolescent Medicine, Children's National Medical Center, 111 Michigan Avenue, N.W., Washington, DC 20010. Telephone: (202) 884-5094; e-mail: [tcheng@cnmc.org](mailto:tcheng@cnmc.org).

Gontran Lamberty, Dr.P.H., and Hae Young Park

## ARTICLES PUBLISHED BY RESEARCH GRANTEES

The findings of a number of research studies supported by MCHB have been published in peer-reviewed journals in calendar year 2000. Ten of these articles are summarized below to reflect the range of MCHB research projects; the remaining articles are listed in citation format so that readers may retrieve items of interest.

**The color of my skin: A measure to assess children's perceptions of their skin color**

Alarcon et al. noted that Puerto Rican children, growing up as immigrants or as the children of immigrants, are potentially exposed to two different cultural systems regarding their skin color. The implica-

tions of color assignment can be different in their household culture than in the larger mainland culture in which they are growing up. A tool was needed to examine how these children construct their skin color and what their affect toward that construction is.

*The Color of My Skin* is an instrument developed to assess children's internalized ideas (abstractions) of the color of their skin; their satisfaction with that color; the desire, if any, to change the color of their skin; and their affect regarding their skin color. The assessment was part of a questionnaire utilized in a 3-year longitudinal study that examined the psychosocial development, physical health, and behavioral adjustment of Puerto Rican children

(N = 257) reared in the greater Boston area.

The results demonstrate that children's internalized representations of their skin color is a construct that can be reliably and validly measured. The children's ratings of their skin color were not associated with their gender, school grade, or ethnic identity; the child's or the parent's nativity; or the racial/ethnic compositions of three social contexts: their neighborhood, their classmates, and their closest friends. Puerto Rican children did not show a preference for light-colored skin. Moreover, there were no significant differences in self-esteem based on the child's self-

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reported skin color. The lack of association between self-esteem and skin color was interpreted in light of a developmental tendency prevalent in early-to-middle childhood to place a positive value on different aspects of one's self. While almost all children (96 percent) reported being happy or very happy with their color, 16 percent of the children would like to change their skin color if they could, some to a lighter and some to a darker color. There was no evidence of a detrimental effect of being exposed to mainstream society's devaluation of nonwhites in this early-to-middle childhood sample. *Applied Developmental Science* 4(4).

### **Nutrition and multifetal pregnancy**

Brown et al. noted that the rate of multifetal pregnancy is rising rapidly in the United States. Accordingly, dietitians are increasingly being called upon to provide nutrition services for these high-risk pregnancies. This article gives an overview of the incidence of and risks associated with multifetal pregnancy and reviews studies that contribute to our knowledge of nutrition and multifetal pregnancy. Practice guidelines for promoting healthy outcomes based on the best available scientific data are suggested. Guidelines for weight gain for twin and triplet pregnancy, dietary intake, and supplement use are included. Suggested practice guidelines for multifetal pregnancy include a positive rate of weight gain early in pregnancy, the use of prepregnancy weight status to determine total weight-gain goals in twin pregnancy, a 50-lb weight gain goal for triplet pregnancy, and higher minimal number of servings of foods from several of the Food Guide Pyramid groups. The need for additional information on the effects of nutritional status on the course and outcome of multifetal pregnancy is critical. Preliminary evidence of the benefits of nutrition services suggests that both the incorporation of dietetics services into care programs and additional research on nutrition and multifetal gestation are warranted.

*Journal of the American Dietetic Association* 100(3):343-348.

### **Relating quality of center child care to early cognitive and language development longitudinally**

Burchinal et al. noted that although growing literature indicates that child care quality is related to cognitive and language development during infancy and early childhood, none of the previous research has examined this issue longitudinally. How quality of center-based child care relates to early cognitive and language development was examined longitudinally in a sample of 89 African-American children ages 6 to 36 months. Both structural and process measures of quality of child care were collected through observation of the infant classroom. Results indicated that higher quality child care was related to higher measures of cognitive development (Bayley Scales of Infant Development), language development (Sequenced Inventory of Communication Development), and communication skills (Communication and Symbolic Behavior Scales) across time, even after adjusting for selected child and family characteristics. In addition, classrooms that met professional recommendations regarding child-to-adult ratios tended to have children with better language skills. Classrooms that met recommendations regarding teacher education tended to have girls with better cognitive and receptive language skills. These findings, in conjunction with the growing child care literature, provide further evidence that researchers and policymakers should strive to improve the quality of child care to enhance early development of such vulnerable children. *Child Development* 71(2):339-357.

### **Fathers and child neglect**

Dubowitz et al. noted that little attention has been focused on the specific roles of family members, in particular fathers, in the pediatric literature. The issue of child neglect, a major problem for many families, has also been ignored. This cohort study examined the association between father involvement and child neglect. Participants were recruited from an inner-city pediatric primary care clinic and a clinic for children at risk for human

immunodeficiency virus infection in a teaching hospital.

Participants included mothers and fathers or father figures, and 244 5-year-olds participating in a longitudinal study. The main outcome measures included child neglect measured via home observation, a videotaped mother-child interaction, and child protective services reports. A father or father figure was identified for 72 percent of the children. Rates of neglect ranged between 11 percent and 30 percent. However, in families with an identified and interviewed father, a longer duration of involvement ( $p < .01$ ), a greater sense of parenting efficacy ( $p < .01$ ), more involvement with household tasks ( $p < .05$ ), and less involvement with child care ( $p < .05$ ) were associated with less neglect. The overall model explained 26.5 percent of the variance in neglect. The authors concluded that there was substantial involvement of fathers in a subset of the high-risk sample, although more than a quarter of the children lacked a father or father figure. The mere presence of a father did not significantly influence the neglect of the children; rather, the nature of his involvement did. Fathers who felt more effective as parents were less likely to have neglected their children. A greater sense of efficacy may reflect parenting skills and be important in enhancing the contribution of fathers to their children's well-being. Pediatric health care providers can play a valuable role in enhancing the involvement and skills of fathers.

*Archives of Pediatrics and Adolescent Medicine* 154:135-141.

### **Hawaii's Healthy Start Program of home visiting for at-risk families: Evaluation of family identification, family engagement, and service delivery**

Duggan et al. noted recent recommendations to launch efforts to improve existing home visiting program services and to craft research to help programs do so. This study and the quality improvement program it inspired help to illustrate this kind of practitioner-researcher collabora-

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tion. The objective of this cross-sectional, longitudinal study was to describe family identification, family engagement, and service delivery in a statewide home visiting program for at-risk families of newborns. The setting included six target communities of Hawaii's Healthy Start Program (HSP), which incorporates (1) early identification of at-risk families of newborns via population-based screening and assessment, and (2) paraprofessional home visiting to improve family functioning, promote child health and development, and prevent child maltreatment.

The cross-sectional study design described the early identification process and family characteristics associated with initial enrollment. The longitudinal study design described the home visiting process and characteristics associated with continued participation. Subjects of the cross-sectional study component included civilian births in six communities ( $n = 6,553$ ). Subjects of the longitudinal study included at-risk families in the intervention group of a randomized trial of the HSP ( $n = 373$ ). Process measures included completeness and timeliness of early identification and home visiting activities, family characteristics, sociodemographics, child abuse risk factors, and infant biologic risk. Early identification staff determined risk status for 84 percent of target families. Families with higher risk scores, young mothers with limited schooling, and families with infants at biologic risk were more likely to enroll in home visiting. Half of those who enrolled were active at 1 year with an average of 22 visits. Families where the father had multiple risk factors and where the mother was substance abusing were more likely to have at least 12 visits; mothers who were unilaterally violent toward the father were less likely. Most families were linked with a medical home; linkage rates for other community resources varied widely by type of service. Half of families overall, but at least 80 percent of those active at 1 year, received core home visiting services. Performance varied by program site. The authors concluded that it is challenging to engage and retain at-risk families in home visiting.

Service monitoring must be an integral part of operations.

*Pediatrics* 105(1 Pt 3):250–259.

### **Neonatal sepsis work-ups in babies weighing at least 2000 grams at birth: A population-based study**

Escobar et al. noted that few data are available on the outcome of neonatal sepsis evaluations in an era when intrapartum antibiotic therapy is common. The study team identified all newborns weighing at least 2,000 g at birth who were ever evaluated for suspected bacterial infection at six Kaiser Permanente hospitals between October 1995 and November 1996, reviewed their records and laboratory data, and tracked them to 1 week after discharge. The team analyzed the relationship between key predictors and the presence of neonatal bacterial infection. Among 18,299 newborns weighing at least 2,000 g without major congenital anomalies, 2,785 (15.2 percent) were evaluated for sepsis with a complete blood count and/or blood culture. A total of 62 (2.2 percent) met criteria for proven, probable, or possible bacterial infection: 22 (.8 percent) had positive cultures, and 40 (1.4 percent) had clinical evidence of bacterial infection. The team tracked all but 10 infants (.4 percent) to 7 days post-discharge. There were 67 rehospitalizations (2.4 percent; 2 for group B streptococcus bacteremia). Among 1,568 infants who did not receive intrapartum antibiotics, initial asymptomatic status was associated with decreased risk of infection (adjusted odds ratio [AOR]: .26; 95 percent confidence interval [CI]: .11–.63), while chorioamnionitis (AOR: 2.40; 95 percent CI: 1.15–5.00), low absolute neutrophil count (AOR: 2.84; 95 percent CI: 1.50–5.38), and meconium-stained amniotic fluid (AOR: 2.23; 95 percent CI: 1.18–4.21) were associated with increased risk. Results were similar among 1,217 infants who were treated, except that maternal chorioamnionitis was not significantly associated with neonatal infection. The authors conclude that the risk of bacterial infection in asymptomatic

newborns is low. Evidence-based observation and treatment protocols could be defined based on a limited set of predictors: maternal fever, chorioamnionitis, initial neonatal examination, and absolute neutrophil count. Many missed opportunities for treating mothers and infants exist.

*Pediatrics* 106(2 Pt 1):256–263.

### **Dietary nutrients and blood pressure in urban minority adolescents at risk for hypertension**

Falkner et al. noted that the relationship between combined dietary nutrients and blood pressure levels has not been examined. The objective of this study was to determine if blood pressure (BP) level is associated with dietary micronutrients in adolescents at risk for hypertension. Adolescents ages 14 to 16, with BP higher than the 90th percentile on two separate measurements in a school setting, had diet assessments. A 24-hour intake recall was obtained on 180 students (108 boys and 72 girls). Folic acid intake was used as an index of fruit, vegetable, and whole grain intake; the high folate group had a folate intake greater than the recommended daily allowance, and the low folate group had a folate intake less than the recommended daily allowance. Data were analyzed by two-way analysis of variance. Mean diastolic BP was significantly higher in the low folate vs. the high folate group (boys: 72 vs. 67 mm Hg; girls: 76 vs. 73 mm Hg;  $p = .008$ ). The difference in systolic blood pressure was not significant. There was no difference in body mass index between the diet groups. Sodium intake per 4,184 kJ was not different. The low folate group had significantly lower intakes per 4,184 kJ of potassium ( $p = .002$ ), calcium ( $p = .001$ ), magnesium ( $p < .001$ ), and total intake of beta carotene, cholecalciferol, vitamin E, and all B vitamins. The authors concluded that, among adolescents at risk for hypertension, BP was lower in those with higher intakes of a combination of nutrients, including potassium, calcium, magnesium, and vita-

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mins. Dietary benefits on BP observed for diets rich in a combination of nutrients derived from fruits, vegetables, and low-fat dairy products could contribute to primary prevention of hypertension when instituted at an early age.

*Archives of Pediatrics and Adolescent Medicine* 154 (9):918–922.

### **Office prenatal formula advertising and its effect on breastfeeding patterns**

Howard et al. noted that no studies have tested the hypotheses that the distribution of formula company materials, advertising, and samples through obstetrician offices affects adversely either the choice to breastfeed or breastfeeding duration. The objective of this study was to compare the effect of formula company-produced materials about infant feeding to breastfeeding promotion materials without formula advertising on breastfeeding initiation and duration. Five hundred forty-seven pregnant women were randomized to receive either formula company or specially designed educational packs about infant feeding at their first prenatal visit. Feeding method was determined at delivery. Breastfeeding duration of the women who chose to breastfeed was ascertained at 2, 6, 12, and 24 weeks. Survival analyses were used to evaluate continuous outcomes, and chi-square and logistic regression analyses were used to evaluate discrete outcomes. Breastfeeding initiation and duration after 2 weeks were not affected. Women in the commercial group were more likely to cease breastfeeding before hospital discharge and before 2 weeks. In subgroup analyses, women with uncertain goals for breastfeeding or goals of 12 weeks or less experienced shortened exclusive, full, and overall breastfeeding duration when exposed to the commercial intervention. The authors concluded that, although breastfeeding initiation and long-term duration were not affected, exposure to formula promotion materials significantly increased breastfeeding cessation in the first 2 weeks. Additionally, among women with uncertain goals or breastfeeding goals

of 12 weeks or less, exclusive, full, and overall breastfeeding duration were shortened. Educational materials about infant feeding should unequivocally support breastfeeding as optimal nutrition for infants; formula promotion products should be eliminated from prenatal settings.

*Obstetrics and Gynecology* 95(2):296–303.

### **Intestinal blood loss during cow milk feeding in older infants: Quantitative measurements**

Jiang et al. noted that little is known about cow milk-provoked fecal blood loss in late infancy. The objective of this study was to determine the response, in terms of fecal hemoglobin excretion and clinical symptoms, of normal 9 1/2-month-old infants to being fed cow milk. The study design was a longitudinal (before-after) trial in which each infant was fed formula for 1 month (baseline) followed by 3 months during which cow milk was fed. The population and setting were healthy infants living in Iowa City, IA, a town with a population of about 60,000. The main outcome measures were hemoglobin concentration in spot stools, 96-hour quantitative fecal hemoglobin excretion, stool characteristics, feeding-related behaviors, and iron nutritional status. The authors report that fecal hemoglobin concentration during formula feeding (baseline) was higher than previously observed in younger infants. Nine of 31 infants responded to cow milk feeding with increased fecal hemoglobin concentration. Fecal hemoglobin concentration (mean  $\pm$  SD) of the nine responders rose from 1,395  $\pm$  856 mg/g of dry stool (baseline) to 2,711  $\pm$  1,732 mg/g of dry stool ( $p = .01$ ). The response rate (29 percent) was similar to that in younger infants, but the intensity of the response was much less. Quantitative hemoglobin excretion was in general agreement with estimates based on spot stool hemoglobin concentrations. Cow milk feeding was not associated with recognizable changes in stool characteristics, nor were there clinical signs related to fecal blood loss. Iron status was similar,

except that after 3 months of cow milk feeding responders showed lower ( $p = .047$ ) ferritin concentrations than nonresponders.

In conclusion, the authors found that cow milk-induced blood loss is present in 9 1/2-month-old infants but is of such low intensity that its clinical significance seems questionable. Nevertheless, infants without cow milk-induced blood loss were in better iron nutritional status than infants who showed blood loss.

*Archives of Pediatrics and Adolescent Medicine* 154:673–678.

### **Increasing identification of psychosocial problems**

Kelleher et al. noted that current estimates of the prevalence of childhood psychosocial problems are greater than those obtained in the first large study of clinician-identified child psychosocial problems. Since the Monroe County Study (MCS) of 1979, only two major studies have examined the identification of psychosocial problems in primary care settings for school-age children. The objective of this study was to examine the changes in identification of pediatric psychosocial problems since 1979. The research design compared clinician-identified psychosocial problems and related risk factors among large primary care pediatric cohorts from 1979 (MCS) and 1996 (Child Behavior Study). Data were collected from clinician visit questionnaires developed originally for the 1979 study. The settings were private practice offices of 425 community-based pediatricians and family practitioners across both studies. All children ages 4 to 15 who presented for nonemergent services in primary care offices were enrolled. The 1979 study included 9,612 children seen by 30 clinicians, and the 1996 study included 21,065 children seen by 395 clinicians. Each clinician enrolled consecutive eligible patients for both studies. From 1979 to 1996, clinician-identified psychosocial

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## SCHEDULE OF 2001 RESEARCH ROUNDTABLE PRESENTATIONS

### **Antenatal Formula Distribution: Effect on Breastfeeding**

February 1, 2001

*Cynthia R. Howard, M.D., M.P.H.*

### **Findings from the Puerto Rican Maternal and Infant Health Study**

April 17, 2001

*Nancy S. Landale, Ph.D.*

### **TBA**

July 2001

### **TBA**

September 2001

The National Center for Education in Maternal and Child Health (NCEMCH) at Georgetown University works through a cooperative agreement with MCHB to disseminate findings from the MCH Research Program. Information about the

Research Program, including the Research Roundtable Series, may be found on the NCEMCH Web site at [www.ncemch.org/](http://www.ncemch.org/) research. If you wish to receive announcements about upcoming Research Roundtables, please contact Jolene Bertness by phone: (703) 524-7802, fax: (703) 524-9335, or e-mail: [jbertness@ncemch.org](mailto:jbertness@ncemch.org).

*Gontran Lamberty, Dr.P.H., and Jolene Bertness, M.Ed., C.H.E.S.*

### Continued from previous page Articles Published by Research Grantees

problems increased from 6.8 percent to 18.7 percent of all pediatric visits among children ages 4 to 15. The authors found increases in all categories of psychosocial problems except for mental retardation. Attentional problems showed the greatest absolute increase (1.4 percent to 9.2 percent), and emotional problems showed the greatest relative increase (.2 percent to 3.6 percent). The use of psychotropic medications, counseling, and referral also increased substantially. In particular, the percentage of children with attention deficit/hyperactivity problems receiving medications increased from 32 percent to 78 percent. These increases in psychosocial problems were associated with increases in the proportions of single-parent fam-

ilies and Medicaid enrollment from 1979 to 1996. Changes in clinician characteristics did not appear to be the source of increases in clinician diagnoses of psychosocial problems. The authors concluded that substantial increases in the identification of psychosocial problems in primary care paralleled demographic changes in children presenting to primary care offices and in the larger population. *Pediatrics* 105(6):1313-1321.

Other articles published by research grantees include the following:

Kerr MA, Black MM, Krishnakumar A. 2000.

**Failure-to-thrive, maltreatment and the behavior and development of 6-year-**

**old children from low-income, urban families: A cumulative risk model.**

*Child Abuse and Neglect* 24(5):587-598.

Landale NS, Oropesa RS, Gorman BK. 2000.

**Migration and infant death: Assimilation or selective migration among Puerto Ricans.**

*American Sociological Review* 65:888-909.

Leathers SJ, Kelley MA. 2000.

**Unintended pregnancy and depressive symptoms among first-time mothers and fathers.**

*American Journal of Orthopsychiatry* 704:523-531.

Leventhal T, Brooks-Gunn J, McCormick MC, McCarton CM. 2000.

**Patterns of service use in preschool children: Correlates, consequences, and the role of early intervention.**

*Child Development* 71(3):802-819.

Mattingly C, Lawlor M. 2000.

**Learning from stories: Narrative interviewing in cross-cultural research.**

*Scandinavian Journal of Occupational Therapy* 7(1):4-14.

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### **GUIDANCE AND APPLICATION FORMS NOW ON THE WEB**

Interested applicants can download the research program's grants guidance and application forms electronically. These materials can be accessed through the Maternal and Child Health Bureau home page at [www.mchb.hrsa.gov/html/grantsguidance.html](http://www.mchb.hrsa.gov/html/grantsguidance.html). Hard copies can be obtained from the Health Resources and Services Administration Grants Application Center at (877) 477-2123 or from the MCH Research Program office at (301) 443-2190.

Continued from previous page  
Articles Published  
by Research Grantees

McInerney TK, Szilagyi PG, Childs G, Wasserman R, Kelleher KJ. 2000.

**Uninsured children with psychosocial problems: Primary care management.**

*Pediatrics*  
106(4):930-936.

Oropesa RS, Landale NS, Inkley M, Gorman BK. 2000.

**Prenatal care among Puerto Ricans on the United States mainland.**

*Social Science and Medicine*  
51:1723-1739.

Ottenbacher KJ, Msall ME, Lyon N, Duffy LC, Ziviani J, Braun S, Granger

CV, Braun S. 2000.

**Functional assessment and care of children with neurodevelopmental disabilities.**

*American Journal of Physical Medicine and Rehabilitation*  
79(2):114-123.

Shy K, Kimpo C, Emanuel I, Leisenring W, Williams MA. 2000.

**Maternal birth weight and cesarean delivery in four race-ethnic groups.**

*American Journal of Obstetrics and Gynecology*  
182(6):1363-1370.

Warfield M, Hauser-Cram P, Krauss M, Shonkoff J, Upshur C. 2000.

**The effect of early intervention services on maternal well-being.**

*Early Education and Development*  
11(4):499-517.

Watkins JM, Cool VA, Usner D, Stehens JA, Nichols S, Loveland KA, Bordeaux JD, Donfield S, Asarnow RF, Nuechterlein KH. 2000.

**Attention in HIV-infected children: Results from the Hemophilia Growth and Development Study.**

*Journal of the International Neuropsychological Society*  
6(4):443-454.

Watterberg KL, Scott SM, Backstrom C, Gifford KL, Cook KL. 2000.

**Links between early adrenal function and respiratory outcome in preterm infants: Airway inflammation and patent ductus arteriosus.**

*Pediatrics*  
105(2):320-324. ○

Continued from page 1  
MCHB Roundtable Webcast

Child Health at the University of North Carolina at Chapel Hill. M. Ann Drum, D.D.S., M.P.H., Director of the MCHB Division of Research, Training, and Education, will moderate the event.

Roundtable materials, including instructions and technical requirements for connecting to the webcast, are available at <http://www.ncemch.org/research/roundtable.html>. The webcast will be archived and made available for review.

For more information or technical assistance, contact Jolene Bertness at NCEMCH at (703) 524-7802; e-mail: [jbentness@ncemch.org](mailto:jbentness@ncemch.org). For reprints of the two articles, contact the MCHB Research Program at (301) 443-2190; e-mail: [rhaggerty@hrsa.gov](mailto:rhaggerty@hrsa.gov). To learn more about the MCHB Research Program and the MCH Research Roundtable Series, contact Gontran Lamberty at (301) 443-2190; e-mail: [glamberty@hrsa.gov](mailto:glamberty@hrsa.gov).

**Instructions and Technical Requirements for Connecting to the Webcast**

- A few days before the webcast, review the instructions and technical

requirements for connecting to it at <http://www.ncemch.org/research/roundtable.html>. You will not be able to connect to the webcast without completing this step. Do not wait until the last minute to check whether your computer is ready.

- Download and install the latest version of RealPlayer on your computer. (The free version is located halfway down the left side of the RealPlayer home page. To hear the archived webcast, you need only the G2 version of RealPlayer.)

- Test your system by launching the preflight. Your computer must pass the preflight.

- Set your monitor at 1024 by 768.

- Your computer should have at least 64 MB RAM. If your computer has less, its performance may be slow.

- Connect your computer to the webcast 30 minutes before it is scheduled to begin to allow our computer to connect to yours. It could take 10 to 20 minutes to connect depending on the speed of your computer and connection.

## Research Roundtables

the concentrations of cortisol precursors.

The authors analyzed the differences in hormone concentrations between those infants who developed CLD and those who did not. At study entry, infants who subsequently developed CLD had significantly higher concentrations of 17OH progesterone, suggesting an impaired ability to synthesize cortisol. After the study, infants who developed CLD had lower basal cortisol concentrations and a reduced response to ACTH stimulation. These infants continued to have significantly higher concentrations of 17OH progesterone and increased ratios of precursor hormones to cortisol, indicating a continuing limitation of ability to synthesize cortisol, resulting in accumulation of these precursors.

We found that hydrocortisone therapy significantly improved the likelihood of survival without CLD. The results of this pilot study now justify a larger multicenter randomized trial to confirm the benefits and further assess the risks of low-dose hydrocortisone therapy for prevention of CLD in extremely premature infants.

### Research Roundtable #32

#### **Antenatal Formula Distribution: Effect on Breastfeeding**

*Presenter: Cynthia R. Howard, M.D., M.P.H., Associate Professor of Pediatrics, University of Rochester, and Director, Mother-Baby Unit, Rochester General Hospital*

*Reactor: José J. Gorrin, M.D., M.P.H., F.A.C.O.G., Professor and Director, Maternal and Child Health Program and Department of Human Development, University of*

#### *Puerto Rico Graduate School of Public Health*

The research hypotheses involved a comparison between two types of infant feeding materials: (1) commercial infant formula promotion materials distributed to pregnant women in obstetric offices, and (2) noncommercial infant feeding materials that conform to World Health Organization codes for marketing of breastmilk substitutes.

The study findings demonstrate that the distribution of commercial feeding materials and formula samples in obstetric offices adversely affects breastfeeding duration. Following are the findings based on each of the four hypotheses.

Hypothesis 1: There were no significant differences between the groups in breastfeeding initiation. We saw no evidence to suggest that the intervention had a significant effect on the women's choice of infant feeding method.

Hypothesis 2: The effects of the intervention on early breastfeeding cessation were assessed prior to hospital discharge and < 2 weeks postpartum. Peripartum (in-hospital) breastfeeding cessation was significantly higher in the group that received commercial formula promotional materials; cessation of breastfeeding less than 2 weeks postpartum was also higher in this group.

Hypothesis 3: Declines in long-term breastfeeding duration were noted in all categories of breastfeeding among women who received commercial formula packs, although none of these differences reached statistical significance. However, subgroup analyses did demonstrate statistically and clinically significant decreases in duration

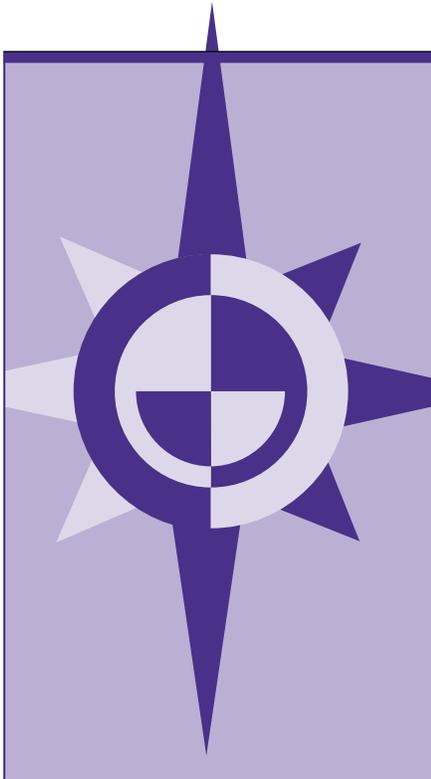
as a result of the commercial intervention among women with undefined or short-term (12 weeks) breastfeeding goals. In this subgroup, comprising 43 percent of the study participants, the women in the commercial group experienced decreased duration of breastfeeding, with an average decrease of 11 days in exclusive breastfeeding, 20 days in full breastfeeding, and 35 days in partial breastfeeding.

Hypothesis 4: Among the women who had a defined goal for breastfeeding, the intervention did not affect the likelihood that they would attain their personal goal.

The study findings confirm that the distribution of commercial formula promotional materials and samples in obstetric offices adversely affects breastfeeding duration. The breastfeeding success of substantial numbers of women is placed at risk by the widespread use of such commercial promotional materials in obstetric offices. We believe the study findings support the elimination of commercial formula promotion products in prenatal settings. The distribution of such commercial materials prenatally is counterproductive to our nation's health goals because pregnant women who receive these materials may experience significant declines in breastfeeding duration. Health professionals must ensure that patient educational materials clearly and unequivocally support breastfeeding as optimal for both mother's and infant's health.

Information about these and other past Research Roundtables may be found at <http://www.ncemch.org/research/roundtable.html>. ○

*Gontran Lamberty, Dr.P.H., and Jolene Bertness, M.Ed., C.H.E.S.*



*What are the current activities and goals of the MCH Research Program?*

.....

*What did the MCH Research Program accomplish last year?*

.....

*How is the MCH Research Program improving the lives of children and families?*

.....

Get the answers to these questions and more by visiting the MCH Research Program Web site at [www.ncemch.org/research](http://www.ncemch.org/research). This interactive Web site is designed to inform the maternal and child health community about the activities of the Maternal and Child Health (MCH) Research Program, administered by the Maternal and Child Health Bureau (MCHB), Health Resources and Services Administration, U.S. Department of Health and Human Services. The site helps supporters stay abreast of program changes and serves as a valuable resource for researchers, policymakers, and other health professionals.

On this Web site you will find

- past and current issues of the *MCH Research to Practice* and *MCH Research Exchange* newsletters
- detailed information about past and future Research Roundtables—lunchtime conferences that highlight the findings of studies supported by MCHB
- descriptions of active and completed projects of the MCH Research Program

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