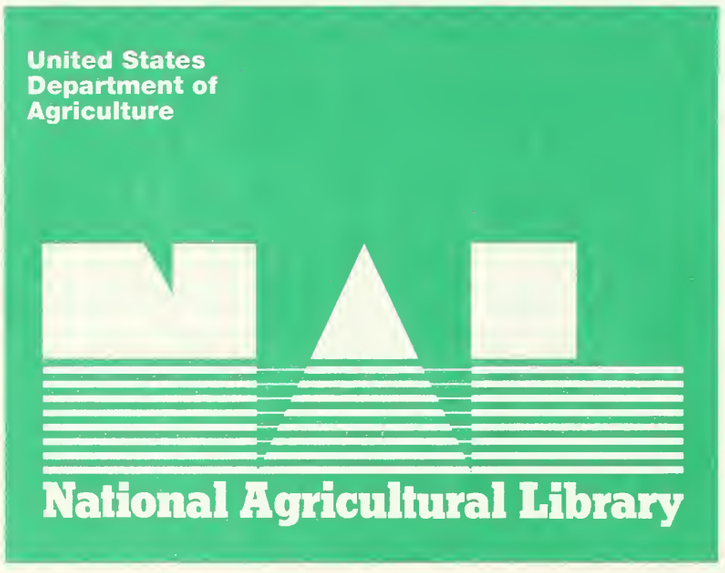
Quality Nutrition Services in the Special Supplemental Food Program for Women, Infants, and Children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Quality Nutrition Services in the Special Supplemental Food Program for Women, Infants, and Children

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Foreword

A National WIC Nutrition Services Conference, entitled "Challenges, Changes, and Choices—Skill Building and Sharing," was held August 25-28, 1991 in Memphis, TN. This document, a product of the conference, has a two-fold purpose. It serves as: 1) a record of the conference proceedings; and 2) an ongoing reference for State and local agency educators on various aspects of providing quality nutrition services. FNS hopes the conference and this document will stimulate new and innovative ideas and enhance coordination efforts.

The conference emphasized a "hands-on" approach to the delivery of nutrition services in the WIC Program. The goals of the conference were as follows:

- *To create opportunities for State and local WIC agency staff to enhance their knowledge and skills on subjects relating to quality nutrition services.*
- *To provide a forum for the exchange of ideas and sharing inform–ation on all aspects of the nutrition services component of the WIC Program.*
- *To improve the ability of conference attendees to achieve nutrition services goals and objectives and to enhance the quality of nutrition and health-related services provided to WIC participants.*
- *The conference was attended by approximately 600 persons from both the public and private sectors of the community, representing all 50 States plus the District of Columbia, Puerto Rico, and Guam. Most were WIC State and local agency staff, including program directors, nutritionists, nurses, lactation consultants, breastfeeding coordinators, home economists, educators, and nutrition assistants.*

The 55 speakers included a cross section of Federal, State, and local agency WIC staff, plus experts from universities, hospitals, and State and Federal agencies.

There were three plenary sessions:

- *Opening Session, with FNS Administrator Betty Jo Nelsen, FNS Southeast Regional Office Administrator Virgil Conrad, and the Director of Supplemental Food Programs Division Ronald J. Vogel.*
- *Breastfeeding Promotion, with four State WIC Nutrition Coordinators, Marlene B. Guroff, FNS, and Dr. Carol Suitor from the National Academy of Sciences.*
- *Alcohol and Other Drug Use Prevention, with pediatrician Dr. Barry Zuckerman, Boston City Hospital.*

There were 35 concurrent sessions, 5 during each of the seven time periods. Eight of these, however, were repeated sessions. The 27 unduplicated sessions are listed in the table of contents alphabetically by name of the session rather than by the time period in which they occurred.

Acknowledgments

USDA is pleased to acknowledge the efforts of the following FNS staff members who served as conference coordinators to help make this event a success:

Supplemental Food Programs Division:
Paula Carney, Doris Dvorscak, Tama Eliff, Rhonda Kane, and Robin Young.

Nutrition and Technical Services Division:
Donna Blum, Michele Lawler, Helen Lilly, and Brenda Lisi.

This document was prepared by James R. Stewart, Ph.D., under a contract with FNS, USDA. All sessions of the conference were tape recorded, transcribed, and subsequently condensed by the contractor. Most sessions were condensed to about 20 percent of their original length with a focus on the key points. The draft summaries were subsequently reviewed and edited by USDA. With few exceptions, the draft summaries were not reviewed or approved by the respective conference speakers. Final editing of the proceedings was provided by Grace I. Krumwiede under a contract with USDA.

In many cases, the speakers had handouts and other references available for further information about their topics. Some of these additional resources are included as exhibits with the synopses of the respective sessions. For additional information, write to the speakers at the addresses provided in appendix A.

The views and opinions expressed in the summaries by non-USDA speakers do not constitute an endorsement, real or implied, by USDA.

Acronyms

ACOG	American College of Obstetricians and Gynecologists
ADA	American Dietetic Association
AFDC	Aid to Families with Dependent Children, DHHS
ASTPHND	Association of State and Territorial Public Health Nutrition Directors
BBTD	Baby Bottle Tooth Decay
BPC	Breastfeeding Promotion Consortium
CAI	Computer-assisted Instruction
CDC	Centers for Disease Control, DHHS
CPA	Competent Professional Authority
DHHS	U.S. Department of Health and Human Services
EFNEP	Expanded Food and Nutrition Education Program, USDA
EPSDT	Early and Periodic Screening, Diagnosis and Treatment Program, DHHS
FAS	Fetal Alcohol Syndrome
FDA	Food and Drug Administration, DHHS
FNS	Food and Nutrition Service, USDA
HCFA	Health Care Financing Administration (Medicaid), DHHS
MCH	Maternal and Child Health
MCHB	Maternal and Child Health Bureau, DHHS
MCHING	Maternal and Child Health Interorganizational Nutrition Group
NAACOG	Organization for Obstetric, Gynecologic and Neonatal Nurses
NAWD	National Association of WIC Directors
NCHS	National Center for Health Statistics, DHHS
NET	Nutrition Education and Training Program, FNS
NTSD	Nutrition and Technical Services Division, FNS
PedNSS	Pediatric Nutrition Surveillance System
PHS	Public Health Service, DHHS
PNSS	Pregnancy Surveillance System
RDA	Recommended Dietary Allowances
SFPD	Supplemental Food Programs Division, FNS
SPRANS	Special Project(s) of Regional and National Significance, DHHS
USDA	U.S. Department of Agriculture
VOC	Verification of Certification
WHO	World Health Organization
WIC	Special Supplemental Food Program for Women, Infants, and Children, FNS

WIC—An Effective Partnership

Speakers:

Virgil Conrad,
Regional Administrator,
Southeast Regional Office,
FNS, USDA,
Atlanta, GA

Betty Jo Nelsen,
Administrator,
FNS, USDA,
Alexandria, VA

Moderator & Speaker:

Ronald J. Vogel,
Director,
Supplemental Food Programs Division,
FNS, USDA,
Alexandria, VA

Introduction of the FNS Administrator

—Virgil Conrad

I would like to welcome you to the Southeast Region. We have eight States here, Tennessee being one of them. We like to think that we are the best in the Nation, and we are going to try hard this week to impress you. So the first thing I want to do is offer you an opportunity to join our team. We have an opening for a full-time State or local person to join the Atlanta office for 1 year, under the Intergovernmental Placement Act, to assist us with program coordination efforts, particularly in the maternal and child health area.

Now it is my privilege to introduce our speaker for this morning. Betty Jo Nelsen joined our Agency as Administrator in January of 1990, providing leadership to our 12 food assistance programs totaling $25 billion annually. Prior to her appointment she served as State legislator in Wisconsin for 10 years. During her tenure she served on the Finance Committee and also on the Welfare Reform Commission.

Sometime ago I read a phrase, "What one person can dream, another can do." Betty Jo Nelsen has those unique qualities of being both a dreamer and a doer. I am pleased to present to you, Betty Jo Nelsen.

WIC—An Effective Federal-State-Local Partnership

—Betty Jo Nelsen

It is a great pleasure to be here at the first national meeting for WIC nutritionists. I am pleased that more than 600 of you have come, whether you came across town from a clinic here in Memphis or whether, like Kathryn Guzman, you flew 38 hours from Guam.

In remarks made last year on National Children's Day, President Bush said, "The Government must not and, indeed, cannot take over the primary responsibility of parents in caring for their children. However, the Government can help parents in their sometimes difficult role through wise and carefully developed measures that strengthen the family and give every child the opportunity to grow up safe, healthy and well–educated."

WIC's nutrition services are "wise and carefully developed measures" that fit the President's guidelines of proper Government activity because they empower parents to improve and protect their own health and that of their children.

Many Children Are at Risk

America has made great strides in reducing infant mortality. The rate of progress has leveled off, however, at about 9.7 deaths per 1,000 births, an unacceptably high rate compared to that of other industrialized nations. Nor is that the only area where the well–being of America's children is in danger.

In a recently released report, the National Commission on Children presented a sobering view of the status of children and families today. Among their findings:

- Most children have a bright future, but far too many do not.
- One child in four is raised by a single parent.
- One in five children is poor.
- One–half million babies are born annually to teenage girls ill–prepared for the responsibilities of parenthood.
- An increasing number are impaired before birth by their parents' substance abuse.
- Some live among violence and exploitation, much of it fueled by the thriving drug trade.
- In sum, many are poor, some are homeless, some are hungry.

How WIC Helps

WIC is one form of assistance for families and children at risk. The program addresses nutrition problems through supplemental food benefits, and refers participants to a range of programs, including health care, Food Stamps, and AFDC (Aid for Families with Dependent Children).

WIC's nutrition educators, like many of you here today, teach participants how to make good food choices, the benefits of breastfeeding, and the dangers of smoking and alcohol and other drug use. You deal with a wide range of nutrition issues, such as giving a pregnant teenager information that enables her to make better choices for her and her baby's health or encouraging a new mother to breastfeed.

You inform participants about health services, such as where to get immunizations as well as counseling and support services. You assist them in making changes in their eating habits and lifestyles. We know that this individualized effort, this education approach, pays off.

The combined efforts of nutrition aid and access to health care were demonstrated by the WIC/Medicaid study released last year. The study found that pregnant women who participate in WIC receive more prenatal care, have healthier babies and higher birth weights, and are less likely to give birth to premature infants. The study showed the WIC Program saved $2 to $3 in Medicaid for every dollar spent in WIC. That is why we say WIC works.

As a conservative Republican who hears a lot from taxpayers about managing our tax dollars, it is just wonderful for me to be able to go out and speak so proudly of a program that has demonstrated its cost effectiveness and the fact that it does work. This demonstration of effectiveness, as well as the

dedication of the staff members across the Nation, has led to WIC being a star in the Federal Government.

WIC is truly a cooperative partnership. Those of us in WIC at the Federal level are a little frustrated because we don't get to face those clients, to see those wonderful babies thriving from the nutritious supplemental foods, and benefiting from the counseling and other services.

We are available to help provide technical assistance, policy direction, and, of course, to do the battles in the Congress and in the administration. But it is all of you out there, and thousands of others like you, who really are on the front lines with the opportunity to see the clients. I envy you in many ways.

New Administration Initiatives for Children

Because WIC is such an effective gateway to the health care system, it has a special role in two of the Administration's initiatives for children. President Bush has called for a new program, "Healthy Start," to focus medical and social services on 10 cities with disturbingly high rates of infant mortality. Under the direction of Dr. James Mason, Assistant Secretary for the U.S. Department of Health and Human Services (DHHS), Healthy Start will aim to reduce infant mortality by 50 percent over 5 years in the selected communities.

The FNS has asked State and local WIC officials to actively cooperate in this effort. We hope you will participate through educational efforts and coordination activities if you are in one of the selected cities, or by reaching out and serving more women and children in your program.

Another exciting special project involves WIC in the first of the President's six national education goals: "By the year 2000 all children in America will start school ready to learn." The President has asked the Surgeon General to address the health component of learning readiness. And the Surgeon General has identified WIC as the primary food assistance program involved, because we touch the lives of so many needy preschool children.

Members of the WIC national staff, along with representatives of the U.S. Department of Education and DHHS, serve on a task force that is seeking ways to achieve this goal. The task force is planning a national conference, to be held in December, that will bring together families, Governors, State officials and health, education and social service professionals from across the Nation. Conferees will identify resources and set a common agenda for addressing the children's health needs.

Uniqueness of WIC

I would like to reflect a little bit on the uniqueness of WIC and what we need to do to protect that. Did you know that one out of every three babies born in the United States is on the WIC program? That is why WIC is always involved when policymakers discuss strategies to improve the lives of children. The WIC program serves a large proportion of the low–income population at risk of poor nutrition and inadequate health care.

An example of that is our involvement in immunization efforts. When it was discovered that a number of young school–age children had not been immunized against common childhood diseases, especially measles, it was apparent that the WIC program must be included in efforts to increase immunization efforts in the Nation.

A study in several cities that were particularly hard hit by the recent measles outbreak showed that 47 percent of the children who had come down with measles were from families being served by a Federal welfare program. Clearly, the Federal Government had a role in providing information, encouragement, referral, and some onsite services to those families, so that we could be sure that youngsters were protected.

At a meeting of the National Advisory Council on Maternal, Infant, and Fetal Nutrition, a person said, "Let's not forget our roots. Let's not forget the truly important part of the WIC Program—nutrition education. It is not just a supplemental food program." Of course, the nutrition education is the part that changes behavior and can change people's lives.

And just because we have so many children and moms in our program, let's not see WIC as the answer to everything. We have to guard against diluting the important WIC mission of nutrition education. WIC wants to continue to be a referral to the health care system, because we know that is imperative, and we want to participate in other Federal efforts. But we also want to remember what WIC is there for and protect and preserve that.

WIC recognizes the importance of good nutrition during gestation and infancy. We also see the need for education for the caregivers—counseling to those moms about the way they need to feed their families.

The *"WIC Exchange"* has lots of good ideas about what goes on across the country. And that is what this conference is about—sharing ideas, asking questions, and getting names from people who have similar problems to yours and who have some solutions.

Nutrition Education—A Priority of the USDA

Nutrition issues are a top priority of USDA's new Secretary, Edward Madigan. He has identified nutrition education with a special emphasis on children and low-income adults as one of the Department's four strategic goals. He is disturbed when he sees people make poor choices at the supermarket. He is disturbed especially when he sees them pay for inappropriate groceries with food stamps, because he believes we in Agriculture have a responsibility that goes beyond just providing food stamps. We have a responsibility to low-income families to provide some help in making wise food choices.

So our Secretary urges us to concentrate on youngsters. Talk to them about good nutrition. Help them to understand wise food choices, and they will go home and talk to their parents.

Like Cinderella, nutrition education has been sweeping the hearth unnoticed for a long, long time. But now nutrition education has been invited to the Ball!

Perhaps we will have to be as ingenious as fairy godmothers and godfathers in outfitting nutrition education for a more glamorous role at a time of fiscal restraint. But it won't be the first time that WIC magicians have been asked to make carriages out of pumpkins.

Now let me tell you a little bit about some of the things we are doing at the Department to make nutrition education accessible to groups at nutritional risk.

Dietary Guidelines for Americans

Last fall USDA and DHHS issued a revised *"Dietary Guidelines for Americans."* These guidelines provide nutritional advice for healthy Americans age 2 and over. This project occurs every 10 years when the Federal Government looks at the new nutrition information and decides what to recommend to healthy adults.

Perhaps the item that has drawn the most attention in the new dietary guidelines is that for the first time there is a quantitative standard for fat, which says that people over the age of 2 ought to have no more than 30 percent of their calories from fat in their diet. But the standard of how many servings of fruits and vegetables to eat a day is even tougher: 5 to 11 servings a day.

The Department is now in the process of developing a new graphic to depict the recommendations of the dietary guidelines. We want this graphic to accurately deliver the message to all Americans, especially low-income families and children. It is not easy to find a picture to tell the story, especially one understandable to children. Our partners at DHHS have been participating with us in developing this graphic. We expect the work to be concluded by the end of the year, with a graphic available for inclusion in publications this spring.

Coordination of Services

In addition, Secretary Madigan has established a Department-wide task force to coordinate and expand Agriculture's nutrition education activities. The task force is co-chaired by Assistant Secretary Catherine Bertini and Dr. Charles Hess, the Assistant Secretary for Science and Education. This task force has identified eight agencies in USDA with nutrition education-related responsibilities. It will determine how these agencies can coordinate activities and focus on groups that are most vulnerable.

Our fastest growing program in FNS is the Child and Adult Care Food Program. We provide meals for children in family day care, center-based day care, and also in the Head Start Program. We plan to develop nutrition education materials to help child care providers serve nutritious, economical, and safe meals and snacks. The training will include guidance for teaching preschool children about nutrition.

The Nutrition Education and Training (NET) Coordinators in the State education agencies across the Nation are partially funded by USDA. Their mission is to provide curricula for classroom teachers in their State. They are working with other States so that good curricula are borrowed from State to State. We are looking forward toward that NET network to help us in tasks at the Department.

The Expanded Food and Nutrition Education Program (EFNEP) is a USDA program that works in cooperation with county extension offices, available in some counties and not available in others. We are looking for ways to work more closely with EFNEP and to provide referrals for particularly tough cases in programs such as WIC, where you might feel a mom would benefit from a more concentrated and longer exposure to nutrition information. This will not take the place of nutrition education in the WIC program, but will really be another resource to WIC nutrition educators.

Nutrition education for WIC moms will continue to emphasize breastfeeding as the healthiest choice for babies. Last year USDA organized a consortium of health professionals and others to promote the practice of breastfeeding nationwide. You will hear more about this later in the conference.

I know you are urging your moms and dads to make wise food choices. I hope you are also urging them to choose low-cost, nutritious alternatives when they make those choices. We need to help people identify foods which provide nutrition and are relatively low cost.

I also want to urge coordination of services at the local level, preferably through co-location. Any time that we can work more closely with other health care services that provide help to the same client group (pregnant women, infants, and children) we have a synergy that expands our efforts tremendously. This is very important to our clients. It is not always possible to co-locate services, but if we have that as a goal, when we are looking for new space, we may be able to arrange that.

You are well aware of the nondiscriminatory nature of all our services. But I would like to urge you to take a step beyond the law, to ensure that the services you provide to our WIC clients are culturally sensitive, and are accepting of the values you find among them. It is easy to project our values onto

other people, and that is not fair. We must respect and protect cultural differences.

And, finally, as you know, many women are in the world of work, and that means that, in addition to their work hours and their child care hours at home, they are also trying to fit in a myriad of other chores. We cannot expect all women to be available to come to clinics between the hours of 8:00 a.m. and 5:00 p.m., especially if they are pregnant or have new babies or have young children. Our goal in this administration is to reach eventual full funding for the WIC program. That doesn't mean full funding just for those people who can come during the hours of 8:00 a.m. to 5:00 p.m. It means full funding for everyone who is eligible. Therefore, we must try to establish clinic hours that will accommodate everyone, including working moms.

This is a team effort of State, Federal, and local folks working together to make this program the best it can be for women, infants, and children. It is fun to be involved in a program that works so well.

Challenges, Changes, Choices

—Ronald J. Vogel

I just want to add that Betty Jo is as serious with us at the national office as she sounds here at the podium, particularly with respect to breastfeeding. She took a look around our agency and asked, "How come we don't have a breastfeeding lounge for working moms here in FNS?" So I lost my conference room.

Normally each year, FNS does a national technical assistance meeting. We picked the theme for this meeting, "Challenges, Changes, and Choices," for several reasons.

Challenges

One of the challenges that we are all facing is that we serve one out of every three babies born in the United States. WIC serves over 60 percent of all teenage pregnancies. By the end of September of this year, we will be serving 5 million participants per month.

Remember, this program is based on the premise of individual solutions to individual problems. The model is one-on-one. How do you do that with over 5 million people being served each and every month? That is a big challenge—especially since, in the near future, there is not going to be more money specifically for nutrition services and administration (NSA). In fact, some think the WIC Program already spends too much of the appropriation in this area.

Changes

The changes in our reauthorization act have put NSA funds at roughly 22 percent of the appropriation that Congress gives us. Some have suggested putting half of that money into food. So you have a job educating your congressional delegation and your State legislatures about what WIC does.

The MCHING (Maternal and Child Health Interorganizational Nutrition Group) meeting, organized by the DHHS, brought dozens of organizations together to chart a coordinated path for nutrition services across the country. There are a lot of resources out there right now available to help us do our job, if we think smart and we respond creatively. We have to work with our counterparts in health care and other arenas.

A recent article about the State of Alabama stated that, if a woman delivers without the benefit of any prenatal care visits whatsoever, the death rate is 59

infants out of 1,000. If the woman sees a medical professional at least once during each month of her pregnancy, eight visits, the rate in Alabama drops to 8.4 deaths per 1,000. That is better than the national average. This tells us something—in the delivery of nutrition services and other WIC benefits, we must make certain that we are also a major component of the prenatal care that is delivered.

We cannot forget our roots. We are first and foremost a nutrition services program. But we also have to remember that we do not operate alone—we operate in the environment of the public health delivery system.

Remember how Head Start got its beginnings? It started off as a compensatory education program. You give the preschoolers some enrichment and they are going to do a lot better in school. Then Head Start realized that, while compensatory education is their major mission, they need to deal with families holistically—with the full range of problems they face.

So Head Start contracts with the Maternal and Child Health Bureau for nutrition services. They coordinate extensively with the Early and Periodic Screening, Diagnosis and Treatment Program (EPSDT). They do a lot of work with parents. Now they do not refer to themselves as a compensatory education program—they are a comprehensive child development program. Similarly, WIC must be linked into the health care community.

Choices

And, lastly, we have choices to make. Are we are going to shoot for the very best we can deliver, or just try to get by? I know there are days when you feel you just can't do any more. But remember, kids are the resources of this Nation's future—we have to do the very best we can. ■

Breastfeeding Promotion

Speakers:

Kathy Dugas, M.S., R.D.,
Nutrition Coordinator,
WIC Program,
Mississippi State Department of Health,
Jackson, MS

Janice Lebeuf, M.P.H.,
Nutrition Consultant,
Nutrition Services Section,
Division of Maternal and Child Health,
North Carolina Department of Environment,
Health and Natural Resources,
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WIC Nutrition Services Coordinator,
WIC Bureau,
Iowa Department of Public Health,
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Mary Kay DiLoreto, R.D., M.S.,
Nutrition Education Coordinator,
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Marlene B. Guroff,
Special Assistant to the
Deputy Administrator,
Special Nutrition Programs,
FNS, USDA,
Alexandria, VA

Carol Suitor, D.Sc., R.D.,
Study Director/Program Officer,
National Academy of Sciences,
Washington, DC

Moderator :

Susan Mayer,
Regional Nutritionist,
Supplemental and Indian Food Programs,
Southwest Regional Office,
FNS, USDA,
Dallas, TX

Overview

—Susan Mayer

In this session, four State Nutrition Coordinators report some successes in implementing the breastfeeding provisions of Public Law 101-147, the WIC Reauthorization Act of 1989. Then Marlene Guroff from the FNS national

office reports on the Breastfeeding Promotion Consortium (BPC) and the breastfeeding promotion media campaign. Finally, Dr. Carol Suitor summarizes the Institute of Medicine Report, *"Nutrition During Lactation"*.

Breastfeeding Promotion in Mississippi

—Kathy Dugas

Since 1983 I have seen many breastfeeding initiatives in Mississippi. We have done training sessions and purchased materials, resources, and videos for our staff. We were always able to generate some enthusiasm, but we couldn't sustain that enthusiasm for long periods of time. The reason was that we were depending on our existing staff to do it in addition to doing everything else. We realized that we needed staff specifically assigned for breastfeeding.

WIC services in Mississippi are provided in all 82 of our county health departments, plus 12 community health centers. There is only one private provider. About 75 percent of all of our WIC participants utilize the health department as their major source of health care. That means that we have access to many women and their infants, not just at certification, but all through the prenatal period.

Last October we implemented a breastfeeding peer counselor program. When we went to our personnel board and said we were mandated to do this under Public Law 101-147, we were able to get approval of a District Coordinator and two levels of local staff:

- **Peer counselors,** mostly WIC mothers who have breastfed, work with other WIC mothers.
- **Lactation specialists,** who have more training, such as La Leche League leaders and certified lactation consultants, teach some prenatal and breastfeeding classes, and work with our staff on the more specialized problems.

Initial promotion continues to be done by existing staff during the WIC certification and through prenatal clinics. When appropriate, they are referred to one of our peer counselors, who makes contact with them all through the prenatal period, and after delivery. Some of them are even making contact with the woman while she is still in the hospital. After she goes home, they continue to make contact with her until she weans the baby.

We don't know for sure how much of an impact we are making. We are struggling to find the best way to collect accurate data on incidence and duration. The 6-month average of women certified as breastfeeding has increased from 107 to 152 per month throughout the State. Enrollment of breastfeeders has increased from 757 to 1,045 in 9 months.

Breastfeeding Promotion in North Carolina

—Janice Lebeuf

Our Breastfeeding Promotion Committee, which began in 1987, set three areas to work in:

- **Policies and procedures** for WIC, plus a public health position paper on breastfeeding.
- **Professional training,** including scholarships for public health personnel to attend out-of-State training programs, State-sponsored training, and a Breastfeeding Educator Program at a private hospital.
- **Client education and support,** to develop education materials and implement project grants.

The Breastfeeding Educator Program has 2 days in the classroom, followed by a 1-day clinical experience. As a result of this training, many public health staff feel more comfortable with their skills related to breastfeeding education and support.

We developed breastfeeding education kits, which were distributed to all of our local health departments and WIC Programs, as well as health libraries, so that private providers and hospital staff can access them.

We offered all local WIC Programs an opportunity to apply for Breastfeeding Education and Support Project grants in three categories:

- Innovative community-based projects—we funded six innovative projects at $20,000 each.
- Multi-county lactation clinics.
- Peer counselor projects—we funded 10 projects at $5,000 each. The peer counselors are used in a variety of different ways. They assist with prenatal classes, they make postpartum hospital visits and home visits, and they contact breastfeeding women by phone.

Many of the innovative projects incorporate community-based training, some involve WIC-hospital coordinated services, and others have purchased electric breast pumps or made arrangements with rental depots to rent pumps for WIC moms with special needs babies. In one of the projects, the WIC Program has subcontracted with EFNEP for a community aide, who is cross-trained in breastfeeding, to do home visits.

We subcontracted with a university survey research unit to telephone about 1,200 pregnant women to determine attitudes, intentions, and behaviors related to infant feeding. The second phase of the telephone survey will be on the same women, postpartum, to see if those that intended to breastfeed did. If so, how long? If not, what were the barriers? Those surveys are completed, but we do not have the results analyzed yet.

Breastfeeding Promotion in Iowa

—Brenda Dobson

Breastfeeding promotion and support activities in Iowa since the early 1980's have included:

- Revision of our Infant Diet History form to assist staff in evaluating the breastfeeding relationship.
- Development of an infant feeding survey to determine each pregnant woman's attitudes and knowledge about breastfeeding.
- Distribution of breastfeeding protocols to assist staff in providing accurate and consistent information during the prenatal and postpartum contacts.
- Printing several new brochures for use with clients, including Spanish materials.
- Distribution of client education bags and videotapes.
- Purchase of manual pumps and breast shells, as well as leasing of portable electric pumps.
- Expanded membership of the Iowa Lactation Task Force.

Iowa Lactation Task Force

We formed the Iowa Lactation Task Force in 1986 to decide what activities to pursue in our State to try to reach the 1990 breastfeeding goals. At that time, about 46 percent of women were breastfeeding immediately after delivery.

We first did a mail survey of hospital breastfeeding practices and found that health professionals needed access to current information on breastfeeding. As a result, we did eight workshops across the State. Over 250 individuals attended these workshops, including hospital nurses, hospital dietitians, public health nurses, public health dietitians, childbirth educators, nurses from physicians' offices, health educators, La Leche League leaders, and a few physicians.

Since then, the workshop has become an annual part of our ongoing training for public health staff in the State. We also have made the workshop available at community request and have done six community sessions so far.

The breastfeeding provisions of Public Law 101-147 encouraged us to expand the membership of the Iowa Lactation Task Force. Now, groups represented include consumers, the Family Planning Council of Iowa, the Iowa Academy of Family Physicians, Iowa Association of Nurse Practitioners, Iowa Chapter of the American Academy of Pediatrics, Iowa Department of Education, several programs from the Iowa Department of Public Health, MCH Public Health Nursing and WIC program, the Iowa Dietetic Association, Iowa Hospital Association, Iowa Nurses Association, Iowa Section of the American College of Obstetricians and Gynecologists (ACOG), La Leche League of Iowa, and Nurse Associates of the College of Obstetricians and Gynecologists (NACOG).

The group has worked in four areas:

- **Position statement,** about breastfeeding promotion and support.
- **Data collection,** for information about the infant feeding decision, how many breastfeed, for how long, reasons for weaning, and what their community sources of information and support are.
- **Education,** including seminars and workshops, client and professional materials and input on WIC breastfeeding protocols.
- **Hospital policy,** including doing another mail survey and drafting model hospital policies .

Breastfeeding Promotion in Oregon

—Mary Kay DiLoreto

We began our breastfeeding promotion efforts in Oregon in 1988, in response to a local agency needs assessment. The four components we focused on have been

1. **Staff training**, which includes:

   - **Regional conferences.**
   - **Scholarships** for people to get more clinical training for managing breastfeeding problems.
   - ***"Breastfeeding Resource and Training Manual,"*** which incorporates competency-based training for paraprofessionals, but also provides basic training for health professionals. It covers individual counseling as well as group education, plus a resource section to get further information.
   - **Resources** at local sites, such as education kits, texts, references, and problem-solving manuals.

2. **Client incentives,** to provide encouragement and tangible rewards for moms, such as infant T-shirts saying "I Eat at Mom's," in English or Spanish, and adult T-shirts saying "I Gave My Baby a Great Start," for moms who breastfeed for 6 months or longer

3. **Local agency nutrition education plans** on breastfeeding promotion include:

   - Developing support groups.
   - Improving clinic image to support breastfeeding.
   - Coordinating with hospitals, La Leche League, and other resources.
   - Creating a private area in the clinic for breastfeeding.
   - Sending postcards with information to new moms.
   - Making supportive phone calls to moms shortly after birth.
   - Setting up community task forces at the local level.
   - Establishing peer counseling/support programs.
   - Displaying pictures of moms and their babies in the clinic.

4. **Data collection** which showed:

   - About 78 percent of our moms initiate breastfeeding (this has been constant for the past 3 years).
   - About 40 percent of those moms continue breastfeeding for at least 6 months.

Breastfeeding Promotion Consortium (BPC) and Media Campaign

—Marlene B. Guroff

The BPC began in the spring of 1990, when members of the American Academy of Pediatrics met with Catherine Bertini, USDA Assistant Secretary for Food and Consumer Services. The BPC, which is chaired by Ms. Bertini, is a group of 22 health professional, Government, and public health organizations. We are now looking to invite a representative from the business community.

USDA, with the support and the endorsement of other BPC organizations, agreed to accept the lead responsibility for developing a nationwide media campaign to promote breastfeeding as the optimal method of infant feeding. This idea was further strengthened in the 1990 report to Congress by the National Advisory Council on Maternal, Infant and Fetal Nutrition. The campaign also derives from a commitment to help realize the Year 2000 Health Objectives for the Nation, which include a goal of increasing to at least 75 percent the proportion of mothers who breastfeed their infants in the early postpartum period, and to at least 50 percent those who continue to breastfeed until the infant is 5 to 6 months of age.

Activities of BPC

Activities of the BPC include:

- Sharing resources and ideas among member organizations.
- Public education, including the media campaign and distribution of information by member organizations.
- Professional education, health professional curriculum reform, especially development or review of the curricula for nurses.
- Establishing a network of State and local coalitions.
- Increasing the awareness of health care providers on how to better promote and support breastfeeding.
- Drafting a survey on health professionals' knowledge, attitudes, practices, and barriers to promoting breastfeeding.
- Legislation and advocacy. The Center on Budget and Policy Priorities will look at further advocacy or possible legislation. The Senate Select Committee on Hunger may hold a hearing on breastfeeding.
- Sharing ideas on workplace support.
- Looking at enhancement of the hospital environment to support breastfeeding.
- Changing breastfeeding images in the media. Ms. Bertini will be talking with producers of TV and movies to encourage story lines that are more supportive of breastfeeding.

Goals of the Media Campaign

These goals are:

- To increase awareness and knowledge about breastfeeding as the optimal method of infant feeding among the general public.
- To create a supportive, accepting public environment with respect to breastfeeding.
- To motivate and support women to initiate and continue optimal breastfeeding.

- To increase awareness of and encourage concrete action among those who influence infant feeding decisions on ways to promote and support breastfeeding.
- To form a network of State and local coalitions to support the campaign and to continue promoting breastfeeding after the campaign ends.

The work plan identifies the primary target audience as the Nation as a whole. Secondary audiences include health care providers, hospital administrators, media representatives, employers, educators, policymakers, mother-to-mother support groups, and other community groups.

In June 1991, the BPC Technical Consultant Group decided to recommend an upbeat emotional appeal, a warm and fuzzy kind of approach, that would give women confidence in their ability to breastfeed. Some of the possible titles suggested were, "A Gift That Only You Can Give," "A Moment That Lasts A Lifetime," "Nature Provides Its Best," and "Make Yours Nature's Way."

We are working on a logo, slogan, public service announcements (PSA's), media kits, and organizer's kits, which must be in everyone's hands before we hit the air waves with PSA's. Later on, we will prepare a health professional kit and an employer's kit.

Planning and Implementation Phases

The Planning Phase includes:

- Liaison with the administration (for overall approval of the campaign).
- Compilation of background information and reports of examples from all across the country.
- The process of going through Office of Management and Budget (OMB) and then to Congress to obtain separate funding authority for the campaign. Funding is not coming from the $8 million that you now receive for breastfeeding promotion. We have a small amount of seed money.
- Consideration of other promotional activities, including a Presidential proclamation, various nationwide kickoff activities, awards programs for individuals and programs making a significant contribution to breastfeeding, and maybe a "most beautiful breastfeeding baby" contest.
- Development of an organizational structure and process.
- Development of the campaign plan, including the message, possible recruitment of a spokesperson, materials development, communication plans, a possible toll free number, plus the coalition building.

The Implementation Phase includes:

- Materials production
- Materials distribution
- Liaison and promotion with the media
- Evaluation

We hope to have an organizer's kit available in all States in 1994, and plan the kickoff with media, PSA's, posters, brochures, etc., in January 1995. We have not put an ending date on the campaign, as it depends on the funding we receive.

Findings in the Institute of Medicine Report "Nutrition During Lactation"

—Carol Suitor

"Nutrition During Lactation", published in 1991 by the Institute of Medicine focused on the following questions: What are the nutrient needs of a breastfeeding woman? How can they be met? What happens if they are not met? What effects may breastfeeding have on the long-term health of the woman and of her infant?

Charge to the Committee

"Nutrition During Lactation" was written by a nine-member panel, chaired by Margit Hamosh of Georgetown University. The charge to the committee was to:

- Evaluate the current scientific evidence concerning breastfeeding and formulate recommendations for the nutrient needs of lactating women.
- Give special attention to teens, women over the age of 35, and minority groups, such as women of African-American, Hispanic, or Southeast Asian origin or descent.
- Determine effect of breastfeeding on the nutritional status and long-term health of the woman.
- Determine effect of the mother's nutritional status on the volume of human milk, its composition, and changes in infant health.

Conclusion: Breastfeeding is Recommended

The report focused on the mother, but also includes considerable information about the infant. In fact, the report shows postneonatal mortality rates are lower for breastfed than bottlefed infants. The general conclusion was, "Breastfeeding is recommended for all infants in the United States under ordinary circumstances."

A literature review found very little useful data on dietary intake of breastfeeding women. The average volume of milk produced was found in many studies to be between 600 and 850 milliliters (about 20 to 26 ounces) per day, whether in developing countries or industrialized countries.

Factors Influencing Volume of Milk

Factors that influence let-down or volume of human milk are:

- Nutritional status
- Stress
- Drug abuse
- Cigarette smoking
- Alcohol consumption
- Oral contraceptive agents

The factors that are most influential for the infant's health, however, are the infant's nursing practices, and the frequency and the intensity of the nursing itself.

Composition of Milk and Supplements

Maternal factors that influence the composition of human milk are principally length of gestation and number of weeks postpartum, with maternal diet and nutritional status less important. The vitamin content is dependent upon the mother's intake and stores, but is not apt to change as a result of day-to-day changes in maternal diet. It generally takes a prolonged period of low intake to make a difference. You can find sharp increases as a result of supplementation with certain vitamins, but that is going to abnormally high levels. The only problems are in women with diets very low in B-12 and thiamine, which are generally not a problem in this country.

The recommendation is to encourage lactating women to obtain their nutrients from a well-balanced, varied diet, rather than from vitamin/mineral supplements. Lactating women require more of all nutrients than women at any other stage of life, with the exception of iron. But if they follow eating patterns that are consistent with those reported by women in the Continuing Survey of Food Intake by Individuals, and they meet their calorie needs, they will get nutrient intakes comparable to recommended dietary allowances (RDA).

It is not essential to have a perfect diet to have good milk. If intake is lower than recommended, the milk is fine, but the woman may be depleting her stores. The nutrients that require the most attention are calcium, zinc, folate, magnesium, and vitamin B-6. So encouragement of dairy foods and vegetables can be very helpful.

If the woman consumes less than an 1,800 calorie diet, which is not a recommended practice, then the committee says she should take a multivitamin supplement. She may need supplements if she has no source of vitamin B-12 (only applies to strict vegetarians), if she is avoiding calcium-rich foods, or if she gets no exposure to vitamin D and no vitamin D-fortified foods.

Fluid intake doesn't really make much difference. If you quench your thirst while you are nursing, that should be adequate.

The Committee recommended the development of a well-defined plan for the health care of the lactating woman, including screening for nutritional problems and providing dietary guidelines. Diet is of less immediate concern, however, than breastfeeding practices that help the mother establish an ample milk supply.

Women are concerned about their weight, but you should give realistic advice about weight change during lactation. The weight loss rate may be 1 to 2 pounds a month. There were a substantial number of women who did not lose weight at all or who even gained weight when they were nursing.

Problems From Drugs, Cigarettes, and Alcohol

Do the substances that women eat or drink pass into the milk and affect the infant? Studies of colic and allergy show little indication of effects on the infant. The committee recommends that if allergies are suspected, basic foods should not be eliminated from the diet without adequate testing to document an allergic reaction.

Substance use, however, is a big problem. The committee recommends active discouragement of drugs, cigarettes, and alcohol. They found no scientific evidence that alcoholic beverages provided any benefit for breastfeeding. In fact, milk volume is impaired by high intake of alcohol, such as two glasses of liquor, 8 ounces of table wine, or two bottles of beer.

The effects of breastfeeding on maternal health were unclear. We are not sure of the long-term effects of breastfeeding on obesity. As far as breast cancer is concerned, some studies suggested a decreased risk, but others saw no difference at all. Since the calcium needs are so high during lactation, you

might expect to see a higher problem with osteoporosis, but the evidence suggests that breastfeeding may be protective.

Slower Weight Gain Is No Problem

The Committee looked at differences in growth between healthy breastfed and formula-fed infants. After the first 2 to 3 months, healthy breastfed infants, fed on demand, tend to gain weight somewhat more slowly than do those fed formula, but there are no ill effects. Sometimes there is a tendency to have women stop breastfeeding because their infants are not gaining at quite the expected rate. You should monitor weight so that you don't miss growth problems, but don't take a woman off breastfeeding unnecessarily.

Copies of the summary can be obtained from the Maternal and Child Health Clearinghouse. The Committee on Nutritional Status During Pregnancy and Lactation is in the process of preparing a "*Clinical Applications Guide*" based on both reports, "*Nutrition During Pregnancy*" and "*Nutrition During Lactation*". The guide is targeted mainly toward practitioners, with a focus on physicians and nurses, rather than on dietitians. "*Nutrition Services in Perinatal Care*" is being revised and will be available in Spring 1992. ■

Alcohol and Other Drug Use Prevention

Speaker:

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Moderator:

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Barry Zuckerman

I am delighted to be here because I have great admiration for all of you who work with WIC. Clearly, it is one of the best, most effective, and critically important programs we have for children.

My remarks today are based both on common sense and good empirical data. I will show that, except in extreme situations, babies are actually well protected in utero. I think drugs and excessive alcohol have had devastating effects on families and communities—resulting in devastating effects on children. But I am going to show you the data that some reasonable drinking, even up to one or two drinks per day, if there is good nutrition and otherwise good health, is not harmful to the fetus. I would suggest to you that that is also based on common sense. I assume a good many of you had mothers who drank during pregnancy, and you don't seem much the worse for it.

I also want to talk about cocaine and separate fact from sensationalism and talk about models of how we can help children. I will give you a few hints about observations you can make about mothers and children to incorporate into your work regarding nutritional counseling.

Advice on Parenting

Just for a little fun, let me start off with a brief review of advice about parenting from experts over the past century.

Emmitt Holt, one of the first pediatricians in our country, published in 1894, *"The Care and Feeding of Children"* in which he said,

> *"At what age may playing with babies be begun? Never until 4 months, and better not until 6 months. The less of it at any time, the better for the infant. What harm is done by playing with very young babies? They are made nervous and irritable, sleep badly and suffer in other respects. When should children be played with? If at all, in the morning or after the midday nap; never just before bedtime."*

About 30 years later in 1928, John Watson published *"Psychological Care of Infant and Child."* Dr. Watson, as the father of behaviorism in this country, emphasized the importance of behavioral strategies of parents shaping children.

"There is a sensible way of treating children. Treat them as though they are young adults. Dress them, bathe them with care and circumspection. Let your behavior always be objective and kindly firm. Never hug and kiss them. Never let them sit in your lap. If you must, kiss them once on the forehead when they say goodnight. Shake hands with them in the morning. Give them a pat on the head if they have made an extraordinarily good job of a difficult task. Try it out. In a week's time you will find how easy it is to be perfectly objective with your children and at the same time kindly. You will be utterly ashamed of the mawkish, sentimental way you have been handling them."

Listen to what Dr. Benjamin Spock said in 1945,

"Don't take too seriously all that the neighbors say. Don't be over-awed by what the experts say. Don't be afraid to trust your own common sense."

I think this last statement is critical for all of us who give advice to parents, whether it is about nutrition or parenting. We should identify what the parents are doing and find strengths in that, and not always tell them what they are doing is wrong. By undercutting their confidence and their authority, we are really undercutting their ability to raise their child.

Our strategies have to be to support parents, to empower them to feel competent with their children. When they feel competent and comfortable, it will be transmitted to their child, and then their child will grow up feeling competent and comfortable. When they are anxious, confused, undecided about what is right to do, whether it is feeding or behavior, then the children will also grow up confused and not as competent as we would like.

Problems Facing Children

I have just completed 2 years serving as a member of the National Commission on Children. We looked at problems facing children, and also at programs that may work for children. The biggest problem we see facing children is poverty. The 1990 poverty rate for children was 19.9 percent, while the rate for the elderly was only 12.2 percent. The wonderful programs for the elderly have put most of them out of poverty. There has been a significant downward trend over the past 30 years.

On the other hand, after an initial downward trend, the poverty rate for children has gone up since the late 1960's. Children now are the number one poor group in our country. Almost 20 percent of all children and 44 percent of African-American children are living in poverty. And with poverty comes a variety of medical stresses, such as lead poisoning, prematurity, undernutrition and anemia, plus social stresses, all of which impact on children's growth and development.

I think that, over the next 4 to 6 years, children will become the cornerstone of domestic policy in this country. That will have big implications for you because WIC and Head Start and health insurance are the keys to providing a framework for all children. I believe the future of our country depends on our ability to support children to become productive members of society. To do that, most parents need one sort of support or another from the Government, whether it is State colleges or a variety of other types of benefits. Almost all families are somewhere on this continuum of need and should be helped by the Government.

Alcohol Use During Pregnancy

Now I will review the issue of alcohol during pregnancy, with a quick overview on the notion of fetal alcohol syndrome (FAS), and then discuss what is a safe level of drinking. Remember that during gestation, each organ system has two

stages of growth. One stage is an increase in cell numbers, so as you get more cells you get bigger. The second overlapping stage is an increase in cell size.

If you have an insult late in pregnancy, cell size will stay small. They will all be there, but they will be small. After birth, with nutritional supplementation, these babies grow quickly. They are usually long, skinny babies, but within 2 or 3 weeks, these babies grow well.

On the other hand, if an insult, such as heavy alcohol use, starts early in gestation and continues, you get a smaller number of cells per organ. Then all of the postnatal supplementation in the world may not allow you to catch up. At birth these babies look better than the long skinny babies, but they are shorter, which indicates chronic malnutrition. Other outcomes are central nervous system impairment, including microencephaly and characteristic facial dysmorphology.

I think that there are many unanswered questions about FAS. There is not a single model that says alcohol causes all of it. I think nutrition plays a critical role—not many of us have ever seen a well-nourished alcoholic. Good parenting afterwards, good nutrition both before and after, certainly can have a preventive effect.

Not all children of alcoholics have FAS. As a matter of fact, the vast majority do not. Even in one study of twins, one twin had FAS and one twin did not. How much is nutrition? How much is genetics? What are the other protective factors? I don't think we know.

The typical amount of drinking in a mother with an FAS baby is 14 drinks per day. We are talking heavy alcoholism.

It is usually linked with cigarette smoking. Women who smoke a pack per day, compared to those who don't smoke, produce 194 grams lower birthweight. When you control for other confounding variables, however, such as weight gain during pregnancy, prepregnancy weight, other drugs, and other demographic risk factors, the amount attributed to cigarettes in our study is only 83 grams. A smoker of marijuana versus nonsmokers, has a 300-gram difference in birthweight. But when you control for the interrelated confounding factors, it is only a 105-gram difference, but still statistically significant.

Looking at alcohol alone, we find drinking two or more drinks per day produces a 228-gram lower birthweight. But when we control for the other factors, alcohol impact is down to 51 grams, which is not statistically significant.

A study by B. B. Little, which was reported in the mid 1970's in *"The American Journal of Public Health,"* showed that 1 ounce of absolute alcohol (two drinks per day) prepregnancy was associated with a decreased birthweight of 90 grams. This same amount of drinking mid to late pregnancy, 5 to 8 months, was associated with a decreased birthweight of 160 grams. She did not control for prepregnancy weight, weight gain, and marijuana, however. The first two are major nutritional variables. In every study of pregnancy outcome these two factors account for more of the birthweight than any other factor except gestational age. It raises questions in my mind about the validity of those findings, and of other studies that did not control for these and other important factors.

What is my argument against the policy of saying, "There is no safe level of drinking?" Well, first of all, there is no scientific evidence. Second, there could be unnecessary abortions. I frequently get calls, such as "I didn't know I was pregnant. I had four or five beers. I don't want to have a deformed baby. I want to get an abortion." There is also unnecessary anxiety by mothers if they do have a drink before they know they are pregnant, let alone if they do it afterwards. And that anxiety may affect their other health behaviors, let alone their peace of mind.

I also wonder whether the policy detracts from an emphasis on nutrition and general physical health. If we give women too many things to do, then

we may not emphasize the important things. Cigarettes are much more dangerous than alcohol. Good nutrition is also much more important.

I don't want to trivialize the problem. Alcohol abuse is dangerous and deadly. But my reading of the literature is that there is no apparent detrimental effect of one or two drinks per day in an otherwise healthy, well-nourished woman. Remember, we are not talking about "averaging" one or two per day, by saving it all up and having 14 drinks on Friday or Saturday. That heavy dose over a short period of time could be harmful.

Dealing With Heavy Drinkers

What is needed? Number one is the identification of heavy drinkers. One in every eight adults in this country is an alcoholic, making alcoholism your number one problem. Second, we need to provide treatment. Excessive alcohol during pregnancy is harmful to the fetus, and certainly the caretaking by an alcoholic parent is also a problem. The effect of alcoholism extends much beyond the prenatal period.

Misinformation About Cocaine

There has been a lot of misinformation published regarding cocaine. It seems that some professionals may have been giving the press inaccurate information . In 1990, *"Newsweek"* described the "crack kids" as "a lost generation." *"The New York Times"* said, "The parents and researchers say a vast majority of children exposed to significant amounts of drugs in the womb appear to have suffered brain damage that cuts into their ability to make friends, know right from wrong, control their impulses, gain insight, concentrate on tasks and feel and return love."

These messages suggest a universality and permanency of brain damage to cocaine-exposed children. Universality means that all of the children are permanently brain damaged. That is absolutely not true. I am particularly concerned about the associated stigma.

Because of this, a very large group of children is in danger of being "written off." Moreover, a social sentiment has arisen that the loss of these children is entirely attributable to the prenatal effects of cocaine (a permanent biological factor). Such a conviction works toward exempting society from having to face other possible explanations of the children's plight—explanations such as poverty, community violence, inadequate education, and diminishing employment opportunities that require deeper understanding of wider social values.

Cocaine Children Can Be Helped

Cocaine is a serious problem—it impacts prenatally, as well as on families and communities. But the last thing that is true is that the children can't be helped—and the labels themselves are damaging. For example, the research, particularly by Rosenthal, shows the effects on pupil outcomes of labeling by teachers. Some 47 percent of low-income children, whose teachers were told that they were late bloomers, gained 20 or more IQ points in a year, compared to 19 percent of the controls. The teachers who saw these kids as late bloomers said to themselves at the beginning of the year, "They will do well." And by the end of the year they did—that is the impact of a self-fulfilling prophecy.

Another example of the damaging effect of labels is that one adoption agency in this country won't take cocaine-exposed children because, based on all of these images, they say they are not adoptable. So the main thing these children need—good homes—is being denied to them due to this stigma, which is not substantiated by the data. As Sherlock Holmes said, "It is a capital

mistake to theorize before one has data, else one begins to twist facts to suit theories instead of theories to suit the facts."

It appears policy decisions have been made on preliminary observations, which did not use good science. Biased study populations is one problem. Many data come from women and children in drug treatment programs—clearly they are a special group of women, and the findings are not generalizable to other populations.

Another problem is the lack of control of confounding variables. Let's just look at birthweight. For women who did not use cocaine, it was 3,254 grams. For women who had a positive urine assay for cocaine during pregnancy, it was 2,847 grams. A 400- gram difference in birthweight is pretty big—about a pound. When you look closely, however, women who use cocaine also smoked cigarettes, drank more alcohol, used more marijuana, and were more likely to use opiates. They also had fewer prenatal care visits. Their weight before pregnancy was 10 pounds less and their weight gain during pregnancy was 8 pounds less—significant nutritional factors. And they had more sexually transmitted diseases.

When we controlled for all that, cocaine contributed about 25 percent of that 400-grams decrease in birthweight—about 93 grams. Cigarette smoking contributed more and nutrition contributed more. Therefore, we need comprehensive programs for women which include all the factors.

We really don't know much about the prevalence of cocaine. There are no good, reliable, national estimates. Among women giving birth in Boston City Hospital, it was 18 percent, and at Yale New Haven Hospital some studies showed 50 percent. The prevalence outside the inner cities is really unknown. A statewide survey in Rhode Island showed 2.6 percent of women. When they looked at zip codes, it was five times more prevalent among poorer neighborhoods.

How Cocaine Affects the Body

Cocaine blocks the reuptake of neurotransmitters. The result is a magnification of the signal at the nerve synapse. So you get higher blood pressure, higher pulse rate, more sweating, just like the "flight or fright" response. You also get magnification of the dopamine response—which makes you feel good. That is the high.

Cocaine is a very rewarding compound, probably because of the dopamine, but it is short-lived (10 to 15 minutes). There is a depletion of dopamine, however which is associated with a very bad, biologically based depression. You feel lousy—and the only way you can feel better is to take some more cocaine. That contributes to its repetitive use, because when people come down so quickly they want to go back up where they were, stay feeling good.

Cocaine is metabolized by the enzyme cholinesterase, which is usually lower during pregnancy but not always. The higher the level of that enzyme, the more protection children will get—which contributes to the variability of outcomes. For people with a low level of that enzyme, a normal dose can have a devastating impact.

Dealing With Cocaine Addicts

Let's talk about the way addiction controls people. All of us get angry at women who do things that potentially can harm their fetus, let alone harm their child after birth. It is understandable why we are angry, except it interferes with our job to help mothers and children. We have to understand our own feelings and get beyond them to help people. The power of addiction is known by those of you who have tried to stop cigarette smoking or lose

weight—and cocaine is certainly much more difficult to battle. But with a lot of help, many can overcome it.

I know dealing with addicted women engenders a lot of feelings of anger and hostility that frequently come out despite your best intentions. And then you end up pushing people away—instead of getting them into a treatment program. What we are learning is that perhaps 80 - 90 percent of them had been sexually abused or physically abused as children. Part of the addiction is a way of self-medicating for the pain and memories that the abuse created.

Effects of Cocaine on Newborns

Consistent findings clearly show impaired growth and smaller head circumference in some cocaine-exposed newborns. In the largest study to date, 10 percent of the infants had microencephaly, which is three times the normal rate. Inconsistent findings show prematurity, congenital abnormalities, and perhaps neurobehavioral difficulties. We are not sure there are any withdrawal symptoms. There are some transient findings, including minor EEG findings, auditory-evoked potentials, eye changes, but all of those are minor and revert to normal within 3 to 6 months.

Cocaine causes symmetrical growth retardation with decreased fat and lean body mass. Since we control for mother's weight gain during pregnancy and other nutritional factors, it may be due to decreased nutrient transfer caused by vasoconstriction. Cocaine use may cause the blood vessels to constrict, decreasing oxygen and nutrients to the baby. Since dopamine decreases appetite, the mothers may not want to eat. Those are indirect effects of cocaine.

Are there any direct effects? We know cocaine goes to the brain of the fetus. But we don't know if it alters neurotransmitters or if it has any effects on the developing brain.

Women with a positive urine test for marijuana produced newborns with symmetrical growth retardation, showing decreased lean body mass, suggesting, as in the case of cigarette smoking, a hypoxic-type mechanism, perhaps associated with some changes in the lungs during pregnancy.

Cocaine, marijuana, and cigarettes all contribute to hypoxia. The real deleterious effect is when they are combined, which is often the case. Infants of women who gained only 10 pounds during pregnancy (the nutrition factor), smoked one pack of cigarettes per day, used marijuana, and used cocaine, were 416 grams (nearly 1 pound) smaller. Each of those factors contribute to that difference. Therefore, our interventions have to address all those factors, as well as any others.

Our study on depression showed that mothers who were depressed were more likely to smoke cigarettes, drink alcohol, use marijuana, and gain less weight during pregnancy. I would argue that the cigarette smoking, alcohol, and marijuana are coping strategies of a mother who is feeling depressed.

Helping Cocaine-Addicted Mothers

So it may not be good enough to tell people to stop smoking, eat better, etc. If these behaviors are either coping strategies for other stresses or symptoms of a depression, one has to address the psycho-social stresses of that mother. When they feel depressed, they may need other strategies, such as calling or visiting a friend, taking a walk around the block, going to church.

There are no published studies of outcomes of the cocaine-exposed child's development beyond the newborn period. For those exposed to opiates, the children seem to do almost as well as controls in general developmental scores, which really points to their plasticity. I am not saying these drugs

aren't harmful—I am saying the newborn brain has a marvelous capacity for recovery, if there are interventions, including good nutrition and caretaking.

A study by Emmy Werner shows that, even in the face of severe perinatal stress, a high family stability, compared to children with medium or low family stability, protects against lower developmental scores. It is only in the combination of perinatal stress and medium or low family stability that the child is ultimately compromised. A disorganized baby in a disorganized environment is not going to do well. But give them a good caretaking environment and there is a lot of opportunity for recoverability.

A "One Stop Shopping" Treatment Model

In response to the drug problem, we have developed a "one stop shopping" model—with all the services together in one place. This service delivery model meets the needs of the whole child and the whole family.

We emphasize the therapeutic relationship with the mother in drug treatment. The most important thing is getting a mother to admit that she is addicted. We also help mothers recognize what triggers their drug use, such as feelings of loneliness or depression. We suggest alternative strategies they can use.

We emphasize the parent/child relationship, pointing out maternal competencies, such as when the mother does something that the baby responds to. We really support her for that. ■

Anthropometric Assessment

Speaker:

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Ibrahim Parvanta

Rather than explain how to do heights and weights, I would like to look at anthropometry from an epidemiological perspective—what you should emphasize in your State or your clinics, and how surveillance can help you improve anthropometry in your clinics.

Definition of Anthropometry

Anthropometry is defined as, "a branch of anthropology which deals with measurement of body size, weight, and proportions." By making accurate measurements and comparing them to standardized growth curves, such as the National Center for Health Statistics (NCHS)/CDC growth curves, one can track individual growth, detect abnormalities, monitor nutritional status, evaluate the effects of nutritional intervention or the treatment of disease, and monitor growth of groups of people. Remember, the key idea is not to rely on one measurement, but to track a child over time.

Even if you have a long history of tracking for anthropometry, it is still just one part of your assessment. Just because one point goes up or down does not mean that you get alarmed without checking out other measures such as the medical conditions and medical history.

The data for the development of the growth charts came from two large data sources. The Fels Research Institute data, which provides information from birth to 36 months, is based on recumbent length. The HANES (Health and Nutrition Examination Surveys), which provides data for 2-to 18-year-olds, uses standing height. Since they came from two different sources, you must use the correct curves for the measurements, i.e. for recumbent length use the birth to 36-month growth curves, for standing height use the 2-to 18-year-old curves.

Reliability and Accuracy

Remember the two factors:

- Reliability is the extent to which the same number is obtained on repeated measurements. For example, if you measure a child five times on one day and you get the same number every time, that is perfect reliability.
- Accuracy is the nearness of a measurement to the true value, so that if a child is actually 28 inches long and you get a measurement of 28 inches, then you are perfectly accurate.

Measurements may be reliable but not accurate. You may get 25 inches several times in a row for 100 percent reliability. But if the kid is really 27 inches, you are not accurate. CDC has materials for an excellent 4-hour training session on the issues of reliability and accuracy. You can send for the packet and use it to teach your staff.

Measurement Errors

To have good data you have to do anthropometry correctly. If you make a measurement error of about 1 pound in body weight, you can displace an infant from around the 10th percentile to below the 5th percentile. With an error of 1 inch in length, which is easy to do, you can do the same. Especially since young children

are growing so fast, measurement errors can make a big difference.

It is always important to use measuring boards. If you don't have a measuring board, you are doing it in a way that was different from the way those growth charts were developed.

Sources of measurement errors are:

- **Motivation:** Measurers may be making errors because they do not realize how easy it is to make the errors, do not appreciate the importance of anthropometry, may be getting mixed messages from clinical personnel, or they may have unreasonable workloads (too many children for too few staff with not enough time to do it correctly). Show those volunteers and local staff how important their job is. It helps to stroke their egos a little.
- **Equipment:** Errors may occur if clinics use improvised or improperly maintained equipment. Try to convince people to use good scales and measuring boards. I have always told staff, if you are going to do it, then do it right or don't do it at all. The equipment must be maintained well and the accuracy checked regularly. The use of appropriate equipment is absolutely essential and cannot be overemphasized. (See exhibit, Guidelines for Selecting Anthropometry Equipment.) Go to your State Maternal and Child Health (MCH) or WIC staff for the names of companies carrying equipment. If they need additional information, they can call CDC.
- **Technique:** Develop standard written procedures and make sure people follow them. Periodic assessment of technique is important.

EXHIBIT

Guidelines for Selecting Anthropometry Equipment

1. **Equipment for Measuring Length**
   - *a. Measuring Tape*
     - *attached to firm, horizontal surface*
     - marked in 1/8" or 1 mm increments
     - made of nonstretchable material
   - *b. Immovable Headboard*
     - at a right angle to the tape
   - *c. Movable Footboard*
     - always perpendicular to the tape
2. **Equipment for Measuring Stature**
   - *a. Measuring Tape*
     - attached to vertical, flat surface (e.g., wall)
     - marked in 1/8" or 1 mm increments
     - made of nonstretchable material
   - *b. Movable Headboard*
     - always at a right angle to the measurement surface
     - wide enough to measure only at the crown of the head
3. **Equipment for Weighing (Recumbent)**
   - a beam balance scale with tray
   - scale with nondetachable weights
   - scale marked in increments of not less than 1/2 oz or 10 grams
   - a provision for immobilizing the zeroing weight

4 **Equipment for Weighing (Standing)**
   - a beam balance with platform
   - scale with nondetachable weights
   - scale marked in increments of not less than 4 oz or 1/4 lb or 100 grams

Quality Assurance

As a part of quality assurance, you should have written procedures for doing anthropometric measurements. Periodic reviews of client records and other measures are probably already being carried out in your clinics as part of quality assurance reviews.

An easy source of information for these reviews is the Pediatric Nutrition Surveillance System. Monthly surveillance reports highlight individual children with measurements above the 95th and below the 5th percentiles. Also, quarterly and annual surveillance reports provide information on the prevalence of biologically implausible values (BIV) by clinic so you can identify problems.

Since growth patterns follow a normal distribution pattern, we identify BIV as the outside ends of the graph, a little more than three standard deviations at either end. Because these measurements are so far from normal that there is only a 1 in 1,000 chance that they are correct, you need to check them. More than likely they result from an error of some sort, either a measurement error, a recording error, or maybe an error on the date of birth of the child. An infant or child, however, may have a BIV which is still correct for that child.

You can monitor all your clinics for the prevalence of BIV at the State, or the county level. If one or two clinics have more BIV than the rest, you may want to find out what is going on. There could be staff turnover or problems with equipment. A stuck scale could cause many errors. We also provide information on hematology values so that you can identify problems if the centrifuges are not properly maintained.

Some people have asked whether we should have special growth curves for different groups, such as Asians. In the early 1980's, about 25 percent of the children of Southeast Asian background were classified as short stature. But over time that prevalence has steadily decreased, making it clear that if they are in

the right environment, getting the right type of food, then they grow at the same rate as any other person. At this point it is CDC's and the World Health Organization's (WHO) position that the standard curves that are now used apply to all population groups.

Cut-off Values for At-Risk

When you look at growth curves it is important to realize that there is a normal distribution curve. The majority of children fall towards the middle of the distribution curve. There are others at the extreme ends who are still healthy. At the CDC we use the 5th and 95th percentiles as the cutoffs for the Pediatric Nutrition Surveillance System (Ped NSS). I know that the WIC Program in some States uses the 10th percentile, saying that, since it is a prevention-related program, they want to catch at-risk children a little sooner.

What the real cutoff value is for underweight or overweight, nobody knows for sure. There are so many different factors that affect one's health, you can't always be certain whether somebody who is less than the 5th or above the 95th percentile is at risk.

We use 2,500 grams as the cutoff for low birthweight, which is very close to the 5th percentile. Since we know from research that children with a birthweight less than 2,500 grams have a higher risk of morbidity and mortality, we use the 5th percentile as a cutoff for weight for age. If you pick the 5th percentile, you know you will pick almost no one that is not at risk. You may, however, miss some who are at risk.

The same kind of comparison is not available for height for age, or weight for height, or weight for length. Which percentile curve do you use in these cases? The decision is based on the issues of probability and practicality. The higher the percentile you use, the more children you will pick up. For example, if you are looking at short stature and use the 50th percentile as your cutoff, you are going to be putting a lot of kids on a program. The problem is that even though you may pick up a few extra kids that may be at risk, you will pick up many more who are not at risk at all.

So it is a matter of resources. If you have enough staff and money, go ahead and use a higher cutoff, pick up as many kids as possible, and put them on the program. ■

Approaches to Providing Nutrition Education in Large Programs

Speakers:

Donna T. Seward,
WIC Director,
El Paso City-County Health District,
El Paso, TX

Joann Godoy, R.D.,
WIC Coordinator,
WIC Program,
Monterey County Health Department,
Salinas, CA

Moderator:

Marilyn A. Lynch, M.S., R.D.,
Coordinator of Nutrition Services,
New Jersey State WIC Program,
Trenton, NJ

Nutrition Education in El Paso, Texas

—Donna T. Seward

Our caseload in El Paso grew from 10,000 clients in 1980 to 35,000 clients in 1991. But I don't think about 35,000 people, I think about each clinic. Our clinic sizes vary from 600 clients a month, open 2 days a week, to 7,500 clients a week, open 5 days a week. We spend 20 percent of our funding for nutrition education, and we always present nutrition education as the biggest benefit of WIC.

The basic components to our nutrition education plan are:

- Individual counseling
- Group classes
- Kiddie classes
- Newsletters
- Special information packets

Individual Counseling

Individual counseling is done by the nutritionists at certification and subcertification for all clients. Because of the high volume of people, individual counseling sessions are limited to one topic, which is chosen by the nutritionist based on looking at the future classes that they will attend and other education that they are going to have.

Group Classes

Our group classes are in categories: Mondays, pregnant women; Tuesdays, infants; Wednesdays, postpartum women and midpoint screening for infants; Thursdays, child subcerts and new children; and Fridays are whatever topic that particular clinic needs.

We have 1 day of the week dedicated to each service. So on the day we are certifying new pregnant women, we are also providing classes for new pregnant women. We are doing diet recalls on pregnant women. We are talking about maternal histories, breastfeeding, etc.

In addition, we have special classes every month. For example, the first class for every pregnant woman is a breastfeeding class. We also do an infant feeding class, covering when to start juice, solids, etc. Those special classes are taught by the nutritionist; other classes are taught by community service aides.

All classes are in both English and Spanish. At one of our clinics we provide classes with a deaf interpreter. All deaf clients either transfer to that clinic, or they bring their own interpreter if they wish to come to other clinics. We design our classes for maximum participation by the clients, so they are limited to 20 to 25. We have oral testing which requires them to at least raise their hand.

Kiddie Classes

Kiddie classes are for any age child, but primarily for the 3- to 4-year-olds who are in the clinic or the class with their mother. These are taught by community service aides either in waiting rooms while moms are waiting for certification appointments, or while the mom is watching her video and her lesson. We found that by pulling kids over, mom pays more attention to her class, and we get to educate the kids. We also use the Childbirth Graphics coloring book. All materials in El Paso are both in English and in Spanish.

All classes for teen pregnant women are grouped together on Saturday. They are taught by the nutritionist instead of the community service aide. We find teens are more participatory in a separate environment. We are open two Saturdays a month in all of our full-time clinics. (We are closed on Monday, so it is not an overtime situation.)

For our introduction to breastfeeding, we bought the Childbirth Graphics dolls that are anatomically correct, 6-week-old newborns. We use them for a lot more than just the positioning—they get them thinking very seriously about the pregnancy and how they are going to feed the baby.

Staff Planning and Training

We make nutrition education a priority with every member of the staff. Our biggest challenge is in the planning and scheduling. It takes time to figure out the number of classes in each language, how many people to put in each class, etc.

On the last day of every month, we bring together everyone who teaches a class, in addition to the nutritionist, who is the clinic supervisor, to go over the five or six lessons they teach each month. We go over the video, lesson plan, and background information and answer their questions to prepare them to teach a different class. We feel that it is very hard for a person to teach effectively the same material 2 months in a row. Therefore we arrange the schedule so that it is approximately 6 months later for a person to teach the same class.

Newsletters

Newsletters are given to clients with their advance issuance vouchers. The envelope for the advance vouchers has instructions about not redeeming them early, plus a little nutrition education. So every time they pull it out of their purse, they are exposed to that little message.

Special Information Packets

Other nutrition education materials are provided in a very special packaging that makes the client feel important. We give them a packet at the time of certification, but by specifically telling them the materials are for later reference, we don't overload with too much at one time. One packet is designed for all pregnant women. Another is a special packet for teen-age mothers. One is for pregnant women who have decided to breastfeed. Another, for women who haven't decided yet, is a sales packet with the reasons why we hope they will breastfeed.

A package of materials for mothers of infants who are breastfed covers everything from immunization to introducing them to their breastfeeding peer counselor. We have a similar packet for formula-fed infants with the information that their mothers may need. Each of these is also prepared in a special packet for teens that contains the same information, plus some special information for teens.

When we give them their first infant cereal card, we give them a little plastic-tipped infant feeding spoon and a flyer that says cereal should be fed with a spoon, not from a bottle. When we give them infant juice for the first time, we give an infant training cup.

Report Cards

The following exhibit shows a sample of our "report cards" with the baby's height, weight, hemoglobin, and diet requirements. The cards allow the conditions of need to be marked so the nutritionist can make the appropriate counseling choice. There is also space for the mother's commitments to work on improving areas of concern.

Nutrition Education in Monterey, California

—Joann Godoy

Monterey County is primarily an agricultural area located on the central California coast. With a caseload of 7,150, we are the 18th largest WIC agency in California. Our caseload is comprised of pregnant and breastfeeding women, infants, and some of the higher priority younger children. We are not able to serve postpartum moms or many children over 24 months old.

Why We Work With the Salinas Adult School

We work with the Salinas Adult School Parent Education Program to conduct 132 classes each month to fulfill the second, third, and fourth nutrition education contacts for our participants. The classes generate ADA (Average Daily Attendance) reimbursement for the Adult School at the rate of $2.96 per hour per student. This totals approximately $4,500 per month.

After talking to the nutritionist, I agree to work to improve the following:

_____

_____

_____

El Paso City-County Health District
WIC Project 33
222 S. Campbell
El Paso, TX 79901

F112 07/91

My WIC Check-up

Name _____

Date _____

Today, I am _____ inches tall.

****

I weigh ____ pounds.

****

****

The Iron in my blood is _____ which is fine / low.

Yesterday, I ate:

20 - 40 oz Breastmilk or Iron Fortified Formula	Yes	No
<u>If over 4 months old</u>		
Infant cereal	Yes	No
Fruits	Yes	No
Vegetables	Yes	No

****

Today was just a checkup for me.

****

I had already qualified for WIC until I am one year old.

Why do we work with the Salinas Adult School (SAS)?

- The mission of public adult education in California is to provide quality, lifelong educational opportunities and services, such as WIC, that respond to the unique needs of individuals and communities.
- SAS is a student-focused, service-oriented agency, just as is WIC.
- SAS pays the instructor, who is our WIC lactation consultant and education coordinator.
- SAS provides ongoing staff development.
- SAS assists and oversees curriculum development, so that WIC classes are developed to the high standards of the SAS strategic plan.
- SAS provides resources and support services, such as printing and duplication of class hand-outs and use of a computer.
- SAS also participates in community-wide task forces and committees.
- SAS registration fees are waived for WIC participants.
- And we think the biggest thing is that participating in SAS classes adds to the self-esteem of WIC participants.

What does WIC provide?

- WIC provides the classroom site.
- WIC provides the scheduling for participants.
- WIC provides a "captive audience," for easy recruitment of students. WIC coupons act as an incentive to come to class.
- WIC allows the SAS to reach a typically "hard-to-reach" clientele by holding classes at a site familiar and comfortable to the participants or students.
- WIC classes provide a bridge for students to enroll in other SAS classes, such as English as a second language, the high school diploma class, vocational education, parent education, health and safety, and home economics classes.

Newly Designed Curriculum

Previously, we taught basic nutrition with the typical anemia, iron, formula preparation type of classes, and frankly, we were getting bored. And I am sure that our participants weren't very excited either. Since teaming up with the Adult School, we have completely redesigned our curriculum. We are now talking with moms about things that are important to them and that will really make a difference in their lives.

We have a core curriculum of four classes in an infant feeding series, and then every month, we have a general nutrition class. Classes are in English, Spanish, and Vietnamese. Our core curriculum consists of a four-part infant feeding series:

- Infant Feeding I is our breastfeeding encouragement and motivation class.
- In Infant Feeding II, we cover breastfeeding techniques. We also teach bottlefeeding and positioning, just as if a mom were breastfeeding.
- Infant Feeding III, for infants from 1 to 6 months, covers basic feeding skills. We also talk about breastfeeding and going back to work; and breastfeeding an older infant. (We have 25 electric breast pumps available at no charge.)
- Infant Feeding IV, for infants from 7 to 12 months, discusses the development of appropriate feeding skills for the older infant. We have an active program to exchange the bottles for the cups.

A fifth is a general class for infants, children, and prenatals for participants who have completed the core curriculum. It teaches basic nutrition, integrated with other healthy living skills, such as safety in the family, postpartum issues, family planning, AIDS and sexually transmitted diseases, immunization, dental care and baby bottle tooth decay (BBTD) prevention, and prenatal alcohol, tobacco, and other substance abuse prevention.

Class Attendance More Than 80 Percent

All participants receive their WIC coupons only at class. Thus our attendance rate is at least 80 percent. From a purely administrative perspective, the classes are a great way to keep 20 or 30 participants entertained in another room while the vouchers and necessary documentation are being completed.

Classes are taught by our nutrition assistants, nutritionists, and lactation consultants as well as guest speakers from other agencies. We always have at least one credentialled teacher on site.

Since both WIC and SAS see ourselves in the business of education, we share the following credo (originally from the L. L. Bean Company):

- *A WIC participant/student is the most important person ever in this office—in person or on the phone.*
- *A WIC participant/student is not dependent on us, we are dependent upon her.*
- *A WIC participant/student is not an interruption of our work—she is the purpose of it. We are not doing a favor by serving her—she is doing us a favor by giving us the opportunity to serve.*
- *A WIC participant/student is not someone to argue or match wits with. Nobody ever wins an argument with a participant/student.*
- *A WIC participant/student is a person who brings us her wants. It is our job to handle them profitably to her and to ourselves.* ■

Approaches to Providing Nutrition Education in Small Programs

Speakers:

Colleen Breker, L.R.D.,
WIC Director,
WIC Program,
Richland County Health Department,
Wahpeton, ND

Joyce Ngo, M.P.H., R.D.,
State WIC Nutritionist,
Massachusetts WIC Program,
Department of Public Health,
Boston, MA

Moderator:

Mary Kay DiLoreto, M.S., R.D.,
Nutrition Education Coordinator,
WIC Program,
Oregon Health Division,
Portland, OR

Empowering Clients in North Dakota

—Colleen Breker

I serve Richland County, North Dakota, which has about 400 WIC clients. In addition to Wahpeton, I have outreach clinics in three rural communities.

I am very interested in leadership and empowerment. The empowering approach focuses on developing relationships between the educator and participants within the WIC community. It is in the day-to-day activities in participants' lives, including the visit to the WIC clinic, that empowerment takes place. Small WIC sites can empower people by genuine caring, by a willingness to be open oneself. I like to call it approachable, able to expose our doubts and concerns, skills and strengths, and in turn listen attentively to the stories of others.

A Friendly, Caring Atmosphere

Let me describe some of the things within our WIC clinic that promote empowerment and self-esteem. Our office is very friendly and bright. We have the latest magazines. We have a receptionist who is a warm, fun, caring person. When our clients walk into the office, they are treated well because we want them to come back.

I am the only nutritionist for those 400 clients. I have a support person who works 2 days a week with me. I work with clients 4 days a week, on the average. We are housed with the health department. My office is next door to the family planning person. Many times I can see pregnant women right after they have had a pregnancy test, and can get them on the program immediately. When I first started, pregnant women were getting on WIC after about 11 or 12 weeks. Now most are coming on at 5 or 6 weeks.

If I can't get them on immediately, I try to do some kind of nutrition education while I am scheduling an appointment. Or, if they smoke, I might do some quick nutrition education that has to do with smoking. We use the SCIP methods (smoking cessation in pregnancy) that were developed in Colorado. Afterward I send them a thank you card for joining my WIC Program, and include a little reminder of their next appointment. I find this little investment of a stamp is quite helpful and people enjoy it.

Our offices are very confidential, so clients can feel good about that. I try to have a very optimistic and cheerful attitude. I use lots of eye contact and really listen to people. I try to gauge where they are coming from because I find this useful during nutrition education.

We have lots of toys and dolls. I try to encourage kids to come in because I do nutritional education directly with the preschoolers. Often a pregnant woman will have a friend with them, and I always invite that person to come in the office also.

I like to know what the providers in other offices are telling people, particularly physicians, so I can either complement their information or fill in the gaps. I try to send them letters once in awhile so they know what I am doing too. I work very closely with an MCH nurse who does home visits for many of my WIC clients. She will repeat some of the nutrition education at the home.

I have a lending library with books and videotapes, including the *"Taking Charge of Your Pregnancy,"* a March of Dimes video, and an infant care video with Dr. Brazelton. I have books such as *"Your Premature Baby"* and *"My Fussy Baby,"* infant care books, etc., with a simple little library card method of checking them out. I go to service club meetings like Kiwanis, and they often give me a little money to buy books.

Coordination of Appointments

I try to coordinate my appointments with their EPSDT appointments whenever possible so clients can go to more than one appointment that day. We are fortunate to have social services located at the other end of our building, so we can coordinate appointments with them. I invited the nurses to our outreach clinics outside of Wahpeton to do immunizations,which has worked out well. Folks come in for WIC appointments and shots at the same time. I have only a 2-3 percent no show rate.

I like to let other people know what I am doing and find out what they are doing. I am on a Head Start committee, so I also can do nutrition education with Head Start parents. We have a tracking team in our county, and I attend those meetings once a month. I have planned a parent fair with Extension Services. We have a 2-year college in Wahpeton with a dental hygienist program. They come to check our WIC 3-year-olds and older. One time they had a teeth cleaning session for postpartum and pregnant women.

At one time in my life, when I wasn't feeling good about myself, I came across this quote by Eleanor Roosevelt: "No one can make you feel inferior without your permission." So my philosophy is to help people feel good about themselves.

Staff-Client Interaction in Massachusetts

—Joyce Ngo

Effective nutrition education begins with you. We all are programmed and conditioned to respond in ways that can actually distort reality. As we receive stimuli or information from the world, we take that information and put it through an internal process, which is based on our world view, also called the vantage point, or how we see the world. This process results in our external behavior or output.

Our Internal Filtering Process

This process depends on filters, which affect our interpretation of the outside information or stimuli. Filters reflect our individual life experiences, and the culture we came from. Based on the filters, we select cues that indicate to us the nature of what is being perceived. And cues are affected by expectations and assumptions. From this kind of process we form perceptions which determine how we behave.

For example, we are socialized to value conformity, rather than diversity. So, based on this filter, we select cues that read "different is bad," rather than "differences make someone unique or distinct." As a result we put distance between ourselves and others. My point is that when we talk about empowerment education, we are talking about education that enables people to achieve their full potential. And that process begins with you and me and how we view people and their potential.

The key is to become aware of this internal filtering process:

- Know what our filters are.
- Know what our perceptions of reality are.
- Take responsibility for our behavior.

For example, I realized one of my own needs is to feel needed by others. This may be detrimental to the goal of empowering other people, because if I need to help people, I may try to keep them helpless, and needing me.

Five Important Awarenesses

To be an effective educator, you must be an effective communicator. First, you need to be clear, and second, you need to lay aside judgment and try to see where that other person is coming from. To do this, you need to know what your filters and perceptions of reality are, and you need to lay aside judgments. I recommend

looking at your experience from five distinct perspectives:

- **Sense**, what you actually see or experience.
- **Meaning**, what this reality means to you, how you interpret it, what is the thinking process behind it.
- **Feel**, how you feel about this issue or these stimuli.
- **Wants**, what you want or what your intentions are.
- **Action**, what can or what will you do.

For example, if a participant comes to you and says that she regularly feeds her 1-year-old pureed pork and beans with a bottle that has a nipple which has been cut out (this is a true case), your response would probably be to think, "I can't believe it! How horrible."

But if we apply this five-point framework of reality, we might get a completely different interpretation of her actions. For example, she is feeding her baby the best way that she knows how. This makes her feel good in her role as a caretaker. Look at the wants, the intentions behind that action, because they are very noble—she wants to nourish her baby with nutritious food. So, by focusing on the intentions behind the actions, you can find those positive aspects to build on, instead of having a negative or patronizing interaction.

Task Forces

Massachusetts WIC has established three task forces:

- **Nutrition Education Task Force** consists of a group of nutritionists, both WIC and MCH, that create all the educational materials for both the WIC and MCH programs. They also evaluate audiovisual materials and make recommendations to local programs throughout the State.
- **Multicultural Task Force** consists of WIC nutrition paraprofessionals, who translate materials and adapt them to each cultural or ethnic group.
- **Breastfeeding Task Force** promotes breastfeeding.

Handbooks

Our *"Nutrition Education Handbook"* shows how to make education meaningful by asking participants, eliciting their feedback, and making specific tips on counseling one-on-one. It also provides lesson plans for group activities. The *"EMPOWER"* handbook tells how to evaluate materials to promote optimal use of WIC education resources.

Link with Other Resources

Remember to utilize existing resources. Look at groups like Visiting Nurses Association (VNA), EFNEP, and others. One of our local agencies does a lot with Junior League volunteers. They have gotten groups from the community to come in and establish play groups or activities with children while their caretakers are being seen by the nutrition staff. We also have linkages with community colleges and other schools that provide nutrition interns for periods from 6 weeks to 3 months.

Seek Participation and Input

We actively seek participation, using feed-forward instead of feedback, at three levels:

- The State level gets feedback from local programs primarily through bimonthly business meetings.
- At the local level, program staff interact with planners and providers. The planners are the directors and senior nutritionists who produce the ideas for nutrition education, while the providers are the actual teachers, the nutritionists, paraprofessionals, and program staff.
- A third level involves staff and participants. The WIC *"Nutrition Exchange"* and a publication put out by the National Cancer Institute called *"Making Health Communications Work"* are two excellent resources for learning how to obtain participant feedback. You can do it in structured ways like focus groups or more one-on-one with questionnaires or interviews.

If there is any particular ethnic group that comprises 10 percent of a caseload, we ask that staff from that ethnic group provide services. We specify the need for not only bilingual staff, but bicultural staff.

We promote client interaction. For example, we leave space in our pamphlets for participants to fill out action steps. We say, "Okay, Mary, we talked about these ways of getting vitamin A in Billy's diet, what is it that you think you can do? What one or two things do you think you could work on?" When she writes it down, she takes ownership for the decision. In group settings, we use short quizzes, following the format of popular magazines. They are not collected, but they help to keep people focused and get discussion going.

David Werner's book called *"Helping Health Workers Learn"* shows how to pose situations to participants and then ask them to list why a certain outcome happened. He calls it the "but why" theory of making education happen.

So, remember that the empowerment education process starts within each one of us. We can provide both participants and staff the means and the opportunity to participate in making their learning experiences meaningful and empowering for them. ■

4 Breastfeeding Projects Utilizing Peer Counselors

Speakers:

Ellen Sirbu, M.S., R.D.,
WIC Coordinator,
City of Berkeley WIC Program,
Berkeley, CA

Lilia Parekh, M.P.H., R.D.,
WIC Coordinator,
WIC Program,
Community Pediatric Health Center,
Children's Hospital,
Washington, DC

Carmen Cohen, IBCLC,
Regional Breastfeeding Coordinator,
West Tennessee Regional Health,
Jackson, TN

Moderator:

Kathy Dugas, M.S., R.D.,
Nutrition Coordinator,
WIC Program,
Mississippi State Department of Health,
Jackson, MS

The Berkeley WIC Program

—Ellen Sirbu

The Berkeley WIC Program is unique because it not only serves Berkeley residents and parts of Oakland, but it serves many international students. Our caseload is 1,665 participants a month.

Program Initiation

When I started in 1990 to plan the peer counselor program, I first obtained my supervisors' support for the program and a commitment to fund a trainer, materials, babysitters, and food. I selected as trainer, a board-certified lactation consultant with many years of hands-on experience. She had her own private practice and could be reached days, evenings, and weekends, if a counselor needed to consult her. She also was an enthusiastic speaker.

Potential peer counselors were WIC participants who had not picked up formula vouchers for at least 6 months and, in most cases, much longer. I personally reviewed all files and contacted all potential trainees.

At the time of the first training, potential counselors were told they would be trained to be volunteers. We started with 50 women who were interested in participating in the training. When the dates were set, 30 women confirmed they would attend, but only 12 women actually attended the training. Public health nurses from the Health Department were also invited, and about five attended.

Eleven of the 12 women completed the initial 6 hours of training, received certificates, and were invited to attend an additional 3-hour session, which included presentations by a public health nurse, social worker, and the lactation consultant on counseling techniques and when to make referrals.

Then in July I realized I had money left in the budget to actually hire some of the trainees. Of the 11 women who completed the course, only 4 wanted to be hired. They did not represent the ethnic population of our program, but I went ahead anyway. All counselors accepting employment had to be willing to give out their home phone numbers, be available evenings, days, and weekends. They averaged about 5 hours a week per counselor of paid time.

The main problem was I had no money in my budget to pay for the counselors after September 30. I was able to obtain, however, a $3,500 contribution from a

restaurant to employ the counselors for about 3-1/2 months. I spent a lot of time trying to raise additional funds, but only received $1,000 from a foundation.

Just as the money was running out, the State WIC Program advised me I could apply for special project funding, which not only saved our program, but enabled us to develop a more comprehensive peer counselor program. We did a special training session and hired four more counselors to provide more language and ethnic diversity.

Program Operation

Assignments to WIC mothers were made during the seventh month of pregnancy. When possible, they were based on similarity of language, ethnicity, age, and residence. Counselors were instructed to contact their clients at least once during the pregnancy by phone.

Depending on the woman, the counselor may contact her several times more and cover various topics, such as advantages of breastfeeding, why she had problems in the past, etc. Most importantly, she stressed that she was available after delivery if the woman had any questions or problems. She left her phone number with the client.

Some of the problems that the counselors ran into were disconnected phone numbers, clients not calling postpartum, and counselors not knowing when the client delivered, which eliminated the necessary postpartum intervention.

The counselors run weekly support groups for both pregnant and breastfeeding women. We also now have a required breastfeeding class for women in the seventh month of pregnancy. During this class, not only do the women hear about breastfeeding, but they hear about the breastfeeding project just about the time the counselors will be calling them.

I found that regular staff meetings for the counselors were a must. We have now hired a part-time public health nurse to be the liaison between the local hospitals and the WIC Program, so that we will know when every WIC client delivers, and the peer counselors in turn will be informed when the clients deliver. The nurse has also assisted with the development of charting forms for the peer counselors so that we have a system for documenting all contacts.

Peer Counseling Training Project in Washington, DC

—Lilia Parekh

We started a breastfeeding peer counseling training project in Washington, DC in 1984. Our training manual, which was developed in 1989, has been distributed to all the State nutrition coordinators.

We distribute many pamphlets. We also invite mothers to come and see how to breastfeed, although there are very few who do in our community, because we serve an inner-city, mostly black population.

A problem is finding peer counselors. Our first approach to training was to invite all the women we knew who were breastfeeding. Of the 67 we identified, 20 responded, 12 were trained, and all 12 graduated.

In 1989, we sent letters to all the breastfeeding women in the WIC Program enrolled at the time, inviting them to participate in a peer counseling training program. Of the 360 we invited, 50 said they were interested, 26 attended our first meeting, which was an orientation meeting, 12 came to the training class, and 10 completed the 10 weeks of training. So far we have graduated 55 peer counselors from eight classes.

Our problem is attrition, because the peer counselors are working part-time at only $4.50 an hour (a maximum of 20 hours a week). Some of the mothers have become empowered; they want to go out and work full-time.

There is a great need to nurture peer counselors. They need a lot of what we call "warm fuzzies." Just telling them, "You are doing very well," is important. Monthly staff meetings are also very important, and I write personal notes to the peer counselors when I send them their stipend check. If you have agency goals, make the counselors aware of how they have contributed to achieving the goals.

The Tennessee Peer Counseling Program

—Carmen Cohen

The Tennessee Peer Counseling Program, which began in June of 1987, has used three types of peer counselors.

- Volunteers, who come to the classes, bring their breastfed babies, and help with the discussion.
- Peer mothers, who lead mother-to-mother support groups.

- Peer professionals who work in the Health Department as full- or part-time employees. They become part of the breastfeeding team, and are supervised by a regional breastfeeding coordinator.

The professionals are paid by separate grants. We have had grants from Ben and Jerry's Natural Ice Cream, the National Presbyterian Hunger Foundation, and others. This year, we are currently using a $46,000 grant from the Mary Reynolds Babcock Foundation.

Program Operation

My region has 19 counties but only three peer professional counselors. One works in three counties, the others have only one a piece, but are going to expand to another county or two each.

The counselors become part of a breastfeeding team. They are supervised by a regional breastfeeding coordinator, and they also work with local health department nurses and nutritionists to promote and support breastfeeding. Their main role is to offer mother-to-mother support to increase the incidence and duration of breastfeeding. Their main responsibility is to run the breastfeeding clinic. Prenatally, a mother is first surveyed to learn her concerns. At the second contact, an individual discussion is held to address the concerns. We have found that our mothers already know that breastfeeding is best—they just can't quite make that jump from knowing about it to actually doing it.

At the third contact, counselors lead an infant feeding discussion, which includes not only prenatals, but other support persons, such as the baby's father, grandmother, grandfather, cousins, aunts, neighbors. The discussion begins with the question, "Most people bottle feed—what is so great about bottlefeeding? Why do people choose it?" Then we ease into how breastfeeding works.

During the postpartum session, the peer counselors do hospital visits, home visits, and clinic visits. There is also phone counseling. We try to talk to all the mothers by the first week, and then again at the end of the second week, the fourth week, the sixth week, 3 months, 6 months, and 1 year. In the postpartum period, we also loan breast pumps, etc.

Can peer counselors really do all of this? Yes, because breastfeeding is a skill learned from practical experience, reading, and studying. Our peer counselors can truly relate to patients as an equal, rather than as a business professional.

The patients want to know, "What was it like when you breastfed?" They think of the peer counselors as a friend, a confidant, a teacher, and a role model. In all probability, peer counselors will find themselves involved in many different aspects of the breastfeeding mother's life. That is because breastfeeding is not just feeding, but a very personal feminine experience that helps a woman to be more receptive to positively changing her life and improving her child's life. Breastfeeding truly empowers women.

For the WIC Program, peer counselors are a very cost-effective use of WIC dollars.

Choosing and Training Counselors

To find counselors, we sought women, usually former WIC clients, who had good attitudes towards other women, some breastfeeding knowledge, and a receptiveness to learning. We required a high school diploma and access to a car. We preferred women who had breastfed, but two of our counselors have never breastfed. We wanted good verbal communication, and the ability to make sound practical decisions. They also needed basic writing and clerical skills.

Training peer counselors is ongoing. Some books we have found helpful include *"Successful Breastfeeding," "The Womanly Art of Breastfeeding," "Counseling the Nursing Mother,"* and *"La Leche League's New Beginnings."* For the trainer, the La Leche League leader handbook is excellent.

Breastfeeding Promotion

Our breastfeeding promotion efforts include a bulletin board in the waiting room, a book full of pictures of mothers in the area who have breastfed, nursing pads, baby contests (the Best Breastfed Baby), pamphlets, infant feeding discussions, T-shirts ("I Eat at Mom's") and more. We sometimes use "Outside My Mom" by the March of Dimes, or the "Best Start" tape. We have different pumps to loan. Bras are given to mothers at 1 month if they are totally, or almost totally breastfeeding.

The results of the project show that, when given adequate support, low-income women will breastfeed, regardless of their problems. ■

5 Breastfeeding Promotion Study and Demonstration Projects

Speakers:

Linda Lee, M.S.,
Nutrition Services Director,
WIC Program,
La Crosse County Health Department,
La Crosse, WI

Karen Virostek, M.S., R.D.,
Field Supervisor/Nutrition
Education Coordinator,
Family Health Council, Inc.,
Pittsburgh, PA

Brenda Kirk,
WIC Director,
Cherokee Nation WIC Program,
Tahlequah, OK

Moderator:

Minda Lazarov, M.S., R.D.,
Director of Tennessee
Breastfeeding Promotion Program,
Tennessee MCH and WIC Services,
Nashville, TN

Breastfeeding Promotion in La Crosse, Wisconsin

—Linda Lee

In 1988, before we began our breastfeeding promotion efforts, about a third of WIC women in La Crosse County were breastfeeding. Now, after 2-1/2 years of fairly intense effort about 47 percent are breastfeeding. For our subpopulation of Hmong women, the rates rose from 19 percent to 34 percent during the same period.

Our promotion project has four components: a prenatal component, a very small in-hospital component, a postpartum component, and a coordinating committee that helps to provide extensive support in the community for our breastfeeding women.

Prenatal Component

Our prenatal component consists of individual counseling sessions for all WIC pregnant moms. They meet for 20 minutes with a breastfeeding educator or peer counselor to address their individual needs. We use Hmong peer counselors with our Hmong population because we have found they are better at reaching these women.

We made our clinic atmosphere more supportive of breastfeeding. We eliminated all signs of formula. We put up posters instead that promote breastfeeding. We provided incentives to women to encourage them to breastfeed, including layettes, T-shirts, sweaters, etc. — all obtained with non-WIC money. The State of Wisconsin received a grant from Ross Labs and Mead-Johnson to promote breastfeeding and purchased Avon incentive packages.

In-Hospital Component

The breastfeeding educator contacted the information areas at both hospitals in La Crosse several times a week asking if our mothers were in the hospital. We contacted about 25 percent of our women this way and found that an in-hospital contact increased the incidence and duration of breastfeeding.

Postpartum Component

After delivery, we make weekly telephone contact to problem-solve and to support the women. Those without telephones are mailed a small packet of information on breastfeeding about 2 weeks before they are due to deliver.

We make WIC recertification appointments for 2 weeks after their due date. These recertification appointments allow us to actually watch moms nurse early in the postpartum period, which has been helpful in problem solving. If moms cannot get in for their recertification appointments early and they are having problems, our nutritionist or breastfeeding educator will go out to their homes and work with them.

Coordinating Committee

The WIC Breastfeeding Council is an advisory body to our breastfeeding program. It involves representatives from the hospitals and clinics in the area. It has really helped us to support our breastfeeding women much better than we were able to before. The people on our council are much more willing to go the extra mile for our clients because they have a stake in making our program work.

Team Work

Staff team work is very important. A nonsupportive clerk can undo in 5 minutes what a breastfeeding educator or a nutritionist just spent an hour doing. When we began our breastfeeding promotion effort 2 years ago, we held meetings and provided in-service training for all the staff on how to promote breastfeeding.

Evaluation

We learned that ongoing evaluation is important. We met as a staff on a monthly basis to provide feedback to each other. At one point we found the Hmong women did not like the postpartum phone calls the peer counselors were making. We realized we had not set the women up for the postpartum followup calls. Once we did that the problem stopped.

Breastfeeding Promotion in Western Pennsylvania

—Karen Virostek

In 1988, we were asked by the Pennsylvania State WIC Agency to write a proposal to participate in the Breastfeeding Promotion Study and Demonstration Grant. We hired a part-time project coordinator, which enabled us to try many new ideas to promote breastfeeding in the three activity areas of the grant: coordination, prenatal, and postpartum activities.

We began to coordinate efforts with other agencies, including hospitals, physicians, offices, and clinics. We organized meetings of key people from the hospitals and other human service agencies.

Before the grant, our prenatal activities consisted of a questionnaire, a triage method of counseling, and a variety of breastfeeding pamphlets. Now we provide group classes, individual counseling, newsletters, and pamphlets. We dealt a lot with the fathers, and we also had a breastfeeding library available.

Before, we had no in-hospital postpartum component except a questionnaire that dealt with how the baby was being fed once it was born. Now we make contact as soon after delivery as possible by giving a postcard to the women to mail back to us as soon as they have delivered. Many times, though, we found out about their delivery by other participants or through word of mouth. We also have group classes, individual counseling by an initial visit or contact within 1 month of delivery, and we distribute newsletters and pamphlets.

Substantial Increases

Our results were a successful increase from 34 percent to 43 percent in those that breastfed at least once, from 34 percent to 43 percent in those doing some breastfeeding at hospital discharge, from 23 percent to 39 percent in those still doing some breastfeeding at 6 weeks, and from 20 percent to 31 percent in those still doing some breastfeeding at 3 months.

Successful Pilot Project

Since the completion of the study, we have made some significant changes in our local agency breastfeeding initiative. Over the past year we have had a two-member breastfeeding team working in a pilot project in our Zelianople office, producing a 42-percent incidence rate of breastfeeding. Some of the elements that have made the pilot project a success include:

- One-on-one counseling and support available with the lactation educator.
- Incentive gifts available to the breastfeeding moms. The gifts, such as comforters, bibs and dolls, were made and donated by people from the community.
- Contacts that the staff has made in the local communities with other human service agencies, physicians, clinics, and other key people interested in breastfeeding. These other professionals now call upon our staff to provide in-service training for their staff.
- Cosponsoring a breastfeeding conference with approximately 150 WIC staff and 50 key people from the communities. The 2-day conference

provided good information and the opportunity to network, which permitted us to share with the medical professionals that WIC is really committed to breastfeeding. We also produced and distributed three posters used to promote breastfeeding in the WIC clinic.

Because of the success of our pilot project, we are expanding our efforts to include all WIC clinics. We have expanded our breastfeeding team to include a lactation educator, a nutritionist/outreach coordinator, and a peer counselor coordinator, who provide the following services:

- The certified lactation educator provides individual support and information, both prenatal and postpartum to WIC clients, as well as training to staff.
- The nutritionist/outreach coordinator coordinates efforts with local hospitals and other key agency personnel. She regularly attends human resource meetings in these communities and establishes coordinating groups in each of the counties to establish protocols or policies in the hospitals that are conducive for breastfeeding. Also, we hope that they will produce a bimonthly newsletter.
- Also, a nutritionist acts as a peer counselor coordinator—to organize and coordinate the peer counseling program throughout our five-county area. She is hiring seven peer counselors, who will go through a 3-week training period, and then work approximately 8 to 10 hours per week. They will provide information, and support and aid in the documentation process related to the project. Also, we hope that they will be able to conduct group classes when necessary.

Cherokee Nation Breastfeeding Project

—Brenda Kirk

The Cherokee Nation Breastfeeding Project was one of seven USDA breastfeeding demonstration projects. One aspect that makes our project unique is that it is a hospital-based program. It consists of a prenatal component, an inhospital component, and a postpartum component.

A nutrition assistant was the local project director. She was responsible for doing all of the followup, teaching classes, making OB rounds, etc.

The hospital is an inpatient and outpatient full service Indian Health Service hospital. Prenatal care is provided on an inpatient and outpatient basis, with regular prenatal visits scheduled at the hospital. Our project was able to incorporate breastfeeding classes into the regular prenatal classes. We made women aware of their option to breastfeed, gave them advice, encouraged them to be confident enough upon admission in the hospital to clearly identify that they wanted to attempt to breastfeed. Otherwise the assumption was made by the staff it was going to be a bottle-fed baby.

Our advisory committee included not only health professionals—OB/GYN physicians, nurses, nursery staff nurses—but also included administrators who could make decisions about changing policy. We served food at our advisory board meetings, which encourages physicians to come. A key in getting policies changed is more than just building some rapport—it is coordination, which means getting people together to discuss ideas and work towards implementing them.

In addition to the prenatal classes, we make regular OB rounds. Since the Indian Health Service standard discharge is 24 hours postpartum, it is critical that young mothers have someone sit down with them and go over breastfeeding techniques prior to discharge.

We found the phone call method of followup was somewhat difficult because many clients do not have telephones. We found we spent more time trying to keep up with telephone numbers than the results justified.

As a result of the project, we now have a full-time lactation coordinator. We also were able, because of the Public Law 101-147 changes, to purchase some hospital-grade breast pumps and hand breast pumps. We loan the equipment to mothers. When they bring it back, the hospital puts it through the standard sterilization process before it is loaned to another mother.

We also implemented a supplemental formula agreement (see the following exhibit) so that individuals knew that, if they chose to supplement, it would decrease their milk supply.

Exhibit

WIC SUPPLEMENTAL FORMULA AGREEMENT

I, _____ wish to receive supplemental formula for the WIC Program for my breastfed infant, _____ . I understand that using supplemented formula will decrease my milk supply and the formula may not be tolerated as well as breast milk.

I have received education about this from _____

Signed,

_____

(Mother's Signature)

_____

(CNW's Signature)

_____

(Date)

Computers for Nutrition Education

Speakers:

Doris Derelian, M.S., R.D.,
Health Professions Training Educator/Consultant,
Fallbrook, CA

Janice Lebeuf, M.P.H.,
Nutrition Consultant,
Nutrition Services Section,
Division of Maternal and Child Health,
North Carolina Department of Environment, Health and Natural Resources,
Raleigh, NC

Moderator:

Sandra L. Benton,
Regional WIC Nutritionist,
Southeast Regional Office,
FNS, USDA,
Atlanta, GA

An Overview of Computer-Assisted Instruction (CAI)

—Doris Derelian

I will talk about computer-assisted instruction (CAI) and the way it might be utilized in the WIC environment. Let's think about the possibilities:

- What if you had a nutrition education program that was so seductive and enticing that the client would actually ask you to be educated?
- What if you had a program that delivered a consistent, clear, uninterrupted message every hour of every day?
- What if that program could repeat the same message, over and over again, with the same level of enthusiasm it had the first time?
- What if you had a program that contained elements of entertainment at the same time it was presenting its educational message?
- What if you had an educational program that moved at the pace of the client instead of the pace of the clinic flow?
- What if you had a program where the learner decided which avenues to pursue and could determine the way in which to move through an educational process, so that unnecessary things could be eliminated by the client?
- What if the program's cost, when amortized across the number of clients who received the message, turned out to be far lower than other methods of delivery?
- What if a program was tested with WIC clients all over the United States and found to be almost unanimously successful?
- What if this program was so easy to use that the starting time for the learning process was minimal?
- And, what if USDA acknowledged the program as a secondary educational contact?

All of those "what if" questions are essentially what educators have sought in producing a computer-assisted educational package—it is something that will deliver a consistent, interactive message, paced by the learner. And this package is available now.

We used to think of computer education as teaching someone how to use a computer. Now we have found that a computer is a delivery system for educational programming of all types. And it is becoming so sophisticated that it can combine all the elements of entertainment—pictures, words, and audio—plus interaction via the keyboard, mouse, or touch screen.

Program on Infant Nutrition

One ready-to-use program covers the first year of infant nutrition. It was developed under the auspices of IBM, with the advice of WIC people like yourselves. We chose that topic because many of you repeat the same information over and over again to WIC clients about

feeding the baby. It is a repetitive, consistent, agreed-upon message that is easily converted into a system that likes to give clients and learners repetitive messages.

When we asked all of you to submit infant feeding material, we found it was not always the same. But we identified the most agreed-upon, acceptable, consistent messages about what foods and when they should be eaten.

We decided to "branch" the information so the woman could say, "My baby is 4 months old, so I am going to touch the screen at 4 months." Then she hears an 8-minute segment on feeding a 4-month-old. So the client can focus only on that information that she needs. She can go forward or backward, so if she does want to hear what her baby should be eating when it is 8 months old, she can skip to that.

We have branching questions imbedded in the program such as, "Are you breastfeeding or bottlefeeding?" We can also give her a list of foods, for example, that would keep a baby from choking. When she picks a certain food, she gets an immediate response on its appropriateness in that situation.

We were very interested in incorporating the following three aspects of the process:

- Mechanics of the computer.
- Agreed-upon content that WIC staff transmit to clients about infant feeding.
- Educational methodologies that will make this program successful, such as immediate reinforcement—when they touch the screen to answer a question, a happy face comes up. (We tried to keep in positive statements even when an incorrect answer is provided, so that each time the learner responds to the computer, something positive happens.)

Evaluation Showed Positive Results

At 12 test sites in 6 different States, we asked WIC clients if the program was useful to them and what they learned. A secondary level of testing was asking the WIC professional staff what happened in the use of the program.

We found a majority of WIC clients preferred the computer to a live person. We found they can successfully use the computer. In fact, they enjoy acquiring the skills to be able to do that. Almost unanimously they learned exactly what the instruction contained about feeding their baby. And, they felt good about having participated in this program.

One thing we found out was that the pace which we built into the software might be a little slow for college level WIC clients, but it might be a little fast for low-literacy people. So we added a pause control for the learner to stop it, repeat something, think about it, ask someone for assistance, etc.

CAI is relatively free of personal bias. Sometimes a human being delivers a message with a bias that affects the way the learner perceives the information. Our computer program delivers the information consistently in a nonjudgmental, neutral way. In fact, the responses from clients indicated they liked not being judged by the computer.

We anticipate this kind of a program will become something that you will use for the transmission of repetitive kinds of information, a second educational contact. I believe any subject you communicate to clients could be transferred to this delivery system. A big advantage is it frees up the nutrition professional to spend additional counseling time with high-risk clients. WIC staff at the test sites really appreciated this feature.

In a couple of our sites, the program was set up in a room where groups of WIC clients saw the same message at the same time from the computer. There was so much interest, that there were often little battles over who was going to be the person who pushed the mouse button, who was going to be in control, etc. In fact, our test results suggest that WIC clients will self-select to go to a clinic with the computer program.

Successful CAI in North Carolina

—Janice Lebeuf

I will report on our experience with CAI in the North Carolina WIC Program. In 1987 I received a grant for $50,000, of which I spent $25,000 on hardware and software and $25,000 on a contract with the University of North Carolina School of Public Health to evaluate the project. The objectives were to:

- Increase the number of second nutrition education contacts that were provided in clinics.
- Compare the knowledge gains of clients who received CAI with those who received traditional nutrition education delivered in person by a nutritionist.
- Determine the attitudes of staff and clients toward CAI. Compare the costs of the two different methods of nutrition education delivery.
- Develop a CAI implementation model.

We chose six sites, including small, medium, and large agencies, emphasizing programs that were having difficulty providing followup nutrition education. Our target population was the clients we are most likely not to see for second contacts: the caretakers of children and postpartum women.

Our computers were older model IBM-PC clones with only a keyboard, no mouse. We used three different existing software programs on the market: Salty Dog, Grease, and Sweet Tooth, developed by Dietary Data Analysis of New Jersey. We modified the programs to bring the reading level down to about the fifth grade.

We did an initial survey before the project started and then a followup survey afterward. We assessed nutritionists' view of client attitudes toward CAI. Initially, 39 percent thought the clients would prefer a nutritionist to a computer; afterwards, 50 percent thought the clients would prefer a nutritionist.

Advantages of CAI

Of the clients who had computer instruction, 34 percent preferred the computer, 54 percent said either method of instruction (CAI versus a nutritionist) was okay with them. Their written comments indicated that they liked receiving routine information from the computer, but they always wanted access to health care professionals, so they could ask questions about their particular family situation. What they liked most about CAI was that it:

- Was not boring.
- Was a fun way to learn.
- Provided an initial opportunity to use a computer.
- Allowed clients to learn at their own pace.

When asked what they liked least, about half the clients had no negative comments. Some common statements made by the rest included:

- Problems with other children interfered with using the computer.
- Preferred to talk with people (instead of using a machine).
- Did not want to sit by a machine because it is impersonal.
- Hurt my eyes (just a very few said this).

In summary, our evaluation report indicated:

- Clients enjoy learning from the computer.
- Clients learn as much from the computer as they do from a nutritionist-led session.
- CAI costs about one-tenth that of a session delivered by a nutritionist.
- CAI can double the number of nutrition education contacts (one site had a 111-percent increase in the number of clients that received a second nutrition education contact per month).
- CAI enhances nutritionists' jobs because it allows them to concentrate on counseling the high-risk clients who need intensive intervention.

I recommend you consider CAI if you answer yes to any of the following questions:

- Does your staff feel overwhelmed with the number of patients every day?
- Do participants seem bored with the message you are providing?
- Are participants reluctant to receive nutrition education?
- Are you having difficulty meeting the two nutrition education contacts requirement?

Special Considerations With CAI

If you decide to implement CAI, consider the following:

- Locate space to place the computers—it can be found almost anywhere: in the voucher issuing office, classroom, or nutritionists' offices.
- Evaluate software in relation to the subjects and characteristics of your target population, especially literacy level.
- Allow for scheduling changes, because clients want to spend a long time with the computer (some clients scheduled to see one program asked to see all three).
- Make provision for someone to be available to respond to questions.
- Design a system for recording the CAI received because often clients using a computer will not see a professional afterwards. ■

7 Coordination Between WIC and Medicaid

Speakers:

Wilma M. Cooper, M.G.A.,
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Division of Medicaid,
Atlanta Regional Office,
Health Care Financing Administration,
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Alice Lenihan, M.P.H., R.D.,
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North Carolina Department of Environment, Health and Natural Resources,
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Moderator:

Suzanne Wilson, M.S., R.D.,
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Coordination Requirements of WIC and Medicaid

—Wilma M. Cooper

Medicaid is a State-Federal partnership program. The States put up part of the funding for the program and can decide what options they want to cover under broad Federal guidelines. Therefore, currently there are 56 different Medicaid programs in the States and the territories.

Of the 26 million individuals eligible for Medicaid, three-fourths of them are women and children. More than 12 million children are Medicaid-eligible for EPSDT. Approximately one million births annually are Medicaid births.

In the Omnibus Budget Reconciliation Act of 1989, Congress required the States to notify in a timely manner all individuals in the State who are determined to be eligible for medical assistance, and who are pregnant, breastfeeding, or postpartum women or children below the age of 5, of the availability of the benefits furnished by the Special Supplemental Food Program. The State must also refer any such individual to the State agency that is responsible for administering the program in their State.

In addition, agencies within DHHS, including the Health Care Financing Administration (HCFA), were required to coordinate with the Special Supplemental Food Program to develop a shortened eligibility application for seven programs. The model application was published in the Federal Register on December 9, 1991. Many States have already developed and are continuing to use their own shortened joint eligibility forms.

Strategies to Promote Maternal and Child Health

Last year, HCFA established a central Medicaid Bureau, with a Medicaid Division in each regional office. The Medicaid Bureau is to develop, strengthen, and promote maternal and child health, focusing on prenatal care and healthy outcomes and on improved EPSDT performance, using the following strategies:

- Increase the enrollment of Medicaid-eligible children and pregnant women, through outreach, presumptive eligibility, simplified applications, and out-stationing eligibility workers. WIC staff are proven effective recruiters.
- Improve provider recruitment and retention, so there is ready access to primary care, pediatric, and obstetric providers.

- Improve access and use of enhanced maternal and child health services, particularly through promoting managed or coordinated care.

We are planning to review and improve EPSDT. State agencies must assure that health needs of eligible children are assessed through periodic examinations and that detected health problems are diagnosed and treated, even if the State has elected not to cover it under their State plan.

Medicaid Reimbursement for Nutrition Services

States can provide nutrition assessment and counseling under several different areas of the Medicaid program, but it is entirely up to the State. Possible categories are:

- Medical or other remedial care provided by a licensed practitioner, such as health educators or nutritionists.
- Diagnostic screening, preventive, and rehabilitative services.
- Any other medical or remedial care recognized under State law and specified by the Secretary.
- As an expanded service for pregnant women.
- As part of a waiver.

In many of these areas, States would be required to license either health educators or nutritionists in order for the Medicaid program to be able to pay for those services.

Many States are providing nutrition services through the use of Freedom of Choice waivers for pregnant women. Some States are also providing them as an expanded service for pregnant women. Waivers have more flexibility, especially in defining who the provider will be and how the service will be provided.

Medicaid is required by law to coordinate with Title V to refer certain recipients to WIC and is encouraged to cooperate with Head Start, school health, and social services. Cooperating agencies provide varied outreach, diagnostic or treatment services, counseling and health education, case management, facilities, funding and other help in achieving an effective maternal and child health program.

Normally Medicaid cannot pay for services that are available to the public free of charge. The Act makes an exception, however, in the case of Title V, MCH services furnished to Medicaid-eligible persons. Other agencies may bill Medicaid for services, provided they are certified Medicaid providers. A fee schedule has been developed.

Elements of a Joint Agreement

To develop effective working relationships among different agencies and programs requires agreement on:

- Mutual objectives.
- Services each party offers and in what circumstances.
- Relationships at State and local levels.
- Methods to be used, such as outreach, identifying clients for services, reciprocal referrals, coordinating plans for services provided or arranged, budget payments or reimbursement for services and functions, periodic review and joint planning for changes to the agreement, and continuous liaison.

We want to work well with the WIC agencies in the States as well as the Medicaid agencies so that pregnant women and children are getting the care that they need.

Coordination of WIC and Medicaid in North Carolina

—Alice Lenihan

I would like to share why coordination is important, strategies used in North Carolina for coordination, evaluation of program effort, enhanced services for the MCH population, and opportunities for improved services.

Why is Medicaid-WIC coordination important? As many of you are aware, WIC is the carrot that brings fathers, mothers, and young children into the public health care system. The Child Nutrition and WIC Reauthorization Act of 1989 required that local WIC agencies refer to Medicaid those women and children who appear to be income-eligible. It also required that WIC agencies provide written information about Medicaid to such individuals applying or reapplying for WIC. On the other side, all Medicaid eligibility workers are required to provide WIC information to potential WIC-eligible individuals.

To make accurate referrals, local WIC staff need current information about Medicaid eligibility in your State. You can obtain a Medicaid fact sheet from the Center on Budget and Policy Priorities in Washington, DC, or from your own State, and post it on the wall or hand it to people.

In 1987, North Carolina implemented the "Baby Love" program which is our expanded Medicaid program for low-income pregnant women, infants, and children. It is jointly administered by the Division of Medical Assistance (DMA), which is our State Medicaid agency; the Division of Maternal and Child Health, which is the Title V and WIC agency; and the Office of Rural Health and Resource Development, which oversees community and rural health centers in the State.

Maternity Care Coordination

One of the important Medicaid options we use in the Baby Love program is maternity care coordination, also referred to as MCC, which does case management for all Medicaid pregnant women. MCC is provided by a registered nurse/social worker who has had experience in prenatal care. It is available through local health departments and rural and community health centers at a reimbursement rate of approximately $225 per pregnancy. One of the many components of MCC is to ensure that pregnant women participate in allied health services such as WIC. It also works on domestic violence, housing, getting women to their appointments, and other services.

DMA uses EPSDT to do automatic referrals from the provider to the WIC program. It also provides technical assistance and Medicaid eligibility to WIC staff. They also insert WIC envelope stuffers with Medicaid ID cards or AFDC checks.

WIC provides WIC services to eligible Medicaid recipients as program resources allow, refers clients in need of health care to health care providers, refers potential eligibles to the Division of Social Services or other presumptive eligibility staff, coordinates WIC certifications with EPSDT and postpartum visits, informs Medicaid providers about nutrition services delivered to Medicaid recipients, provides Medicaid with a list of local WIC coordinators, and shares WIC data on health outcomes of Medicaid recipients.

We have many joint training, coordination, and problem-solving sessions. We have also jointly participated in North Carolina's mass media campaign for prenatal care called "First Step." It includes information and referral guidance for prenatal care, financial assistance for the Baby Love program, and information about health habits, child health, nutrition, lactation, and health care.

Cost-Benefit: $1 in WIC Saves $3 in Medicaid

We participated in the National WIC Medicaid Cost-Benefit Study, which documented that for every dollar spent in WIC on prenatal care, $3 was saved in the newborn Medicaid cost. We also conducted a similar study in the following year, which showed that nonparticipation in WIC was the fourth strongest predictor of low birth weight, the first three being nonwhite status, smoking, and greater than one medical risk. Inadequate prenatal care ranked much lower. This information has helped policymakers see why it is so important to refer someone to the WIC program early in pregnancy.

Optional Services

A variety of optional services are available to States. We refer to these as enhanced services in North Carolina. One is service case management or maternity care coordination. Another is nutrition counseling for high-risk pregnant women, which will now be reimbursed by Medicaid. As WIC is only staffed to provide two nutrition education contacts during pregnancy, additional counseling needed by high-risk women, is paid by Medicaid. The service will have to be provided by a registered dietitian.

Some of the high-risk conditions are diabetes and other metabolic disorders, hypertension, other chronic diseases, or a prescribed therapeutic diet. Nutrition services include nutrition assessment, evaluation of pertinent clinical history, medical plan of care, and anthropometric, biochemical, and dietary information. We are requesting a $35 reimbursement for each service delivered. We estimate that about 15 percent of our Medicaid population would use these services.

Opportunities for Improvement

Some 28 percent of our eligible Medicaid population did not participate in WIC. We need to improve our outreach and referrals with private health care providers. We also need joint WIC, MCH, and Medicaid applications and other improved coordination. We need to give and receive training and technical assistance. If we are to combat infant mortality and morbidity in our States and achieve improved pregnancy and child health outcomes, many programs and individuals, both at the State and local level, will have to work together. ■

Coordination Opportunities Between WIC and Head Start

Speakers:

Connie Lotz, M.S., R.D.,
Regional Nutrition Consultant,
Maternal and Child Health Bureau,
U.S. Public Health Service, DHHS
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Janet Stammer, M.S., R.D.,
Data Management Coordinator,
WIC Bureau,
Iowa Department of Public Health,
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Moderator:

Stella Nash, M.A., R.D.,
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How WIC and Head Start Can Coordinate Services

—*Connie Lotz*

I would like to give you an overview of Head Start, do an overview of the nutrition component, discuss the Maternal and Child Health Bureau (MCHB) and the Head Start Bureau interagency agreement, identify where WIC and Head Start have common concerns, and then discuss ideas for coordination.

Head Start Overview

Head Start is an early childhood education and health program that began in 1965 as an 8-week summer program. Now it serves 600,000 children, predominantly 3- and 4-year olds, during the school year, and in some cases year-round. It is estimated that Head Start serves 30 percent of all 4-year-olds in poverty. There are approximately 107,000 paid staff and 800,000 volunteers.

The program is administered by the Administration for Children and Families of DHHS. Grants are awarded to local public agencies, private nonprofit organizations, and school systems so that Head Start programs operate at the community level.

Head Start can either be center-based, where the children come to a center, or home-based, where the child remains at home and an aide works with the parent or parents in the home setting. Home-based children come to the center several times a month to be with other children. This is referred to as their socialization experience.

Head Start operates on the school year, so unless a Head Start program is incorporated into a day care program, Head Start will begin in September and end in May or June. Some programs are full day and others half day.

There are four major components in Head Start: education, health, social service, and parent involvement.

Parent involvement requires parents to be involved in all the components. They are taught about what is going on in the education program, how to work with their children, and about nutrition and social services.

By law, 10 percent of Head Start spaces are to go to handicapped children, but, for the most part, these children are not severely handicapped. There are efforts, however, to hire better trained staff to accommodate more severely handicapped children.

Nutrition Component has Three Areas

The health component is divided into four major areas: medical, dental, mental health, and nutrition. The nutrition component is comprised of three areas:

- **Food service**, which includes food preparation, menu writing, and the food served to the children. All Head Start programs participate in the USDA Child and Adult Care Feeding Program, unless the grantee is a school district which opts to feed the children under the school lunch program.
- **Nutrition assessment**, which requires height, weight, hemoglobin or hematocrit, and a dietary evaluation.
- **Nutrition education**, an informational program for the children, parents, and staff.

Implementation of the Head Start nutrition programs requires the supervision of a registered dietitian. Nutrition problems most commonly seen in Head Start are dental problems, iron deficiency anemia, mealtime behavior problems, mechanical feeding difficulty, obesity, special dietary concerns, and underweight—the same things that you see in WIC.

In 1986, the American Dietetic Association approved a position paper on nutrition standards in day care programs for children, which specifically endorses the nutrition performance standards and the USDA Child and Adult Care Feeding Program as model standards for day care nutrition.

Support From Federal Regional Offices and MCHB

The MCHB and the Head Start Bureau signed an interagency agreement early in 1987 which said that the MCHB of the U.S. Public Health Service will provide health training and technical assistance to Head Start grantees, including nutrition, medical, dental, and mental health services. Staff at the national level include a nutritionist, dentist, nurse, and mental health consultant. We have that same cadre of health care professionals in the 10 Federal regional offices.

Some regions have arranged that the State public health staff provide the Head Start consultation, and in other States regional MCH staff, like myself, have trained private consultants to consult with and train Head Start staff. If local WIC agencies want to know where Head Start programs exist, they can contact the State or regional MCH program for information. MCH is very committed to WIC/Head Start coordination.

Common Areas for Head Start and WIC

What are the common areas for Head Start and WIC? Both provide nutrition services to high-risk children. Both serve low-income families (although WIC serves those below 185 percent of poverty, while Head Start serves only those below 100 percent of the poverty level). Both require nutrition assessment, which includes height, weight, hemoglobin/hematocrit, and dietary evaluation. Both provide nutrition education to children and families. Both are an adjunct to comprehensive health care. Both are involved in initiatives to get children immunized. Both refer families for substance abuse problems. Both provide food to children, except WIC food is for home meals while Head Start food is served in the center. Both are concerned about children receiving medical services: WIC has to provide written information to clients about Medicaid, and all Head Start programs work hard to enroll their clients in Medicaid EPSDT services.

Possibilities for Coordination

I suggest that every WIC nutritionist meet with the nutrition consultant and/or nutrition coordinator at the Head Start center. Discuss what each of your programs are doing and where you think you could coordinate.

All Head Start programs should refer children who are eligible for WIC services. WIC programs should inform Head Start programs about potentially eligible children.

Since both programs require nutrition assessment, they should share the information to avoid repetitious tests on a child. Head Start can expand upon the nutrition education in WIC, especially since Head Start has the parent involvement component which can reinforce WIC information. Both programs can share educational materials.

WIC nutritionists can participate in Head Start Health Services Advisory Committee meetings. This Committee, which is composed of volunteers and parents, advises the health and nutrition component.

WIC nutritionists can participate in self-assessment validation teams in which different providers review what is happening in Head Start against what is supposed to be occurring in relation to the performance standards. In addition, if the Head Start program has a system for reviewing medical charts, WIC nutritionists can participate in the peer review.

Head Start can assist WIC in their outreach to children and their families. In South Carolina, Head Start does the outreach for the family planning program by identifying Head Start mothers and their friends. Head Start transports the women for family planning services.

Regarding drug abuse services, both programs should share their knowledge about detoxification and rehabilitation services.

Both programs should coordinate efforts for children to receive comprehensive health care, Medicaid, EPSDT, and immunization services.

Locally, Head Start and WIC can develop agreements to work together, depending upon the needs of the community.

One State health department is developing a contract with Head Start programs which will specify that

the State district nutritionists, who are all registered dietitians, be the nutrition consultants to Head Start. This will assist Head Start programs in finding qualified nutrition consultation, which is often difficult if there is a shortage of registered dietitians in that area.

Finally, DHHS, with assistance from USDA, is developing a model joint application for WIC, Medicaid, and MCH which should be published in the Federal Register in late 1991.

WIC and Head Start Coordination in Iowa

—Janet Stammer

The Iowa WIC program received a $10,000 grant from MCHB to study linkages among the following:

- Head Start
- Child health projects
- Dental projects
- WIC
- Child health specialty clinics, which are regional child health clinics for children with special health care needs.

The purpose was to develop strategies to:

- Enhance coordination of services
- Improve followup of families
- Maximize use of available funds
- Promote joint educational activities.

The study questions were:

- Are health care services and information duplicated between these programs?
- How do these programs work together?
- Is the followup coordinated?
- Is the payment equitable and who is paying for the services?
- What data is being collected?

The survey consisted of five major parts:

- Physical/health issues
- Dental health issues
- Nutrition health issues
- Agency interactions
- Agency operations

Co-located Agencies and Clinics

In Iowa all child health and WIC clinics work together. WIC nutritionists are also MCH nutritionists, and often MCH nurses are WIC nurses. At the time of the survey, five WIC and Head Start programs were co-located in the same agency, and seven WIC child health and Head Start programs were located in the same agency (usually a community action program or CAP). In other words, 12 of 19 WIC programs were administered by the same person that was administering Head Start for their agencies. This facilitated coordination and cooperation, although all those agencies were not cooperating at the time of this survey.

In the survey, WIC agencies were asked what services they were providing to Head Start. About half of them were providing information about nutrition assessment data, and almost one-fourth to one-third were providing some nutrition education services to Head Start.

When asked why WIC nutritionists don't work for Head Start, the primary reasons stated were scheduling difficulties and lack of time or funding.

Iowa has mandatory dietetic licensure—individuals performing nutrition assessments for the State must be licensed. Only half of the Head Start agencies, however, were using licensed dietitians to provide nutrition assessment and counseling, and only 3 of the 16 were using licensed dietitians to plan the whole nutrition program.

WIC is used as an outreach center for Head Start. WIC also provides nutrition assessment data with a parental release. It is important for the Head Start family not to receive mixed messages.

Recommendations for Coordination

1. Agree on consistent timeframes for nutrition assessment and physical and dental exams.
2 Identify transportation barriers that keep Head Start children from using regional child health clinics.
3. Understand how budget decisions are made to ensure fair payment between programs.
4. Increase awareness of child health programs, especially among Head Start agencies.
5. Encourage early recruitment of Head Start children so that physical, dental, and nutrition assessments can be scheduled in coordination with WIC and MCH.
6. Assist the Head Start programs in identifying licensed dietitians.
7. Organize joint roundups of children involving multiple agencies.
8. Identify barriers to successful interaction.
9. Develop strategies addressing prevention of duplication of services.
10. Develop methods to deal with geographic barriers among agencies.

11. Develop strategies addressing the issue of more than one agency with a mandate to be payment source of last resort.

Why Head Start and WIC Should Work Together

Why does Iowa think Head Start and WIC should work together? First of all, it provides better nutrition services for Head Start children, who are also WIC children. It reduces duplication of services. Also WIC dietitians like to work with Head Start. The main barrier is that Head Start has not had funding to pay their professional staffs adequately. It is important to work with regional WIC, MCH, and Head Start offices to ensure that nutrition services are the best possible.

The Iowa WIC Program encourages local agency staff to serve on health advisory committees. Even if you don't have time to do anything else, Head Start would welcome your offer to serve on a health advisory committee.

Iowa WIC staff have been helping Head Start directors by identifying qualified licensed dietitians and screening their qualifications to see if they would be eligible for licensure.

Iowa WIC staff also work with the licensure board to clarify what has to be done by licensed dietitians and what can be done by home economists or other health professionals in the Head Start clinic.

Iowa WIC staff also speak at the annual meetings of Head Start Nutrition Coordinators and Directors to tell them about WIC and MCH.

In addition, the Department of Public Health MCHB has received a $240,000, 5-year grant to develop and implement a community-based system to ensure that all children have access to primary care. ■

Development and Evaluation of Low Literacy Materials

Speaker:

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Moderator:

Jan Kallio, M.S., R.D.,
State Nutrition Coordinator,
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S. Jane Voichick

The need to develop effective print materials that meet the specific needs of WIC audiences has been long understood. Studies that have looked at the materials have found them lacking. A study in 1981 by Cornell found only 1 of 20 materials reviewed had readability at a level that WIC audiences could understand. They found that WIC nutrition educators tended to overestimate their clientele's ability to understand the materials. They also could not accurately estimate the reading level of materials. They thought material was written at a fifth grade level, when it was actually written at seventh grade level.

Factors that Facilitate Learning

Today we are clearer about incorporation of vocabulary and style principles, such as use of shorter words, shorter sentences, less negative statements, simpler words, and more concrete vocabulary. Also we understand legibility principles, such as appropriate type size, line width, number of columns, and use of subheadings. Now we are using readability formulas.
Factors that facilitate learning are:

- Relevance to the needs of the audience.
- Clear and simple language.
- Close fit with prior knowledge.

One of the first things to do when you are developing the content and the message is to consider the characteristics of the persons you are working with. I suggest the following four steps:

- Review previously published material about your target population for information about their specific needs.
- Discuss health needs and strategies with professionals in other agencies who have worked with a similar population. We usually form an advisory group with interagency representation, and ask their opinion about the needs of the target audience and the most effective ways to reach them.
- Use market research, especially focus groups, to gain a better understanding of what might cause people to change. Focus groups are useful for probing such things as fundamental beliefs, values, tastes, and emotions.
- Hold indepth individual interviews to determine the effectiveness of the materials.

Project Examples

I will mention two examples that illustrate how we considered these factors that facilitate learning as we developed materials:

- In one project, we worked with low-income, semi-literate, white, female, heads of households, who had children under 10 and lived in an urban area. We wanted to develop a pamphlet about healthy snacks for children. We did a needs assessment, a literature search, agency interviews, focus groups, and indepth individual interviews.
- In another study, we developed materials for Hispanic, African-American, and white women on how to consume less fat in their diet and reduce their risk of cancer. We conducted extensive focus group sessions to explore the reasons for their use of fat and what would motivate change. We obtained valuable culture-specific advice.

Producing Readable Materials

After you get sufficient information about the needs of the target audience from your literature review, interviews with professionals, focus groups, and personal interviews, the next step is to produce the materials using clear and simple language.

Many available materials are not comprehended because readability issues haven't been addressed, particularly in populations with limited reading ability. The results of national surveys that look at literacy skills of our population are discouraging. Doak and Doak found in 1980 that 23 million American adults may not be able to comprehend what health professionals are talking about. Another study in 1976 indicated that about 20 percent of the adult population, or 1 out of every 5, lacks literacy skills needed to function efficiently in today's society. In 1986, the U.S. Census Bureau said that 13 percent of U.S. adults were "illiterate in English." Two studies found that health care recipients who graduated from high school averaged 7th grade level in word recognition skills while most materials were found to be 10th grade or above.

Often it is hard to detect that your materials aren't being understood. Poor readers and persons who can't read at all usually don't ask questions or tell you they can't read. Many people who are illiterate are really very smart people who have learned to cope. If you have doubt about reading ability and you haven't developed materials yet, it is always wise to give people options, such as an audio tape or a video.

The definition of literacy is comparative, not absolute. Often, people will define it as between 4th and 5th grade reading levels, but for functional literacy we really need between 8th and 12th grade levels.

According to Colin Harrison's book, *"Readability in the National Classroom,"* the factors that influence the readability of materials include:

Legibility of print

- A font size of 14-18 points is best for beginning readers.
- Serif fonts are better than plain fonts.
- Fluent readers do best with lower case letters, but poor readers may do best in upper case just because they know the letters better.
- Unjustified right margins are most helpful for beginning readers.

Illustrations, color, and paper

- Illustrations can be motivating, but also can be distracting.
- There should be good contrast between print and background paper.
- The paper should be thick enough that print on the reverse side won't show through.

Vocabulary

Vocabulary is the chief variable people look at, and it has long been considered the most important determinant of text difficulty. Common methods of measuring vocabulary difficulty are word lengths (average number of letters or syllables per word) and word frequency (how often the word occurs in ordinary usage). It is best to use words on a high frequency list.

Conceptual difficulty

It is difficult to design a method for measuring conceptual difficulty. Cheryl Achterberg, a nutrition education researcher, found that the average person's working memory can only hold a limited number of concepts at a time. She suggests that you present a single concept with some examples to support it. A common mistake is trying to tell everything to people when you are just trying to get them to eat more fruits and vegetables.

Syntax and sentence structure are important. Here are some examples from Harrison's book:

- Use an active verb rather than a passive verb: "The boys took the chair," not "The chairs were taken by the boys."
- Use an active verb rather than making the verb into a noun: "If you reduce the length of the string, you will increase the speed of the pendulum," not "The reduction of the length of the string will produce an increase in the speed of the pendulum."
- Don't modify verbs with "might," "could," "may," and "should." People want you to be specific and not vague.
- Don't use many clauses per sentence.
- Don't make the sentence too short: "The boat which I bought was green," not "The boat I bought was green."

Organization

- Use paragraphs and subheadings.
- Use advance organizers, such as, "These are topics I will cover ...."
- Give people questions to help them think about what they have read and process it.
- Manipulate type, such as bold type, underlining, or italics. It can be effective, but don't combine

these variables or overdo them—too much will distract the reader.

Readability formulas are intended to predict, within one and a half grades, what grade level is needed for comprehension of your material. I recommend using a formula that measures two variables. Formula scores are less useful at higher grade levels. You should also consider other factors that influence comprehension, such as motivation—are you talking about something that people are even interested in? Don't use these formulas while you are writing. You should write first, then use the formula to check it. Then rewrite and check again.

I would recommend using the language experience approach. This method:

- Uses statements from the focus group as part of the text.
- Has been extensively used for reading instruction.
- Aids motivation and comprehension.

Evaluating Effectiveness of Written Materials

In evaluating the effectiveness of your written material, first check the reading level using a formula. You also may use comprehensibility measures such as signal, stopping, free recall, oral reading, miscue analysis, semantic differential, and the Cloze test.

With the Cloze test, you replace every fifth word in the middle of the material with a blank. Then you ask the person to tell you what that word is. If people get it right 60 percent of the time, they are considered to have comprehended the material. This technique has been validated against other measures of comprehensibility.

You can also use focus groups to evaluate effectiveness, "Here is what we put together, what do you think of it? What changes would you suggest?" The University of Nebraska has developed dietary guidelines materials using this focus group technique. Other measures of effectiveness include determining changes in nutrition knowledge, attitudes, and behaviors.

I recommend the booklets, *"Writing for Reading"* by Sue Nitzke, and *"Guidelines: Writing for Adults With Limited Reading Skills,"* which was put out by FNS in 1988. DHHS has a helpful publication called *"Making Health Communications Programs Work."* You might also find my *"Parents Talk About Snacks"* and *"Diet and Cancer"* booklets helpful.

Using Formulas and Computer Programs

There are about ten different formulas and computer programs to measure readability. The simplest is probably the FRY graph which evaluates sentence length and word length. You take three 100-word passages and count the number of sentences and the total number of syllables in each. Then you look at a graph and see the rating. The FOG also uses a similar strategy. "Guidelines for Writing for Adults With Limited Reading Skills" has a FRY graph.

There are some programs you can use directly on your personal computer, but I have found them difficult to use or inaccurate. It might be easier to use some of the simple formulas by hand rather than use a computer program.

A problem with any of these formulas is that they may take your attention away from what is most important—making sure the material motivates people and meets the needs of your audience. I am not saying don't use them, but take the results with a grain of salt. ■

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Dietary Assessment

Speakers:

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Carol Suitor, D.Sc., R.D.,
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Moderator:

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Designing a Food Frequency Questionnaire for the Low Literacy Population

—Karen Bettin

In Michigan, the statewide literacy coordinator estimates that 50 percent of the WIC population is functionally illiterate, or reading below an eighth grade reading level. This population is expected to utilize a self-administered food frequency questionnaire because WIC does not have the staff to spend 10 to 15 minutes interviewing each applicant.

In order for a self-administered questionnaire to be effective for the WIC Program, it must be designed to get the most accurate information possible from poor readers. Accuracy is important because the information a WIC applicant records on the questionnaire may determine if she will or will not receive WIC benefits.

From a review of the literature, little to no information was available about designing a self-administered frequency questionnaire for the low literacy population. Therefore, I utilized information available about designing print materials for poor readers and applied this to the food frequency.

After developing some prototypes, I then consulted with teachers who work with adults who have difficulty reading. The teachers tried out the various questionnaires with their students. With their feedback, I was able to refine the wording and page layout to make it more appropriate for the poor reader.

Using funds from the Midwest Regional Office of USDA, I carried out a validation study with 144 pregnant WIC participants from six WIC local agencies, three urban and three rural. The number of grades completed ranged from 8 to 18 years. About 12 percent were reading at third grade level or less, 23 percent reading between the fourth and sixth grade level, and 23 percent between the seventh and eighth grade level, for a total of 58 percent reading at an eighth grade level or less.

Four Ways to Improve a Questionnaire

Based on all of these experiences, I see four main ways that self-administered questionnaires can be improved for the poor reader:

- By designing the food frequency questionnaire for the WIC applicant (not the WIC staff).
- By the manner in which information is laid out on the page.
- By asking WIC applicants to only record information they can realistically provide.
- By the instructions given when administering the questionnaire.

The way the questionnaire is laid out on the page improves accuracy. As a result, our questionnaire looks quite different from most food frequency questionnaires I have seen elsewhere. We have a lot of white space on the page, we use a larger lettering size, like a 12 or 14 point, and we have few questions per page.

The questionnaire ended up with four single-sided pages. When we tried a two-sided booklet format, there was too much visual information from the two pages showing at one time.

We used dark lines to separate the different rows to reduce errors. We provided a straight edge to help them stay on the line. People who used the straight edge had fewer errors than those that didn't. We removed unnecessary distractions, such as a scoring aid used by the staff. (We developed an overlay for the scoring aid.)

We decided to assume a standard portion size. If the WIC applicant's intake is low for a particular food group, we ask more questions in the interview on foods that we know can vary quite a bit, such as milk, cheese, cereal, and eggs, to determine if they use a larger amount. If that is the case, then we work that amount into their score for that food category.

Accuracy of information recorded on the questionnaire can also be affected by the instructions we use in administering the questionnaire and also how the food items are worded. Because the information recorded on the food frequency will be used to determine eligibility for the WIC Program, it is to the benefit of the WIC applicant not to guess. That is why we let the applicant know that it is best to leave an item blank if they are not sure.

Next Steps

There are three additional important activities:

- Hold focus groups with WIC participants to get further input on the wording of the instructions and the food items.
- Revise the scoring technique to reduce the amount of time it takes to score a questionnaire (it took 2-6 minutes during the study).
- Consider cultural variations. The questionnaire was designed to be appropriate for white and black women, but not necessarily for other racial or ethnic groups. Rather than adding culturally preferred foods to the questionnaire, which would make it longer, we are planning on asking the applicant to complete the questionnaire as it is. Then if their intake is low for a particular food group, we ask in the interview if they consume foods we didn't list on the questionnaire.

If you would like additional information, order the publication "*Guidelines for Designing a Food Frequency Questionnaire for the Low Literacy Population.*" Send $4 (for printing and shipping, payable to State of Michigan) to Sheryl Darling, WIC Division, Michigan Dept. of Public Health, P.O. Box 30195, Lansing, MI 48909.

Harvard Food Questionnaire and Computer Program

—Carol Suitor

I am representing Dr. Jane Gardner, from the Harvard School of Public Health, who is the principal investigator of a USDA cooperative agreement on dietary assessment methodology in WIC. The objectives of the cooperative agreement were to:

- Design food frequency questionnaires, one for women and one for children aged 1-5 years.
- Develop a manual scoring method for the questionnaires.
- Expand the software to produce computerized analyses of the questionnaire results.

We focused on the food frequency questionnaire because this instrument offers a number of advantages. It is a time-integrated measure of intake. It is easy to administer; potentially easy to code and score; highly standardized, unlike dietary recalls; low in cost relative to other methods; and does not alter the food intake for the period being measured as some other methods of recording might.

The foundation for this work was provided by earlier research done at the Harvard School of Public Health. The earlier research tested a self-administered food frequency questionnaire, which had 3 pages of foods, with 270 low-income pregnant women served at three clinics in Massachusetts. With a sample of 94 of those women, we obtained three sets of diet recalls, and administered the questionnaire a second time. The study was designed to compare both the absolute nutrient intake and the nutrient density scores, using the two different methods, the food frequency questionnaire, and the diet recall sets.

We found good correlation coefficients for all the various nutrients that we looked at, protein, calcium, iron, zinc, and vitamins B-6 and C, but not for vitamin A. We do not know if the vitamin A problem was because the diet recalls were inaccurate or because the food frequency questionnaire was inaccurate. There is no way to tell that.

The previously validated food frequency questionnaire was slightly modified as part of the USDA project to make it applicable to breastfeeding and nonbreastfeeding women and children 1-5 years of age. No major changes were made to the questionnaire in an attempt to maintain its validity. We also looked at data from the Continuing Survey of Food Intake by Individuals which used low-income sample 1-day data from 1985. It is interesting to see the most commonly used foods by this population. The top 10 foods for women

were soft drinks, milk, white bread, regular coffee, margarine or butter, sugar, whole eggs, tea, lettuce, and mayonnaise or salad dressing. For children, the top 10 foods were milk, white bread, margarine or butter, soft drinks, whole eggs, fruit-flavored drinks, orange juice, sugar, white potato, and bologna or sausage. White potato does not sound too bad, but that happens to be french fries.

In developing a manual scoring method for the questionnaire, we were advised by FNS to use a food group approach. We created color-coded templates to score intake of milk products, fruits, vegetables, meats, and grains.

To reduce time spent scoring, if you are just interested in certification, do milk and fruits first. If the person is short on milk and fruits, they may be established as eligible without going through the full scoring process. The average time for full scoring was less than 5 minutes.

Computer Program

The computerized program for scoring, which is called "WIC Enter," is based on the earlier research as well. After data entry, you can display the results of the analysis on the screen, or you can print it out. There are three different kinds of output:

- Number of servings from the five food groups, plus vitamin A-rich foods, vitamin C-rich foods, sweets, and fats; as well as an indication of whether or not there were some missing data.
- Nutrient density of the diet as compared with the 1989 Recommended Dietary Allowances (RDA), including estimated energy intake.
- Average number of servings per week of foods that were reported.

In conclusion, we believe the questionnaire fits well into the existing system. It can be self-administered, or administered by nonprofessional personnel. It is potentially low in cost. The questions remaining are: How accurate is it? How quick is it?

USDA plans to send the report and software to each State by the end of 1991. For information on the earlier Harvard research, contact Dr. Jane Gardner, Department of Maternal and Child Health, Harvard School of Public Health, 677 Huntington Avenue, Kresge 3, Boston, MA 02115, (617) 432-1080. ■

Food Package Tailoring

Speaker:

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Moderator:

Helen Lilly, Ph.D.,
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FNS, USDA,
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Nancy J. Spyker

A year ago we looked at the whole food package with these three goals in mind:

- Meet the nutrient needs of individual clients.
- Contain costs.
- Avoid potential for waste and abuse.

We wanted to achieve a balance between nutrition integrity and cost effectiveness when designing and tailoring food packages. We held strategic planning sessions to meet this goal and used the following information to formulate objectives for developing tailoring policies:

- FNS Instruction 804-1, Food Package Design: Administrative Adjustments to Nutrition Training.
- Research data from vendor price sheets.
- Vendor selection criteria.
- Recent news or memos on prices of WIC foods.
- Cost containment suggestions by the State Nutritionist.
- Cost containment changes made by other States in our region.

The objectives from the planning sessions, along with the following items, were used to develop our food package tailoring policies:

- USDA regulations.
- Nutrient needs of WIC participants.
- Nutritional composition of South Dakota-approved WIC foods. New products on the market.
- Participant surveys. We always ask if they are getting excess amounts of any food. Then every year we ask about which brands they purchase of a specific WIC food—one year it was which breakfast cereals they chose.
- Prescriptions and requests from physicians in our State.
- Special formulas supplied by Medicaid.
- Vendor/participant confusion and any resulting suggestions.
- Nutrition education materials in use.
- Vendors reports, including price comparisons between store brand and name brand products, product availability across the State, and vendor perceptions of client purchases.

Decisions about the food package were in three areas:

- Education on the food package for participants.
- Education on the food package for physicians.
- Acceptable food selections.

Guidance to Local Agencies

Local agencies were given protocols regarding what to discuss about tailoring at certification and secondary counseling. From FNS instructions, tailoring is a tool to be used solely for prescribing food packages that better meet the nutritional needs of the participant. We can tailor according to types, forms, and quantities of WIC foods. Cost containment can't be used for determining the quantities of WIC foods prescribed. Cost containment can come into play when you are deciding whether you are going to give, for example, milk or cheese.

Our recommended food packages, which are categorized for each age group of infants and children, are shown in the exhibit, "Categorical Tailoring." There are recommended food packages for infants that are breastfed or formula-fed, children that are anemic or have special needs, and women that are pregnant and breastfeeding, postpartum, or have special needs; these will all be updated.

As a part of categorical tailoring, our computer makes some automatic changes. When an infant turns

EXHIBIT
Categorical Tailoring

South Dakota Recommended
Food Package Quantities

The chart below is the recommended supplementary food amounts to supply WIC participants according to age, condition, and Recommended Daily Allowances (RDA). Individual tailoring can be done to adjust amounts if the medical and nutritional assessment indicates larger or smaller amounts are needed.

INFANTS		
0-5 months	31 cans concentrated infant formula, 8 pounds powder or 25 cans Ready-To-Feed.	
6-12 months	31 cans concentrated infant formula, 8 pounds powder or 25 cans Ready-To-Feed.	
	63 fluid ounces or 4.2 ounces (fifteen 4 oz btls or seven 8 oz btls) infant juice or 92 fluid ounces (two 46 oz cans) regular juice.	
	16 ounces dry infant cereal.	
BREASTFED INFANTS		
0-4 months	Formula supplement if required, in amounts appropriate to the extent to which infant is breastfed.*	
4-12 months	Formula supplement if required, in amounts appropriate to the extent to which infant is breastfed.*	
	63 fluid ounces or 4.2 ounces (fifteen 4 oz btls or seven 8 oz btls) infant juice or 92 fluid ounces (two 46 oz cans) regular juice.	
	16 ounces dry infant cereal.	
CHILDREN		
1-2 Years	Milk	16 quarts (2 cups daily)
	Cheese	1 pound
	Eggs	2 dozen
	Juice	138 ounces (4+ oz daily or 3 cans)
	Cereal	30 ounces
	Peanut Butter, Dried Peas or Beans	18 ounces or 1 pound
3-4 Years	Milk	18 quarts
	Cheese	1 pound
	Eggs	2 dozen
	Juice	184 ounces (5 + oz daily or 4 cans)
CHILDREN		
3-4 years con't.	Cereal	30 ounces
	Peanut Butter, Dried Peas or Beans	18 ounces or 1 pound
Special Needs	Special Formula	31-35 cans concentrate or 8-9 pounds powder
	Cereal	24-30 ounces
	Juice	138 ounces (4+ oz daily or 3 cans)
Anemic Children	Juice	Increased to 276 ounces
	Cereal	Increased to 36 ounces
WOMEN		
Pregnant & Breastfeeding	Milk	24 quarts
	Cheese	1 pound
	Eggs	2 dozen
	Cereal	36 ounces
	Juice	276 ounces (9 oz daily or 6 cans)
	Peanut Butter, Dried Peas or Beans	18 ounces or 1 pound
*Postpartum**	Milk	20 quarts
	Eggs	1 dozen
	Cereal	24-30 ounces
	Juice	184 ounces (5+ oz. daily or 4 cans)
Special Needs	Special Formula	31-35 cans concentrate or 8-9 pounds powder
	Cereal	36 ounces
	Juice	138 ounces (4+ oz. daily or 3 cans)

* Caution must be taken that provision of supplemental formula does not undermine mother's choice to continue breastfeeding.

* Note: Tailoring suggested for the postpartum woman is to assist her in decreasing weight and to decrease fat and cholesterol in the diet.

6 months, it automatically adds juice and cereal (the health professional can increase the cereal to 24 oz). In the 13th month our computer automatically goes to the 1- 2-year-old food package. We recommend the local agency individually tailor for each child, considering nutrient needs based on nutritional assessment and identified risk factors. For example, we suggest that overweight women and children be provided milk instead of cheese, unless unable to drink milk due to lactose intolerance. Local agencies also need to consider the amount the participant is willing to eat, whether there are inadequate cooling or refrigeration facilities or unsuitable water (e.g. ready-to-feed formula is given if water is high in nitrates or bacteria).

The lactose intolerant person can receive up to the maximum amount of cheese, which is 4 pounds. For the hypercholesterolemic individual, one recommendation is no eggs or cheese (but look at dietary recommendations given to the participant from the health provider before making this recommendation). For the chronic hypertensive individual on a low sodium diet, we recommend milk instead of cheese. We urge our local agencies to encourage exclusive breastfeeding up to 6 months, and not give supplemental formula, cereal, or juice before that time.

We advocate the purchase of low fat or skim milk for women and for children that are over 2 years old, unless they are underweight. We advocate whole milk for children up to 2 years of age. We encourage the purchase of dried beans and peas instead of peanut butter for overweight women, high fiber cereals for women and children with constipation, and cereals and peanut butter with no added salt and dried beans and peas for those on low sodium diets.

For families that are lacking finances, or if their diet indicates that their nutritional status may be compromised by a lack of a variety of food, we recommend encouraging cereals with 100 percent of the RDA of vitamins and minerals, such as Product 19 or Total.

For a child with diaper rash problems, we encourage apple juice instead of more acidic juices. For infants that are just starting to eat, we recommend the purchase of single grain cereals and single types of juices, rather than blends, until the individual ingredients are test-tried to see that the infant isn't allergic to them. For special needs children having problems with chewing or swallowing, we recommend selecting hot cereals (like Cream of Wheat or Multimeal) rather than cereals requiring chewing. For clients with inadequate refrigeration or cooking facilities, we recommend dried or evaporated milk instead of fluid milk, cold cereal instead of hot cereal, peanut butter instead of dried beans, and canned instead of frozen juice.

We suggest the health professional or the secretary ask the participant to come back and inform the local agency to change the food package if they find that they are getting too much or too little food. During secondary counseling sessions, the health professional asks the client how the food package is working and whether there are any foods or amounts that are not being consumed. This check allows us to follow up and change the food package if necessary halfway through the certification period.

Guidelines for Breastfeeding

For an exclusively breastfeeding mom and infant, the goals are to provide both the food package and counseling to:

- Encourage initiation and continuation of breastfeeding.
- Meet the nutrient needs of the mom and the infant.
- Encourage the maintenance of the best environment for the utilization of nutrients in breast milk.

For the exclusively breastfed infant, we don't want to interfere with or undermine the mom's ability to maintain lactation. I am giving special advice to our local agencies not to give supplemental formula just in case the mom decides she needs some, but to let her know that it is available upon request. We discuss with the breastfeeding moms lactation supply and demand. That is, the more supplemental formula the baby gets, the less milk the mom needs to produce and therefore the less milk she will be able to produce. Also, for a full-term healthy infant, breast milk provides all that baby needs up until 6 months. After that age, we remind moms that other foods need to be added.

"Nutrition During Lactation," the Institute of Medicine report, says "Human milk is a sufficient source of iron for the first 6 months of an infant's life. But foods with bioavailable iron, iron fortified foods, or low dose iron supplements should be provided at 6 months, or earlier if supplemental foods are introduced before that time." We let moms know that if they introduce other foods that we can help them, but that breast milk is really the best for their baby.

Special Dietary Needs

For those with special dietary needs, we tailor according to:

- South Dakota acceptable special formulas and medical nutritional products.
- Current consumption of the child.
- Physician's prescription, especially if the child is tube fed and has no control over how much formula he or she is taking.

The State Nutritionist approves amounts for special formulas such as Tolerex and other very specialized formulas. This is because we don't have registered dietitians (RD) available for all our local agencies. I don't feel comfortable with having a non-RD make the decisions about these formulas. Obviously, our special needs tailoring has to be within the maximum allowed by Federal regulations.

Our WIC staff coordinate with Medicaid to supply any extra formula needed or medium-chain triglycerides (MCT) oil, polycose, etc. For children that aren't Medicaid-approved, we work with MCH to see if they will supply the needed formula. We approve food packages for special needs children for a maximum of 6 months because we feel these kids need to be followed up by a physician and WIC staff. ■

12 Management of Childhood Obesity

Speaker:

Roslyn G. Weiner, Ph.D.,
Coordinator of Eating Disorders Program,
Division of Child and Adolescent Psychiatry and Consultant to Families,
Weight Control Clinic,
Division of Pediatric Gastroenterology and Nutrition,
New England Medical Center,
Boston, MA

Moderator:

Melinda Newport, M.S., R.D., L.D.,
Nutrition Coordinator,
Chickasaw Nation
WIC Program,
Ada, OK

Roslyn G. Weiner

As I understand it, WIC's primary responsibility is to provide nutritious supplemental foods, plus nutrition education. In so doing, you are working as a role model, because you hope the foods you are suggesting would eventually be the ones that clients would choose to purchase themselves.

Why is management of obesity such a critical issue? I suggest to you four reasons:

1. There are medical risks associated with going into adulthood as obese, such as diabetes, heart attack, strokes, and others. A more immediate health problem is that obese children reach puberty earlier than nonobese children.
2. Because of all the social discrimination and diminished self-esteem that goes with obesity, obese people have less chance of getting certain kinds of jobs and being accepted in many social situations. I hope that we are working both as people and as professionals to change American society's attitudes about what is the preferred body.
3. Being able to properly feed a child and then teach the child how to feed himself or herself is a reflection of parental competence. The newborn infant, up through several years of age, is dependent entirely on what the parent feeds him or her. Therefore how a child is fed, whether malnourished in the direction of overthinness, or malnourished in the direction of over-fatness, is a measure of parental competence. The management of obesity is a possible opportunity to develop within parents a sense of their own competence.
4. The education of children as they progress from dependence to independence in the domain of feeding to eating is important.

Theory of Managing Obesity

The theory behind the practice of managing obesity has eight points:

1. In the treatment of childhood obesity, the family, not the child alone, is the unit of intervention. That family is not necessarily defined by blood lines. It can be a foster family or communal family of some sort. In our clinic, when parents ask me to see their child, I say, "I will be happy to see your child, along with all the people that share the same refrigerator with him or her." They say, "Why is that?" I explain that when people live together, you need to get all of them to buy into the plan.

   For example, say you have a family with two children, one is obese and the other has appropriate weight. You say to the parent, "It would be useful not to accept ice cream into your home," and the parent, who is very eager to help the child, agrees not to have the ice cream. But the child of average weight who was not in the room and who didn't vote, begins to taunt the overweight child. The parent values her two children getting along more than a new value of "Let's feed the child appropriately." So the ice cream stays in the

home in an effort to cut back the squabbling between the siblings. If, however, both children are present in the room, and understand why it is in the best interest of both children to make that change, or agree that the normal weight child can have ice cream at a friend's house, then everybody buys in.

2. Dietary history, even if carefully done, is useful to identify patterns of eating and problem foods, but should not be perceived as more than 60 to 80 percent accurate.
3. Maintenance of weight loss is as important as, or more important than, actual weight loss. Almost anybody can be helped to lose weight. The issue is, can you alter your eating behavior in such a way that it seems possible to maintain that change for the rest of your life? Therefore, we prefer to help a child, through work with the family, take off a pound or two and keep it off for a month or two to demonstrate to the child and the family the effort required. Then encourage them to lose the next pound or two and keep that off for a period of time.
4. Management of childhood obesity depends upon permanent behavioral change rather than a temporary diet. Most of us diet for a period of time until either we can't bear it any more, or we get tempted out of it and go back to our regular eating. So we talk about eating patterns.
5. Children of the poor have the same right to good health and health care as children of the economically advantaged.
6. Children learn to take responsibility for their own physical care through a therapeutic experience that relates their behavior to their bodies. They gain an increased sense of personal competence by working toward an identified goal. With kids as young as two or three, we help them begin to think about the power and the control that they have over their bodies. We encourage parents to begin to talk with their kids. We explore why people eat. Certainly, children often eat from boredom, not knowing what else to do.
7. When validated by other family members, the child's increased capacity for self-care has a good chance of being carried over into adulthood.
8. Collaboration between clinicians and family is critical to the success of the change process. We can all preach forever, but if we don't find a common way to join with that family, nothing different will happen.

WIC Issues

The second part of my talk relates to WIC issues in managing childhood obesity. Tasks of the WIC clinical staff in the management of childhood obesity include:

- Help parents become aware of how they presently handle eating and feeding.
- Help parents identify what **small** changes they can make and **sustain**. I would rather a person promised a tiny bit because they felt they could do it. When they come back having done it, they can praise themselves, and then do the next small step.
- Keep building on more small changes.
- Talk about the meaning of eating behavior and the accompanying feelings. For example, things as simple as, "How do you know you are hungry? How do you know you are full? Do you ever eat when you are bored? Do you ever eat when you are upset? Does your family celebrate through food?"
- Find other ways than eating for a family to create social connections, such as clearing the food away quickly after a meal, and then talking together at the table without food.
- Teach organization, planning, execution, and repetition:

  Organization: Organizing time and money to make sure that appropriately prepared food is available to the family, often using the supplements that you provide to them.
  Planning: Asking, for example, what food is going to be served now? What has to be saved for a week from now when there is even less money available?
  Execution: Finding time in the day to get food ready so that it is not suddenly mealtime and everybody is starving.
  Repetition: Management of obesity is a very slow process that happens day by day, week by week, year by year. We follow some families for a while to let them know somebody is available to help them make and sustain change.

Since the average child gains 10 pounds a year, if you help a child lose 5 pounds in a year, that is really 15 pounds. Even if you help a child hold their weight from one year to the next, that is a "loss" of 10 pounds. This fact helps keep the family from being discouraged.

The trap is that many pediatricians and clinics say, when the child is only a few years old, "Why are you so upset about their weight—they will outgrow it." But if the average child gains 10 pounds a year, then the most you can outgrow by holding your weight steady is 10 pounds. If the child is a third over their ideal weight, that child, by standard medical practice, is

morbidly obese and is not going to outgrow the problem. In fact, if they are even 20 percent overweight, they are at risk, because only 10 pounds can be eliminated by maintaining a weight for a year. Most obesity cannot be outgrown. It needs to be changed through a process of education and changes in eating behavior.

Confront the Myths

Confront the myths and realities pertaining to work with families of poverty. For example, I hear people talking about the poor as if every family was alike. Every middle class family is not alike—why should people who are poor be alike? I hear people talking about families of poverty as if they were less intelligent or less capable than the rest of us. Not so. Some are more intelligent. Some are less intelligent, the same as in any other group.

I hear people say that health problems arise in families of poverty because they are less concerned about their health, or that they are more easily overwhelmed, or they fail to take responsibility for managing their own lives. That has not been my experience. There are some that don't take responsibility, but those who arrive at your office, even if it was somebody else's idea for them to get there, are beginning to take responsibility, and I think they have to be valued for that.

We have to look at the competency of the single parent matriarchy. Sometimes poor people and single parents are felt to be less capable. In fact, there are many very strong single parent matriarchies. The problem with the single parent matriarchy is that sometimes the grandparent, or great-grandparent, may have such power that the parent that you are seeing may be second or third down the pecking order and may not feel in charge of her own child.

I am not so naive as to ignore the impact of violence and uncertainty or issues of isolation and no transportation. People are not going to be able to take the time to look at the management of the obesity of their children, if they don't have a roof over their heads, some clothing on their bodies, and some warmth in their homes. Sometimes we have to interrupt our work with a family to help them find the appropriate social agency.

Television Viewing and Fast Food Purchases

Television viewing and fast food purchases are two deterrents of successful change. Studies, including those conducted by my partner in the weight control clinic, Dr. William Dietz, show that obesity and television watching are highly correlated.

We see a cycle, in which the child watches a lot of television at a young age, gets used to doing it, doesn't get outside, gets a little bit behind in terms of motor development, then loses the momentum of going outside, doesn't feel good, therefore watches more television. Often it is a parental habit that the child is picking up.

Cultural Preferences

Figure out how to give your information in a way that is easily understandable and bears a practical relationship to the household situation of the family and their cultural preferences.

If you don't speak Spanish, an interpreter can be used. Sometimes the children will interpret, but then you are not sure the information is getting through. Find creative ways of communicating, talk with your hands, clip things out of magazines, ask the clients to draw pictures. Language can be a barrier, but it is important to understand how they run their lives.

Mental Health Intervention

When do you refer for mental health intervention? You may need to educate your mental health colleagues as to the necessity of intervention in the life of an obese child. We are socialized to avoid talking about obesity. It is sometimes difficult in our present culture, to move people away from a mind set that says thin is perfect, and we know about anorexia and bulimia. It may also be difficult in some geographic areas to access affordable mental health services.

But some people say, "Don't pay any attention to weight—whatever size a person is is good." That is okay in terms of self-acceptance, in a general psychological sense. But mental health people need to understand that the obese child, and the obese family, have to be given an opportunity to talk about the meaning of that obesity in their family circumstances in order to make a change.

You want to refer for mental health services the child and family who seem overwhelmed by their feelings, confused in thinking, or markedly deficient in self-esteem. Refer parents who, after some months of attempts on your part, continue to be unable to establish appropriate limit-setting systems for their kids. When I talk with the parents of an obese 1-1/2 or 2-1/2 year old, I find these kids have no bedtime, no tooth brushing time, no toy picking up time. There is no clear system of expectations and consequences. Perhaps the parents don't know how important that is for a small child. Or they figure that when the child gets to be of school age, they will get to rules. Or they may have had an upbringing which was so restricted, dysfunctional, or hurtful that they said, "I am just going to love this child."

You also should refer if you see unresolved parent/child conflict, or if there is any possibility of physical, mental, or sexual abuse. And refer a child who seems markedly developmentally delayed, whether it is in cognitive, emotional, social, or motor development.

WIC Food Package

There are some people within the national WIC movement who are concerned that through the WIC food package we are encouraging obesity. My suggestions are:

- Confront and deal with your own attitudes about obesity.
- Consider tailoring the packages to consider people who may have too much fat in their diets.
- Create specialists from within your own provider network to work directly with at-risk obese families. Some of you might receive specialty training to work with these families, perhaps in group settings. Also lobby for pilot projects to set up experimental programs to identify these families, and the persons interested in working with them, and to provide the necessary training and tools.

Family Weaknesses That Block Change

1. Marital dysfunction in the two-parent family, or the isolated single parent. If two people living together are at war with each other, it is very difficult to have clear expectations for the child in terms of eating. This would be a time to refer for mental health intervention. Ensure that the isolated single parent has a buddy, another parent that they can call up for support.
2. Expectations for the child's performance are unrealistic or not clearly stated.
3. Inconsistency of enforcement or the absence of rules. If a family has no rules for its functioning, you must help them understand the need for rules. Show them how rules are in the child's best interest, and how to establish them. It is silly to tell people, "Do this or don't do this," until they believe in the value to their child of having a "don't" or a "do."
4. Ambivalence and refusal to set limits or have expectations regarding food choices and physical activity. If a parent does not feel that it is either their obligation or right to ensure the child goes outside for physical activity, you have to educate them first of its importance before you can say, "Well, you know, if your kids were more active, they would be able to maintain weight loss."
5. Problem of obesity perceived as someone's fault or failing with an emphasis on blaming and helplessness. A client may say, "Everybody in my family is fat." There may be a propensity towards obesity in a family, but most of it is from social, learned behavior around eating which can, over time, be changed. An important factor is the food they choose to have available.
6. Vast periods of time when the child is alone without structure.
7. Feeding and eating are an arena through which other issues are being addressed. For example, if I give the kids more to eat, I love them more.
8. Verbal expression and other communication skills are limited or impaired. We may have to help people work out how to talk and to feel good about talking.

EXHIBIT

Some Questions Asked During Assessment

1. How did the fatness arise? Suddenly or over time? More because of type of food eaten or because of portion size? Does anyone sneak, hide, or hoard food?
2. How does the family view the child's obesity? The child's problem? The family's problem? Serious problem? Minor problem, or no problem at all?
3. How does the family view eating and food preparation? Planned activity with social implications? Random, haphazard, individual experience?
4. How does the family view physical activity and leisure? Are there places for active play; an interest in using them? Limits on TV time?
5. How does the family function? Very structured, very loose? Democracy, autocracy? How typical is this family as compared to others with children of the same age?
6. Who shares refrigerator or is involved in eating, or making food choices with child?
7. Whose problem is the obesity?
8. Beliefs about problem, i.e., genetic (no change possible), child's fault, another's fault, parents' fault, will it be outgrown.
9. What has been previously tried - why didn't it work?
10. Who else has struggled with this problem?

Questions Asked During Assessment

In assessment, try to get people to express points of view and to discover that they have attitudes and beliefs. Some of the questions I ask people are shown in the above exhibit. Change them to the language appropriate for the family you are working with. ■

MCHING (Maternal and Child Health Interorganizational Nutrition Group) Activities

Speakers:

Alice Lenihan, M.P.H., R.D.,
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North Carolina Department of Environment, Health and Natural Resources,
Raleigh, NC

Harriet Cloud, M.S., R.D.,
Director,
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University of Alabama at Birmingham,
Birmingham, AL
(representing the American Dietetic Association)

Vernice Christian, M.P.H., R.D.,
Projects Coordinator,
Association of State and Territorial Public Health Nutrition Directors,
Washington, DC
(representing the State and Territorial Public Health Nutrition Directors)

Moderator:

Brenda Kirk,
WIC Director,
Cherokee Nation WIC Program,
Tahlequah, OK

Brenda Kirk

MCHING brings eight organizations together to focus on nutrition issues, three of which are represented here today:

- National Association of WIC Directors
- (NAWD) American Dietetic Association (ADA)
- Association of State and Territorial Public Health Nutrition Directors (ASTPHND)

The others are:

- American Public Health Association
- Association of Maternal and Child Health Programs
- Association of Faculties of Graduate Programs in Public Health Nutrition
- MCHB, DHHS
- Society for Nutrition Education

An Overview of MCHING and WIC's Role

—Alice Lenihan

The Maternal and Child Health Bureau of (MCHB) DHHS first convened MCHING in 1987 in response to requests from several organizations who were especially interested in developing a coordinated and cooperative approach to policy and program development in maternal and child nutrition. In 1989 MCHING was formally organized, and the National Center for Education in Maternal and Child Health at Georgetown University was contracted for a 2-year period to provide administrative support and technical assistance. That contract has been renewed.

The goals of MCHING are to improve and strengthen the exchange of information between the MCHB and selected key national organizations which impact on the health of mothers and children, and to support the nutrition efforts of these organizations for the maternal and child health population.

Conference: Call to Action: Better Nutrition for Mothers, Children and Families

After organizational meetings, the MCHING members planned a national conference, in December 1990, "Call to Action: Better Nutrition for Mothers, Children and Families." The purpose of the conference was to disseminate information about needs and issues in maternal and child health and to promote and support coordination among organizations and agencies at the national, State, and local level which can impact upon the health and nutritional status of our mothers and children. The 75 organizations represented included the American Academy of Pediatrics, American College of Nurse-Midwives, American College of Obstetricians and Gynecologists, American School Food Service, National Association of Local Health Officers, Healthy Mothers/Healthy Babies Coalition, and numerous others.

Fourteen background papers included an historical perspective of maternal and child health programs, plus issue papers on infants, children, adolescents, special needs children, planning, implementation, quality assurance, personnel, and economic analysis of nutrition care within maternal and child health services. The 43-page Executive Summary, Call to Action, presents the 28 recommendations, and summarizes the major speeches and the background papers. Copies of this publication will be sent to each State and local WIC director for distribution.

The complete 350-page publication, which includes the background papers, plus the keynote address by Senator Rockefeller of West Virginia and other presentations, will be distributed to each State. Additional copies can be ordered through ADA in Chicago (312) 899-0040.

Recommendations

The conference took a collaborative approach to problem solving and program development using small work groups which afforded attendees the opportunity to learn about each other's missions, programs, activities, and needs as they relate to maternal and child health nutrition needs. We produced 51 recommendations, but only 28 of these recommendations were fully addressed at the conference. Each recommendation included strategies for action, plus listings of the organizations and agencies to be involved in collaborative action to implement that recommendation.

The categories of recommendations were:

- Cross-cutting issues.
- Women's nutrition for optimal reproductive health.
- Infant nutrition.
- Child nutrition.
- Adolescent nutrition.
- Nutrition for children with special health care needs.

Recommendations in which NAWD has Lead Responsibility

Three recommendations in which NAWD has lead responsibility are:

#3. "Increase the availability and accessibility of comprehensive nutrition services, including nutrition education, that are family centered, culturally sensitive and developmentally appropriate for all women of reproductive age, infants, children, adolescents and families."

Within this broad recommendation, one of the seven action strategies is 3.3, "Improve access to care by simplifying eligibility applications for services, including WIC, Food Stamps, and Medicaid." NAWD will disseminate a draft of the model income application form to all MCHING members, and also forward comments to MCHING.

#7. "Provide all pregnant and lactating women with access to appropriate, acceptable, and family-centered nutrition services as basic components of perinatal care. Emphasis should be given to providing incentives and using practical approaches which encourage continuous participation in health care."

An action for NAWD is 7.1, "Support and advocate for the funding of WIC at a level which assures the availability of food supplementation and nutrition education to all WIC-eligible pregnant and postpartum

women." Our current legislative plan for full funding by 1996 fits this strategy.

#11 "Promote breastfeeding among all women to achieve the year 2000 National Health Promotion and Disease Prevention Objectives for breastfeeding, and establish breastfeeding as a societal norm for infant feeding."

NAWD is involved in all eight strategies, one of which is 11.4, "Encourage federal agencies to serve as models for providing support of breastfeeding women in the work site."

We are also involved in many other recommendations. There are limitless opportunities for integration and collaboration in this effort. Those of us in WIC are major players in maternal and child health nutrition.

ADA's Role in MCHING

—Harriet Cloud

The MCHING recommendations that the ADA will address this year are numbers 1, 6, 7, 10, 25, and 26.

Recommendation #1 is to "Aggressively support nutrition services as an essential component of emerging national health care plans." We selected the following actions:

- 1.1, "Define a package of nutrition services which should be part of any national health care plan for children, adolescents, and adults." The NSPS (Nutrition Services Payment Systems) Committee will look at this issue.
- 1.2, "Cost-benefit studies of nutrition services and related research" will be looked at by the NSPS Committee and our Office of Research.
- 1.3, "Circulate the proposed package to any and all interested nutrition groups for endorsement."
- 1.4, "Meet with all organizations known to be working on national health care plans."

Under recommendation #6, "Increase awareness of the importance of preconceptual care," we selected 6.1, "Develop recommendations for the nutrition component of preconceptual care," with a specific mention of nutrition assessment including weight and height monitoring. We are developing a position paper on this. [Recommendation #7 is described earlier.]

Under recommendation #10, "Provide information . . . [on] appropriate feeding practices for infants," we have selected as a very attainable strategy 10.5, "Eliminate the baby bottle as a symbol for the baby," in all of our logos, as well as 10.6, "Explore more use of mass media for public education related to infant nutrition."

Under recommendation #25, which has to do with expanding access for children with special health care needs, we will work on 25.4 to increase the number of interagency councils addressing Public Law 99-457 at the State and local levels.

Finally, we selected recommendation #26, "Improve the quality of nutrition services to children with special health care needs." ADA will take some lead in 26.1, "Increase participation of individuals interested in nutrition in the MCH block grant application process."

ASTPHND's Role in Implementing the Recommendations

—Vernice Christian

ASTPHND is an organization with only 56 members, each appointed by the health officer in a State, territory, or district.

Our desire for MCHING is a partnership between our organization and all other organizations interested in health, relevant Federal agencies, nonprofit and for profit agencies at the national, State and local levels, to act on the recommendations from the MCHING conference.

One of the things we are doing which is not in the list of recommendations, but will be very useful, is updating "The Orange Book," the *"Guide for Developing Nutrition Services in Community Health Programs."* We expect it to be completed by June 1992.

We are working on recommendations #1, 3, 4, 15, 18, 19, 20, 28, but I will mention only a few highlights. Regarding #1, the national health care plans, we are prepared to work with the others on getting what we want in the national legislation.

Regarding recommendation 4.1, "Disseminate information about the shortage and maldistribution of personnel providing nutrition services," our office is developing a database on public health nutrition personnel. We expect the information to be available in June 1992. After that our association will make speakers available to come to conferences and meetings such as this and share that information.

Recommendation #15 is to "Coordinate nutrition services with the health and safety recommendations in the Child Care and Development Block Grant." We decided to work on implementing 15.2, "Encourage agencies at the state level to develop interagency agreements and other collaborative mechanisms." We are printing appropriate articles in our newsletter on the benefits of interagency agreements. And, if we have the time and the resources, we would like to put together a "how-to" book on interagency agreements.

On action 20.3, which is to "Strengthen the collaboration between State adolescent coordinators and State

nutrition personnel," we have expanded our membership so that each State or territory can have four members. We are urging that persons in the State adolescent coordination position, if they are nutritionists, be appointed to be a part of ASTPHND.

On recommendation #28, to "Improve the basic and continuing education for all personnel involved with children with special health care needs," we are addressing 28.5, "Encourage State departments of education to use the services of nutritionists to provide consultation, inservice training, and technical assistance to their staff. And we hope to invite persons who are working with children with special health care needs to also be a member of our organization, thus strengthening the collaboration with these people. ■

Nutrition Care Plan Development for Children

Speaker:

Harriet Cloud, M.S., R.D.,
Director,
Nutrition Division,
Sparks Center for Developmental and Learning Disorders,
University of Alabama at Birmingham,
Birmingham, AL

Moderator:

Vee Ann Miller,
Regional WIC Nutritionist,
Mountain Plains Regional Office,
FNS, USDA,
Denver, CO

Harriet Cloud

Our goals, no matter whether we are working with perfectly normal children or developmentally delayed children, are:

1. Growth that is optimal for the child.
2. Maintenance of the regulatory processes of the child's body.
3. Sufficient energy.
4. Sufficient nutrients for repair of all body tissues and duplication of cells.
5. Prevention of malnutrition, whether it is primary or secondary malnutrition. In the field of developmental disabilities much of the malnutrition we are trying to prevent is secondary malnutrition.

Problems we generally address through nutrition care planning include overweight, underweight, feeding problems, low birthweight, constipation, and diarrhea. In addition there are children who are tube-fed, children who have a problem with drug/nutrient interaction, those with anemia, phenylketonuria (PKU), etc. Low birthweight infants, defined as below 2,500 grams, are worrisome because they are predisposed to developmental delays.

Of the approximately 100,000 babies born every year with congenital anomalies, probably 50 to 60 percent of these children will be in the WIC program. So there is no doubt that you will have increasing relationships with children with special health care needs.

Nutrition care planning involves:

1. Nutrition screening.
2. Assessment.
3. Intervention, hopefully measurable, so we can show our cost-effectiveness.
4. Monitoring.

Nutrition Screening

Screening involves determining who is at nutritional risk by collecting data and comparing with existing standards. We start with a larger group and then identify the ones that really are at risk and need a more complete assessment.

Five-Step Assessment

An indepth assessment normally includes:

- Anthropometrics.
- Biochemical measures, if those are available.
- Clinical information.
- Dietary methodologies.

I would add assessing behavioral and feeding capabilities as the fifth step, because often the problem is how to get food into the child, rather than the availability of the food within the home, or the knowledge of the parent on what should be fed. The key issues to look at if time is short are the growth measures, dietary information, and feeding.

Anthropometric information should include height, weight and skinfolds, including triceps skinfold measurements, sometimes subscapular measurements, arm circumference, and arm muscle circumference. For

some children with growth problems, these can be monitored and compared with standards.

For a good assessment, look at the medical and dental records for anything that indicates signs of poor nutritional status. Then just observe the general appearance, whether that child is fatigued, has very sparse, dull hair, or rough skin. As these are not normal in children, they are clinical indicators for us to probe further into the nutritional intake of the child. The speech of the child can indicate there is an oral motor problem. Also look for care of the teeth (oral hygiene) and drooling. There are many children, particularly those children on medication, in which mouth hygiene is extremely important in the prevention of periodontal disease.

Staff in WIC clinics can get hemoglobin and hematocrit. There are many other measures which a physician can order to give additional indicators about the nutritional status of a child.

Relative to accurate dietary assessment, I suggest a 3-day dietary intake, plus collecting information on activity and any pertinent historical information related to feeding. It may be difficult to get accurate data with a 24-hour recall if, for example, a child is having breakfast and lunch in a daycare program, or if the mother is working outside the home and a relative is feeding the child.

Assessing Behavioral and Feeding Skills

Behavioral and feeding skill development assessment can be done with only a questionnaire to the parent on the feeding skills and behaviors of the child. A more indepth look involves reviewing past history, interviewing the parents, examining oral, neuromotor and neuromuscular development, and analyzing the parent/child behavioral interaction.

If you can adjust your time for this, do a feeding assessment or a feeding observation with children having feeding-related problems. It means structuring the clinical environment so that you have some food on hand. You can find out a lot by observing the parent feed the child or the child feed himself or herself, whether you are working with normal children or handicapped children.

The major component of feeding assessment is looking at the oral motor component of that child. That means looking at how the child is using the mouth, whether swallowing is difficult, whether there is any ability to move the tongue in and out (tongue thrust) and from side to side, whether the child can chew on both sides of the mouth, or if there is an open mouth posture which makes it difficult to clean off the spoon.

Also, how is the child positioned in feeding? Does the mother hold the child in her lap, or is there some kind of high chair, three-corner seat, or car seat used during feeding? We find many children between the ages of 1 and 3, particularly those with developmental disabilities, who are fed in the mother's lap. This indicates a positioning problem. For example, the mother of a cerebral palsy child nearly 4 years old was feeding the child in her arms. Nobody had talked with her about getting the child into a chair.

What about the parent/child interaction during feeding? Is eye contact established? Is there soothing talking going on, or is it a very tense, troubled situation? Find out about the home environment. Are people trying to feed kids with the radio or TV blaring away? Are they just putting the baby down on the floor to feed?

We need, of course, to give practical information, but we also need to have the parent help us set the nutrition care priorities. We need to get them to buy into the system. Present the things that need to be worked on and ask, "Which of those do you agree with and which would you like to work on first?" They need to be attainable goals. Sometimes the goals we put into care plans are not attainable. If they are not attainable this month, maybe they will be attainable the next month or on the next visit.

Family-Centered, Community-Based, Comprehensive Case Management

For children with special health care needs (but I really believe this is desirable for all children), the U.S. Surgeon General announced a policy in 1989 called "Family-Centered, Community-Based, Comprehensive Case Management." Plans for a child with a special nutritional problem need to involve not just parents, but all the significant caregivers. The community-based part gets the care as close as possible to the point of need. Comprehensive case management is needed to effectively coordinate all disciplines. You may think, "I am not a case manager and I don't have time to be a case manager." But any time we work with a child with a nutrition problem we are into case management because nutrition is not a discipline that stands alone.

Summary of Procedure

In summary, nutrition assessment involves identifying the current nutritional status, listing the problems in order to set objectives, reviewing the data and collecting more data if necessary, and making recommendations. Now the care plan which spells out the nutrition intervention is developed. Identify the elements of the care plan, available resources and ways to carry out the plan for the ultimate result of improved nutritional status. Build some monitoring into the care plan to evaluate outcomes of care. Regularly reassess the nutritional status and then measure progress toward achieving the objectives.

For children with feeding problems, principles of an interdisciplinary approach include identifying oral

motor problems, understanding positionings, using behavioral management, and understanding developmental milestones.

As nutritionists, we need to pay attention in our nutrition care planning to the concept of the whole environment. For example, a visually impaired boy would not sit down to eat if his family did not provide the structure for him. So the family just followed him around the house offering him spoonfuls of food all day long. We all know that children do better in a structured environment with a routine built into it, and that grazing is not a pattern that we want to encourage. Getting information for the care plan involves looking at the feeding position, is the chair appropriate, are the feet on the floor or on a support, are the trunk and head supported? The environment should be quiet—not in front of television. And the parent should not let the child stand up and eat anywhere in the room that he wants.

Make sure that the servings are really small. An old rule of thumb that used to be used is one tablespoon of food for each year of age. If a tablespoon is too much, go to a half a tablespoon. If that is too much, go to a teaspoon and build up from there.

A Philosophical Premise for Feeding

Ellen Satter recommends the following points in her books. They are not a nutrition care plan, but a philosophical premise of how families should divide the responsibilities for eating. These responsibilities are:

- The parent or caregiver is responsible for what, when, and where foods are offered.
- Children are responsible for what foods are selected and how much they eat.
- Children should be provided a variety of foods, recognizing there are no good or bad foods.
- The quality of a child's diet should be evaluated over several days rather than one meal or one day.
- Foods offered to children should be nutritionally and developmentally appropriate.
- Eating should not be used to manipulate or control behavior.
- Meal time interactions and food selection affect a child's health and well-being, attitudes, and future health behavior.

A closing prayer: "Dear Lord, be good to me. The sea is so wide and my boat is so small." Children in the years between 1 and 5 are just beginning to become autonomous, to seek control of their environment. They have a long way to go, but those of us involved in the nutrition care of children can help them get there without falling out of the boat. ■

Nutrition Care Plan Development for Infants

Speaker:

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Children's Rehabilitation Unit,
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Kansas City, KS

Moderator:

Nancy Sargent, R.D.,
Nutrition and Clinic Services Consultant,
Indiana WIC Program,
Indianapolis, IN

Sarah McCamman

I currently work at a university-affiliated program funded by MCH and the Administration on Developmental Disabilities. Our job is to teach individuals about people with disabilities and to serve individuals with developmental disabilities.

Today, we are keeping alive more and more children with complex medical problems, and we are sending them home sooner—sometimes on respirators. Thus, I know you are seeing more children with special health care needs.

Besides, Public Law 99-457 says that, at age 3, children must have access to the services related to their educational needs. So a child who is in a wheelchair, or who has mental retardation, deserves an appropriate education. The legislation includes incentives to States to serve infants from birth or from the time of identification of the problem. It says children with developmental disabilities need therapy, such as occupational therapy or physical therapy, or medicine, and it includes nutrition services. So all across the country are ongoing educational activities with dietitians serving children from birth to age 3 or 5, or with special nutrition problems, in early intervention projects. I hope you take advantage of those educational opportunities. The result is that you will be identifying more children with subtler developmental disabilities and getting them into WIC.

There are many new good books and pamphlets on nutrition guidelines for children and infants with disabilities listed in exhibit K, Suggested Reading.

Nutrition-Related Problems

Nutrition-related problems of individuals with developmental disabilities can be categorized as:

- Feeding problems—e.g., some infants have very limited intake, as low as 5 or 6 cubic centimeters.
- Alterations in growth—i.e., is the child growing normally for his or her condition, or is the growth problem due to failure to thrive? For example, many children with chromosomal abnormalities may not grow well.
- Drugs that have interactions with nutrients or change the infant's nutrient requirements.
- Metabolic disorders that might change an infant's nutrient requirements.
- Influence of caregiver education.

Premature infants have marginal nutrient stores, since they didn't receive the calcium and other nutrients they should have in the last trimester. Their metabolic demands are high, especially without that thermal insulator, the fatty layer. They may have a higher heart rate and more trouble maintaining their body temperature, so they might need more calories. Many youngsters have spitting up and vomiting problems or don't absorb fats very well.

There are two reasons for low birth weight: retarded rate of growth in utero or a shortened period of gestation. These two kinds of babies grow very differently. A baby small for his or her gestational age tends not to grow quite as well as a baby who is at the normal size but just came out 6 weeks early. Some babies I see 2 or 3 times a week at an early stage of intervention to make sure the average daily weight gain is met.

ABCD Framework for Nutrition Assessment

You can use the ABCD framework to refer to the components of nutrition assessment:

- **Anthropometric data**, including weight and length or height, and sometimes head circumference and skinfolds. It is important to collect accurate data. When a child has a handicapping condition involving their legs, sometimes it is difficult to measure correctly. We always document on the growth chart the way we have done the measurement, so we can do it the same way every time and see the relative changes.

  Note that head circumference doesn't reflect acute nutrition, but it helps to monitor linear growth deceleration. Skinfold measurements are used mostly on babies with cardiac problems or kidney problems. Because of huge changes in bodily fluids from being on diuretics, their weights can fluctuate 40 or 50 grams. Occasionally we use skinfolds in children with cerebral palsy if we aren't sure how much fat they have.
- **Biochemical data**, such as blood levels and other information.
- **Clinical data** and diagnosis, including skill levels, such as the age they are sitting up, toddling around, etc., plus the type of problem and status, whether it is cystic fibrosis, cerebral palsy, or whatever.
- **Dietary data**.

References

"Nutrition Guidelines for Children With Disabilities and Chronic Illnesses" (1989) by L.S. Brizee is an excellent resource put out by the University of Washington, Seattle, WA. They talk extensively about anthropometric measurements on children with disabilities. *"Focus on Nutrition: Fighting Disabilities with Nutrition,"* which has excellent growth charts, is available from the Center for Human Nutrition, 502 South 44th Street, Omaha, NE 68105. Exhibits A through J as well as many references are from *"Nutrition and the High Risk Infant."* This manual by Robin Wheeler, M.S., R.D., is for health care professionals involved in the nutritional management of high-risk infants after their discharge from the hospital.

Energy Needs

Regarding energy needs, children need around 50 kilocalories (kcal) per kilogram of body weight per 24 hours for basal metabolic rate, 8 kcal for specific dynamic action (to digest food and absorb nutrients), 10 kcal for occasional cold stress, 10 kcal for intermittent activity, 25 kcal for growth plus 10 percent or 12 kcal for fecal loss, for a total of 100-120 kcal per kilogram per day. We expect babies to gain about an ounce a day (24-31 grams) in the first 3 months and about two-thirds of an ounce (20 grams) in the next 3 months.

Infants from birth to 6 months need approximately 95 to 145 kcal per kilogram, including both breastfed and bottle-fed babies. From 6 to 12 months, they need between 80 and 135 kcal per kilogram. To determine how much babies should eat, we normally multiply their weight in grams by 120 kcal. But for some (such as very placid babies) we multiply by a little less. For others we use a little more, depending on how fast they are breathing, how fast their heart rate is, etc. To get the number of ounces of formula, divide total kilocalories by 20 or 24 per ounce, depending on the formula used.

Growth Charts

Most youngsters should be between the 25th and the 75th percentile on the NCHS weight to length growth chart. Recognize that growth is an exceptionally complex process:

- Anybody with a chromosomal abnormality that is fundamental to cell functions will have trouble growing at the normal rate.
- Children with feeding problems have growth rates that are different because they can't get enough calories, even if we want them to.
- Because of the work that they have to do to breathe, children with FAS, congenital heart disease, and those with broncho-pulmonary dysplasia (BPD), all have lower weight gain.
- Girls with Turner's syndrome should be compared to other girls with Turner's syndrome, not to the normal population. Similarly with achondroplasia, a type of dwarfism.

There are special growth charts for children with Down's syndrome and other syndromes affecting growth. These special growth charts are beneficial because they help parents not to feel bad about the way their child is growing. These charts can be used in conjunction with the standard growth chart.

Nutrition Assessment

Different health situations require us to think differently about nutrition assessment. It is important to assess oral/motor skills, observe feeding behaviors, and integrate psychosocial factors. Children with neuromuscular dysfunction, such as those with cerebral palsy, cleft palate, Prader-Willi syndrome, and children on long term parenteral nutrition, have feeding problems. Babies born at 24 weeks have had incubation tubes, tube feedings and suctioning frequently in their mouths until they are about 34 weeks old. They don't like you coming near their mouths for feeding because it is pretty aversive. So many children on long-term

respirators or enterally-fed have feeding problems. Also, dental caries is one of the clinical problems that can happen to youngsters on long-term bottle use. Additionally, they can't hold a cup.

It is important to be aware of any drugs infants are taking. For example, anticonvulsants cause problems with folate and vitamin D metabolism, so we monitor them and frequently give supplements.

Nutrition programs and services can positively affect developmentally disabled persons because we can prevent retardation or further disability. If youngsters can be kept out of the hospital, it is better for the family. For example, one irritable, high-tone infant had been gaining only about 4 or 5 grams a day. Some changes were made in the feeding, the formula was concentrated, the bottle was changed, positioning was changed, and his weight gain the next week was excellent. His father could hold him and play with him because he wasn't so irritable. Also, the baby was able to hold longer eye contact. So the intervention can make a huge difference on parent/child interaction.

Underweight infants who have poor sucking or swallowing ability may need occupational therapy evaluation. Our guideline is that infants shouldn't be fed for more than 20 or 30 minutes. If a feeding takes 40 minutes, it is probably too long and can fatigue both the feeder and the baby. Refer such infants to someone who is involved in motor development issues.

If overweight is due to excessive calorie intake for infant energy expenditure, allow the infant to grow into this level of calories. We usually don't take food away from infants. If solid food has already been started, it is difficult to get people to reduce the amounts. Talk to parents about signs for satiety, such as, "Make sure you are only feeding your baby when they are hungry, not when they just are doing other things like crying." Then, normal kinds and quantities of foods are discussed. We make sure parents understand about exercise and free movement, letting their babies explore, not always having them in an infant seat, etc.

One issue regarding infant formulas is added iron. A study showed no difference in babies who did or didn't have the iron in terms of fussiness, cramping, regurgitation, colic, flatus, or stool characteristics, except for a little change in stool color. Women who take 160 milligrams of iron a day get bellyaches, so they think that even a small amount of iron-fortified formula will bother their child, but it is not true.

Breastfeeding Issues

You should also determine if breastfeeding frequency is adequate and effective. Children, especially those who are intact neurologically but have problems like a cleft palate or a receding chin, frequently look great at the breast. They can latch on but you can't hear them swallowing because their tongue is doing something funny. Thus we need to make sure it is an effective nursing, not just that it is every 3 hours.

In regard to common feeding breastfeeding problems, make certain breastfeeding position is appropriate. We have found two positions good for decreasing air intake:

1. Modified football, where the baby sits up on the mom's lap, facing the breast rather than across.
2. Have the mom pull the baby's bottom in closer to her body, wrapping the legs around her. That tends to tip the chin in a little more and tip the head out.

When using a bottle, have the mother make sure that formula fills the nipple throughout the feeding. We frequently see people not paying attention while bottlefeeding, letting the baby suck a lot of air.

Frequently we use fortified expressed breast milk and a supplemental nursing system (SNS) in children with BPD. A bag hangs around the mom's neck in which we put anything we want to alter the composition of the breast milk. A tube comes down along the breast, so the baby gets both the milk from the breast and whatever else is needed. This system also works well for those with Prader-Willi syndrome. Many babies with this syndrome have profound hypertonia and have difficulty on bottles. When we add the bag of milk, of high calorie milk, the babies seem to organize their mouths better around the breast. It is a larger stimulus than the nipple, and moms feel great about doing it.

There are ways to help women learn how to breastfeed babies who have special health care needs, such as preterm, Down's syndrome, or cleft palate. I am very concerned about people who are not health care professionals dealing with children with special health care needs and breastfeeding. These youngsters have some pretty subtle problems that can get them in trouble.

Babies with cleft palates should gain weight at the normal rate, if you feed them right. But we have had very difficult times getting youngsters with FAS to gain weight, because they don't seem to have the enzymes to lay down fat very well. PKU is reasonably well handled by breastfeeding. There is a useful pamphlet by Steve Yanicella, who is at the metabolic clinic in Denver, called Breastfeeding Your Baby with PKU. Any tertiary care center with a metabolic clinic probably has this information.

EXHIBIT A

Average Daily Increase in Weight, Length and Head Circumference Birth to 12 Months

Age	Weight *(gm/d)*		Length *(cm/d)*		Head Circu*(cm/d)*	
	Male	Female	Male	Female	Male	Female
Birth - 1 month	34	25	0.14	0.12	0.08	0.07
1-3 months	28	24	0.11	0.10	0.06	0.05
3-6 months	21	20	0.07	0.07	0.04	0.03
6-9 months	15	15	0.05	0.05	0.02	0.02
9-12 months	11	11	0.04	0.04	0.01	0.01

Based on 50th percentile for weight, length and head circumference by age, NCHS growth charts.
Adapted from: Hamill, P.V.V., Drizd, T.A., Johnson, C.L., Reed, R.B., Roche, A.F. and Moore, W.M. *"Physical Growth: National Center for Health Statistics* Percentiles." Am J Clin Nutr 32:607-629,1979.

EXHIBIT B

Weight Gain of Premature Infants in Grams Per Day Age

Age at Birth *(in weeks)*		Gestational Age *(in weeks)*			Post-Term Age *(in months)*					
	Sex	28-32	32-36	36-40	TERM-3	3-6	6-9	9-12	12-18	18-24
28 - 32	M*	32 ± 7	32 ± 7	32 ± 7	26 ± 7	16 ± 6	12 ± 4	6 ± 1	6 ± 1	5 ± 1
	F*	27 ± 6	27 ± 6	27 ± 6	23 ± 4	16 ± 3	13 ± 4	7 ± 1	7 ± 1	6 ± †
	M+F†	30 ± 5	32 ± 6	26 ± 5	29 ± 6	19 ± 3	13 ± 4	9 ± 3		
33 - 36	M*		32 ± 7	32 ± 7	28 ± 6	20 ± 5	14 ± 4	11 ± 4	8 ± 3	6 ± 2
	F*		30 ± 6	30 ± 6	27 ± 6	20 ± 5	14 ± 4	10± 4	8 ± 3	7 ± 2
	M+F†		32 ± 6	26 ± 5	29 ± 6	19 ± 3	13 ± 4	9 ± 3		
37 - 42	M*				31 ± 7	21 ± 6	16 ± 4	12 ± 6		
(TERM)	F*				27 ± 6	21 ± 6	16 ± 6	11 ± 4		
	M+F†				29 ± 6	19 ± 3	13 ± 4	9 ± 4		
	M▪				30 (21-36)	21 (20- 22)	15 (15-16)	11 (10-12)	7(6-8)	6(5-7)
	F▪				24 (20-33)	20 (18-22)	15 (13-16)	11 (9-12)	7(6-8)	6(5-7)

*Source: Fomon, S.J. Ch.3: *"Normal growth, failure to thrive and obesity."* In: *"Infant Nutrition,"* 2nd ed. Philadelphia: W.B. Saunders, 1973. Values given are ± 1 S.D.
†Adapted from: Babson, S.G. and Benda, G.I. *"Growth graphs for the clinical assessment of infants of varying gestational age."* J. Pediatr. 89:814, 1976. Values given are calculated from growth chart and are given as the mean ± 2 S.D.
▪Source: Hamill, P.V.V., Drizd, R.A., Johnson, C.I., Reed, R.B., Roche, A.F. and Moore, W.M. *"Physical growth: National Center for Health Statistics percentiles."* Am. J. Clin. Nutr. 32:607, 1979. Values given represent the mean. Values in parentheses include the 5th to 95th percentiles.

Adapted from: *"Bronchopulmonary Dysplasia in Nutritional Care for High-Risk Newborns."* Ohio Neonatal Nutritionists. George F. Stickley Company, Philadelphia, PA, 1985, (p.174).

EXHIBIT C

Evaluating Growth

Evaluating Underweight By NCHS Growth Chart

Screening method:	*Weight for Length*
Criteria to detect a problem	• 5th percentile or below • Not following curve expected for corrected gestational age.
Possible reasons for growth problem:	• Measurement error • Malnutrition • Chronic disease (e.g. renal, cardiac, respiratory) • Psychosocial deprivation • Dehydration • Recent fever, acute illness, diarrhea • Iron deficiency anemia • Infectious disease • Metabolic disorder
Action to take:	• Remeasure and reweigh infant • If underweight for length is due to inadequate calorie intake, under physician's supervision, increase volume and/or caloric density of feedings • May need occupational therapy evaluation if infant has poor sucking or swallowing ability. • May need social service evaluation if family needs financial assistance to obtain adequate food. • Refer to WIC Program, if seem eligible. • Refer for medical assessment, provide the following information: —Determine if breastfeeding frequency is adequate. —Determine if formula is being mixed appropriately. —Determine if infant is tiring before feeding is completed. —Obtain and evaluate 3-day diet history. —Determine amount of stooling, emesis, gastroesophageal reflux.
Follow-up needed:	• Review breastfeeding guidance. Refer to lactation counselor if needed. • Review physician's instructions regarding formula volume and mixing. • Measure weight for length weekly after intervention until weight for length is above 5th % ile.
Monitoring needed:	• Maintain frequent contact with caregivers until problem is resolved. • Try to achieve weight for length of 25th % ile.

Adapted From: *"Nutritional Screening of Children — A Manual for Screening and Follow-Up."* DHHS Publ. #(HSA) 81-5114. U.S. Dept. of Health and Human Services, Rockville, MD, 1981.
Moore, William M. *"Pediatric Anthropometry,"* Second Edition. Ross Laboratories, Columbus, Ohio, 1983.

EXHIBIT D

Evaluating Growth

Evaluating Overweight By NCHS Growth Chart

Screening method:	*Weight for Length*
Criteria to detect a problem:	• 95th percentile or above • Higher percentile than earlier measurements. (Unless catch-up growth for a premature infant is being exhibited.)
Possible reasons for growth problem:	• Measurement error • Obesity • Edema • Metabolic disorder • Overfeeding (volume or concentration)
Action to take:	• Remeasure and weigh infant • If overweight is due to excessive caloric intake for infant's energy expenditure, allow infant to grow into this level of calories. • Decrease concentration to 20 cal/oz if it has been higher and physician approves. • Refer for medical assessment. Provide the following: —Determine if formula is being mixed correctly. —Obtain 3-day diet history and evaluate.
Followup needed:	• Review physician's instructions regarding feeding. • Discuss failure to achieve progress toward goal weight for length with physician after 3-4 months. • Measure weight for length monthly afteri ntervention.
Monitoring needed:	• Maintain frequent contact with caregivers until weight for length is 50th percentile.

Adapted From: *"Nutritional Screening of Children — A Manual for Screening and Follow-Up."* DHHS Publ. #(HSA) 81-5114. U.S. Dept. of Health and Human Services, Rockville, MD, 1981.
Moore, William M. *"Pediatric Anthropometry,"* Second Edition. Ross Laboratories, Columbus, Ohio, 1983.

EXHIBIT E

Evaluating Growth

Evaluating Short Stature
NCHS Growth Chart

Screening method:	*Length for Corrected age*
Criteria to detect a problem:	• 5th percentile or below
Possible reasons for growth problem:	• Measurement error • Short parents • Malnutrition, chronic • Psychosocial deprivation • Prematurity, small for gestational age (SGA) • Chronic disease (e.g. renal, cardiac, respiratory) • Endocrine disorder (hypothyroidism or hypopituitarism) • Chromosomal and genetic abnormalities • Rickets
Action to take:	• Remeasure infant's length • If delayed growth is due to inadequate caloric intake, under physician's supervision, increase number, volume, and/or caloric density of feedings. • May need occupational therapy evaluations to improve sucking or swallowing. • Refer for medical assessment. —Determine weight for length. —Determine head circumference and weight for age.
(corrected).	—Determine if breastfeeding frequency is appropriate. —Determine if formula is being mixed appropriately. —Determine if infant is tiring before feeding is completed. —Obtain 3-day diet history and evaluate.
Follow-up needed:	• Review breastfeeding guidance. Refer to lactation counselor if appropriate. • May need social service evaluation for financial assistance or evaluation of psychosocial status. • Refer to WIC if appears to be eligible. • Measure weight, length and head circumference monthly after intervention.
Monitoring needed:	• Maintain frequent contact with caregivers until length for age is on curve toward expected growth pattern. • Until problem is resolved.

Adapted From: *"Nutritional Screening of Children — A Manual for Screening and Follow-Up."* DHHS Publ. #(HSA) 81-5114. U.S. Dept. of Health and Human Services, Rockville, MD, 1981.
Moore, William M. *"Pediatric Anthropometry,"* Second Edition. Ross Laboratories, Columbus, Ohio, 1983.

EXHIBIT F

Evaluating Growth

Evaluating Head Circumference by NCHS Growth Chart

	Small Head	Large Head
Screening method:	*Head Circumference For Corrected Age*	*Head Circumference For Corrected Age*
Criteria to detect a problem:	• 5th percentile or below	• 95th percentile or above
Possible reasons for growth problem:	• Measurement error • Microcephaly (e.g. FAS, congenital infection, asphyxia, encephalopathy) • Genetic disorder • Small for gestational age	• Measurement error • Hydrocephaly
Action to take:	• Refer for medical assessment, if not previously diagnosed and evaluated. • Refer if head circumference growth of premature or SGA infants is not increasing, when weight and length are demonstrating catchup growth.	• Refer for medical assessment if not previously diagnosed and evaluated. NOTE: In premature infants, an increase in head circumference may be the first sign of catchup growth.
Followup needed:	• Measure head circumference at least monthly, until progressing toward expected growth curve.	• Measure head circumference at least monthly, until head size for age is <85th percentile or reason in known.
Monitoring needed:	• Frequent contact with caregiver. • Until problem is resolved.	• Frequent contact with caregiver. • Until problem is resolved.

Adapted From: *"Nutritional Screening of Children — A Manual for Screening & Follow-up."* U.S. Dept. of Health and Human Services, Rockville, MD. DHHS Publ #(HSA) 81-51 14, 1981. Moore, William M. *"Pediatric Anthropometry,"* Second Edition. Ross Laboratories, Columbus, Ohio 1983.

EXHIBIT G (part 1)

Common Feeding Problems: Probable Causes, Prevention, and Treatment

Problem		*Probable Causes*		*Preventive Measures/Treatments*
Spitting Up	1.	Overfeeding	1a.	Feed smaller volume, more frequently.
Small quantity of milk is spit up after feedings.	2.	Swallowed air due to improper feeding technique.	2a. 2b. 2c. 2d. 2e. 2f.	Burp more frequently. Make certain breastfeeding position is appropriate. Place nipple further back in mouth. Infant should be in inclined position, at least at 45 degree angle. Improper positions include horizontal or propped with pillow. Formula should fill the nipple throughout the feeding. Be certain hole in nipple is not too large, which may cause gagging.
	3.	Reflux (weak muscle surrounding the esophagus may allow stomach contents to come back up. This is more frequently a problem with premature infants, but not exclusively so.)	3a. 3b.	If infant is healthy and growing well, spitting up may not need surgical or medical treatments. If not, refer for physician evaluation. Thicken feedings with cereal.
	4a. 4b.	Delayed gastric emptying due to hyperosmolar formula. From fat added to formula.	4a. 4b.	Change to an iso-osmolar formula. Remove added fat from formula.
	5.	Excessive environmental stimulation.	5a. 5b.	Calm, relaxed feedings. Evaluate for stress or emotional problems in family.
	6.	Impaired esophageal motility due to esophageal atresia causing erosion, injury or stricture.		
Vomiting A more thorough emptying of the stomach contents than when spitting up.	1.	Illness. Projectile vomiting is not normal. May be a sign of pyloric stenosis or obstruction. Can occur with reflux, but rarely does.	1a. 1b. 1c.	*Refer to physician for further medical evaluation if vomiting persists or is the projectile type. Monitor carefully for dehydration. Yellow or green emesis may indicate an obstruction.
	2.	Reflux (see probable cause 3 under "Spitting Up").	2a. 2b.	*Refer to physician for further medical evaluation if vomiting persists or weight loss occurs. Monitor carefully for dehydration.
	3.	Overfeeding	3a.	Feed smaller volume, more frequently.
	4.	Improper formula preparation.	4a. 4b. 4c.	Check for correct proportion of formula and water. Check expiration date on formula. Make sure formula has not been at room temperature for more than 4 hours.

EXHIBIT G (part 2)

Problem		*Probable Causes*		*Preventive Measures/Treatments*
Constipation Determined by stool consistency rather than frequency (harder and drier than normal)	1.	Insufficient fluids (dehydration).	1.	Increase fluid intake.
	2.	Improper preparation of formula, not enough water.	2.	Check for correct formula preparation.
	3.	Decreased motility of intestinal tract, common in premature infants.	3.	Stimulate rectum gently with little finger covered with a glove or finger cot. Do not insert finger more than 1 inch.
	4.	Inadequate motility of GI tract in infants with neurological problems.	4.	May require glycerin suppositories or other treatment if 1-3 are not successful. *Refer to physician for further medical evaluation.
Diarrhea* Determined by an increase in frequency and/or volume of stools	1.	Illness, often infectious. May lead to a large water loss and dehydration, especially with fever.	1a.	Monitor for dehydration and weight loss.
			1b.	*Refer to physician for further evaluation if diarrhea persists. Depending on cause, physician may continue feedings, change to soybased formula, or prescribe an electrolyte solution.
	2.	Formula intolerance due to: (A) protein or carbohydrate type; (B) too much added carbohydrate; or (C) too concentrated.	2a.	*Refer to physician for further evaluation. Change to appropriate formula.
			2b.	Monitor for dehydration and weight loss.
	3.	Improper preparation of formula	3a.	Check for correct formula preparation.
			3b.	Check expiration date.
	4.	Overfeeding	4.	Decrease feeding to recommended amounts.
	5.	Bacterial contamination of feedings.	5a.	Review formula preparation technique and storage.
			5b.	Check water source. If necessary, boil water.

*Note: Some babies, especially those who are breast fed, may normally have a stool with each feeding. Breastfed infants often will have very soft, unformed stools.

EXHIBIT H

Nutrition Concerns by Medical Conditions

Medical Condition/Nutrition Concern	*Feeding Recommendations & Growth Interpretation*
Bronchopulmonary dysplasia *(chronic lung disorder following ventilator therapy)* Greater calorie needs possibly due to increased work of breathing restriction. May have other medical problems (prematurity, intracranial hemorrhage, hydrocephalus, microcephaly). Increased risk for metabolic bone disease, especially those with low birth weight, immobility, chronic diuretic therapy, and low calcium intake. Decreased ability to efficiently suck and swallow. Increased risk for behavioral feeding problems - rumination, vomiting, impaired ability to tolerate spoon feedings. Impaired ability to initiate self-feeding.	Monitor growth and intake very closely. Use high-calorie formula or fortified expressed breast milk. Fluid individualize calorie needs. In general, provide 100-150 kcal/kg/day during the acute (sick) phase of the disease and 120-150 kcal/kg/day during the chronic (recovery) phase. Monitor for metabolic bone disease. Vitamin/mineral supplements may be necessary if intake limited. Provide positive oral stimulation. See Table 14, "Feeding Problems of Patients with Bronchopulmonary Dysplasia." Provide comprehensive care through an interdisciplinary team approach. During periods of acute illness, growth may be minimal. During recovery phase, growth may proceed at a rate greater than normal for corrected chronological age. Maintains or exceeds established weight/length between 10th-90th percentiles according to NCHS growth charts.
Cardiac Disease Growth delay common, most likely due to cardiac failure and malnutrition. Poor voluntary intake. Increased calorie needs due to increased cardio-respiratory work. May tire during feedings. Weak suck. Restricted fluid intake to avoid congestive heart failure. Prolonged hospitalization. Chronic illness. May have other medical problems (prematurity, cleft lip/palate, esophageal atresia, Down Syndrome, intrauterine growth retardation). Increased risk for behavioral feeding problems.	Monitor growth and intake very closely. Restrict fluid and sodium intake. Use high-calorie formula or fortified expressed breast milk. Individualize calorie needs. In general, provide 120 kcal/kg/day during chronic phase. May benefit from continuous drip home tube feedings. Weight gain goal during infancy so heart defect can be surgically corrected sooner. Vitamin/mineral supplements may be necessary if intake limited. Provide comprehensive care through an inter- disciplinary approach. Provide positive oral stimulation. See Table 16, "Oral-Motor Stimulation Exercises For Infants". During periods of acute illness, poor growth usually occurs. Maintains or exceeds established weight/length between the 10th and 90th percentiles according to NCHS growth charts.
Cerebral Palsy Increase in calorie needs. At increased risk for protein - calorie malnutrition, secondary to low intake and increased needs. Constipation possibly due to decreased mobility and/or dehydration. Possible vitamin and mineral deficiencies due to low intake and limited variety of foods. At risk for oral-motor feeding problems. May tire with feedings. At risk for behavioral feedings problems.	Adjust caloric recommendations as needed. May need to concentrate caloric density of infant formula or fortified breast milk. Vitamin and mineral supplementation may be needed if variety of foods limited. Proper use of feeding equipment. Establish realistic feeding goals based on developmental ability. Teach parents to identify cues for advancement of feeding skills. May require special seating modifications to facilitate feeding. Thickened liquids may improve swallowing and increase calories. Monitor anthropometric measurements frequently. Skinfold thickness may be helpful to determine percent of body fat. Excessive body fat undesirable with cerebral palsy. Weight/length - goal $\geq$ 10th percentile and $\leq$ 90th percentile.
Chronic Renal Failure Permanent reduction in renal function leading to clinical, chemical, and metabolic disturbances that result from permanent reduction in renal function. Intakes must meet needs within providing excess loads. Anorexia due to malaise, headache, dialysis, fatigue, nausea, altered taste perception, depression, or drug therapy. Nutrient deficiency due to dietary restriction, decreased absorption or excessive loss in urine or during dialysis. At risk for decreased linear growth, failure to thrive, bone demineralization, and decreased lean body mass. Behavioral food refusals. Gastroesophageal reflux. Abdominal fullness with continuous ambulatory peritoneal dialysis. Hypocalcemia, hyperphosphatemia, abnormal hormone levels, hyperlipidemia, altered glucose and insulin metabolism.	Monitor growth and intake very carefully. Determine height age. Provide at least the RDA for height age for calories and protein. May require tube feedings. Special formulas: Similac PM 60:40. Monitor electrolytes and adjust intake as required. Monitor vitamin and mineral levels and adjust intake as required. May require developing feeding program. Maintains or exceeds established weight/length between the 10th and 90th percentiles according to NCHS growth charts. Refer to food/nutrition resources as needed.

EXHIBIT H (part 2)

Medical Condition/Nutrition Concern	*Feeding Recommendations & Growth Interpretation*
Cleft Lip/Cleft Palate	
Severity varies greatly; may be unilateral or bilateral, complete or incomplete or mixed. The greater the extent of the cleft, the more feeding problems. May have other medical problems (congenital anomalies, trisomy 13, or Pierre-Robin). Difficulty sucking, swallowing, breathing. If palate area is decreased, more difficult to create negative pressure between the tongue and roof of mouth. At risk for poor growth. Swallowing of excessive air. Hypersensitive mouth. At risk for behavioral feeding problems.	Feedings should be small, frequent, and slow enough to prevent choking, but not cause fatigue in the infant or feeder. Feeding with infant in more upright position may help compensate for palate defect. May be fitted with a feeding appliance "plate" to cover defect prior to corrective surgery. Will need oral-motor feeding program. A variety of nipples, bottles, and supplemental breastfeeding tubes are available. It is important to be patient and creative. Discover what works best for a specific infant. Special nipples have been developed which are softer and wider to help cover defect. Plastic squeeze bottles work well because the delivery of milk can be controlled. The flow of milk should be directed to the side of the mouth to help avoid choking. Burp more often. Assure adequate caloric and nutrient intake. Closely monitor weight gain. Breastfeeding encouraged, may require supplemental bottlefeeding of expressed breast milk or formula. See Section 5 "Breast- Feeding The High-Risk Infant." May need to concentrate caloric density of infant formula or fortified breast milk. Goal weight/length ≥ 10th and ≤ 90th percentiles.
Cystic Fibrosis	
Increased calorie needs. Malabsorption of fat. Increased need for fat soluble vitamins and sodium. Digestive enzymes may be prescribed. Fatigue easily. May vomit or reflux due to coughing and chest therapy. Oral cavity may be irritated. At risk for poor weight gain. At risk for poor linear growth.	Concentrate caloric density of infant formula or fortify expressed breast milk. Elemented formula (Pregestimil, Alimentum). May need supplementation of salt, multi- vitamin and fat soluble vitamins. GE reflux precautions. Monitor stool pattern and associated GI symptoms. Monitor intake of digestive enzymes. Maintains or exceeds established weight/length between the 10th and 90th percentiles according to NCHS growth charts.
Down's Syndrome	
May have weak suck during infancy. At risk for oral-motor feeding problems. Constipation. May have other medical conditions (cardiac defects). At risk for behavioral feeding problems. Abnormal growth pattern, short stature, and tendency toward obesity.	Oral-motor feeding program. May require special seating modifications to facilitate feedings. May require calorically concentrated infant formula or fortified expressed breast milk (especially if infant has cardiac defect). Adjust calorie recommendation as needed. May require vitamin/mineral supplements if intake limited. Monitor growth on individual basis. Excessive weight gain is not desirable. Skinfold measurements may be beneficial to evaluate body fat. Utilize growth charts for Down Syndrome Children.
FAS	
Intrauterine growth retardation (birth weight, length, and head circumference below 10th percentile). Short stature. Small head circumference. Poor growth. At risk for failure to thrive. Increased incidence of oral malformations (cleft lip, cleft palate). Developmental delay. Poor suck, uncoordinated swallow.	Close monitoring of growth and intake. Adjust calories as needed. May need to concentrate calories in infant formula or fortified expressed breast milk. May require oral-motor feeding program. Instructions for care giver on appropriate feeding technique. May not see concurrent increase in weight with increase in calorie intake.
Inborn Errors of Metabolism	
Inherited disorder affecting the way the body metabolizes nutrients. Dietary treatment must be initiated as soon as possible after birth. Very restricted diets with dietary products developed specifically for their metabolic condition. If condition is not treated, it can lead to mental retardation, seizures, kidney and liver disease, blindness and death. Special food products are expensive. Dietary compliance extremely important.	Monitor growth and intake very closely. Continuous monitoring of control with serum levels of pertinent substrates. Based on serum values, adjust intake to provide acceptable quantities of the restricted nutrient. Assist with provision of specialty formulas. Maintains or exceeds established weight/length between 10th and 90th percentiles according to NCHS growth charts.

EXHIBIT H (part 3)

Medical Condition/Nutrition Concern	*Feeding Recommendations & Growth Interpretation*
Low Birth Weight	
Anthropometrics less than the 10th percentile when compared with intrauterine growth charts. May be due to (1) retarded rate of growth in utero and (2) shortened period of gestation. Increased calorie, protein, vitamin, and mineral requirements. Malabsorption. Limited fat stores. May be developmentally delayed. May have weak suck. Easily overstimulated during feedings. Gastroesphageal reflux.	Closely monitor intake and growth. Determine number of grams per day gained between visits. Compare to guidelines for growth for premature infants and full-term infants (Table). Intake should be at least 120 kcal/kg/day. Instructions to caregivers on appropriate feeding techniques. Maintains or exceeds established weight/length between the 10th and 90th percentiles according to the NCHS growth charts. Consumes a variety of foods appropriate for corrected age.
***Myelomeningocele** (Spina Bifida)*	
May have poor suck during infancy from complications of hydrocephaly. During infancy may have many soft stools, not to be mistaken for malabsorption. Difficulty measuring length due to orthopedic complications. At risk for behavioral feeding problems. At risk for obesity.	Adjust calorie recommendations as needed. Recurrent decubidi increases protein need. May benefit from concentrated calorie infant formula or expressed breast milk. May require oral-motor feeding program. Vitamin/mineral supplements if intake limited. Use segmental measurements to obtain an accurate length. Monitor growth on an individual basis. Utilize weight/length portion of NCHS Growth Chart or special growth charts for spina bifida. Excessive weight not desirable.
Prader-Willi Syndrome	
Failure to thrive common in infancy due to low tone and poor suck. Short stature. Decreased energy needs for age. Extreme hyperphasia, usually after 2 years of age (may eat trash, pet food, etc.)	Gavage tube feedings may be required in infancy. Strict monitoring of diet and growth. Will require vitamin/mineral supplements due to low intake. Due to hyperphasia, child may require 24-hour supervision, locked food storage areas and strict diet plan. Hazardous ingestible items should be made inaccessible. Behavioral feeding program. Counseling for parents. Parent will be confused that their "failure to thrive" infant is now obese.
Short Bowel Syndrome	
(May be the result of midgut volvulus, congenital small bowel atresia, omphalomcele, surgical resection or necrotizing enterocolitis. The length of functional bowel, presence or absence of ileocecal valve, and whether the remaining bowel is primarily ileum or jejunum will affect nutrient needs.) If the ileum is removed may cause steatorrhea (foul smelling, foaming stools) due to malabsorption of fat. If ileocecal value is missing, transit time is reduced and there is a greater chance for diarrhea and malabsorption. At risk for anemia due to malabsorption and poor intake. At risk for essential fatty acid and vitamin/mineral deficiencies (zinc, biotin, B vitamins).	Carefully monitor growth. Semi-elemental formulas (e.g. Pregestimil) or breast milk preferred. Lactose intolerance may be a problem. Feeding may be tolerated best if given by continuous drip rather than bolus. Vitamin/mineral supplements. Monitor for dehydration. Milk feedings may be supplemented with polycose and/or MCT oil to provide additional calories if malabsorption is suspected. Re-feeding short bowel infants is a time of adaptation and experimentation. It may take weeks to years to successfully support normal growth by enteral feedings alone. Infant may be on home TPN or tube feedings. New foods are introduced slowly and tolerance carefully monitored. Monitor anemia. At risk for behavioral feeding problems if prolonged NPO.

References to Exhibit H

Nutrition Concerns by Medical Conditions.

Material adapted from *"JFK Institute for Handicapped Children."* Baltimore, MD & *"Manual of Pediatric Nutrition"*. Twin Cities Dietetic Association, Minneapolis, MN.

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EXHIBIT I

Feeding Problems of Patients With Bronchopulmonary Dysplasia

Problem	*Probable Cause*	*Preventive Measures/Treatment*
Decreased suck strength	Decreased use of oral muscles. Generally increased fatigue.	Non-nutritive oral exercises.
Decreased suck/swallow coordination	Increased respiration rate. Increased extensor tone.	Increase oxygen administration during feedings. Relaxation therapy.
Increased oral defensiveness	Noxius oral stimulation, e.g. tape, orogastric tube feedings, endotracheal tube suctioning.	Decrease noxious stimulation, e.g., nasogastric tube feeding, minimal use of tape around mouth, tracheostomy. Increase gratifying non-nutritive and nutritive oral stimulation.
	Fear of occluding an airway.	Increase oxygen administration during feeding. Offer strained foods per spoon or patient's own fingers.
Impaired ability to tolerate spoon	Delayed exposure to spoon feedings.	Offer strained foods at 4 to 6 months corrected age (may need to consider tracheostomy if ventilator is still required). Increase oxygen administration during feeding.
	Poor appetite due to fatigue.	Do not attempt feeding following episodes of high stress (e.g., just after suctioning and bagging, drawing arterial blood gas, etc.)
	Delayed gastric emptying, psychosocial deprivation, prolonged illness.	Position infant to facilitate gastric emptying. Establish primary care team by 3-4 months corrected age. For infants who refuse or cannot handle spoon feedings by 6 to 12 months of age, a balanced pediatric formula should be considered (e.g. Pediasure - Ross Labs) especially if growth is inadequate.
Decreased oral control	Decreased oral muscle mobility and control.	Appropriate positioning and therapy to promote normal trunk, neck, and oral muscle development. Non-nutritive and nutritive oral exercises.
	Decreased exposure to oral feedings. Prolonged endotracheal or feeding tube placement.	Offer strained foods at 4 to 6 months corrected age. Nasogastic tube feedings instead or orogastric when tube feedings are indicated.
Recurrent vomiting with or without rumination	Excess mucous secretion.	Efficient pulmonary care.
	Decreased gastric motility.	Position infant to facilitate gastric emptying.
	Hyperactive gag reflex, oral hypersensitivity. Prolonged feeding tube placement (prolonged pressure stimulation at the gastroesophageal sphincter, decreased stimulation or normal peristalsis).	Non-nutritive and nutritive, non- invasive oral stimulation. Establish primary care team by 3-4 months corrected age. Do not force-feed. Do not overstimulate.
	Lack of attachment to primary caregiver. Decreased control of or communication with environment.	Promote normal social and developmental behaviors through appropriate and adequate stimulation including consistent exposure to other persons eating and drinking. Speech therapy, even when "hand signal" language is necessary due to tracheostomy.

Source: "Bronchopulmonary Dysplasia" in *"Nutritional Care for High Risk Newborns."* Ohio Neonatal Nutritionists. George F. Stickley Company, Philadelphia, PA, 1985.

EXHIBIT J

Indications For Use of Infant Formulas by Medical Condition

Healthy, Nonbreastfed (0-12 months)

Protein:	Whey or casein
CHO:	Lactose
Fat:	Soy, coconut, oleic oils
Formula:	Standard (with iron) Enfamil, Gerber, Good Start, Similac, SMA

More than 6 months old

Protein:	No modification necessary
CHO:	No modification necessary
Fat:	No modification necessary
Vits/Mins:	No modification necessary
Calories:	No modification necessary
Formulas:	Standard (with iron) Enfamil, Gerber, Good Start/Good Nature, Similac, SMA

Allergy

Protein:	Hydrolysate (cowmilk and soyfree)
CHO:	Glucose polymers (lactose free)
Fat:	No modification necessary
Formula:	Alimentum, Nutramigen, Pregestimil

Cardiac Disease

Protein:	No modification necessary
CHO:	No modification necessary
Fat:	No modification necessary
Minerals:	May require lower levels
Calories:	May require > 20 kcal/oz
Formula:	Standard (with iron, concentrated and/or with additives),Similac PM 60/40

Diarrhea

Protein:	Soy (cow milk free)
CHO:	Sucrose, corn syrup (lactose free)
Fat:	No modification necessary
Formula:	Isomil, Nursoy, Prosobee (If severe may need formula for malabsorption. If mild may be able to tolerate standard formula with iron).

Liver Disease

Protein:	Hydrolysate (cow milk and soy free)
CHO:	Glucose polymers (lactose free)
Fat:	Medium chain triglycerides
Formula:	Alimentum, Portagen, Pregestimil

Malabsorption

Protein:	Hydrolysate (cow milk and soy free)
CHO:	Glucose polymers (lactose free)
Fat:	Medium chain triglycerides (Fewer long chain triglycerides)
Formula:	Alimentum, Portagen, Pregestimil

Prematurity

Protein:	Whey predominant
CHO:	Glucose polymers (Reduced lactose)
Fat:	Medium chain triglycerides (Fewer long chain triglycerides)
Vits/Mins:	Fortified Low iron and iron Fortified available
Calories:	20 and 24 Kcal/oz
Formulas:	Premie Enfamil, Preemie SMA, Similac Special Care

Renal Disease

Protein:	No modification necessary
CHO:	No modification necessary
Fat:	No modification necessary
Minerals:	Lower levels (Not iron fortified)
Formula:	Similac PM 60/40

Exhibit K

SUGGESTED READING

Anthropometrics

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Nutrition Care Plan Development for Pregnant Women

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Nutrition Care Plan

The purpose of a nutrition care plan is to assist a health professional to counsel clients on a one-to-one basis. It enables the health professional to:

- gather client health information;
- identify nutritional/health problems;
- make a determination about appropriate treatment; and
- take action.

Thorough documentation of the health professional's findings and advice to the client is essential to any nutrition care plan. It enables both the recording health professional to follow up on recommendations and other health professionals to reinforce the actions taken. Being sensitive to the needs of the client is also an important consideration in the implementation of any care plan. (See attached outline of "General Concepts of Care Plan Development" in exhibit A.)

Collecting and Assessing Health Data

Knowledge of the normal and abnormal ranges for health measurements is necessary to review client medical data and identify nutritional/health problems. In assessing a pregnant woman's preconceptional nutritional status, the health professional must know the woman's prepregnancy weight in relationship to her height and frame size to determine her degree of adiposity or fatness before pregnancy. The 1959 and 1983 Metropolitan Life Insurance Weight for Height Tables are frequently used as the adult standard for this purpose. The 1990 National Academy of Sciences report entitled *"Nutrition During Pregnancy,"* however, recommends using Body Mass Index (BMI) to more accurately assess adiposity. Because BMI calculations are time-consuming and difficult to do, many clinicians continue to use standard weight-for-height tables and apply the following cutoff ranges:

- underweight = < 90 percent standard weight for height;
- normal weight = 90-120 percent standard weight for height; and
- overweight = > 120 percent standard weight for height.

Regardless of the standard used, it is important to know the drawbacks and advantages of that standard and to be consistent in using the standard.

Generally, a weight gain between 25-35 pounds is recommended during pregnancy. A weight gain recommendation for an individual prenatal should be based upon her particular prepregnancy weight. In addition, be aware of ethnic differences. If you compare black women to white women with the same pregnancy weight gain, black women, on average, will have a smaller baby. The National Academy of Sciences recommends that black women gain a little more weight than white women to increase the birthweight of the baby.

Another example of ethnic differences is that black women, with apparently healthy full-term babies, have much lower hematocrits than non-black women. It is not known whether a lower hematocrit is normal for black pregnant women or whether there is a higher incidence of anemia in that group.

It is important to evaluate both high and low hemat-

ocrit values. For example, a prenatal with a hematocrit of 40 percent or higher is twice as likely to have a growth-retarded baby as a woman with a hematocrit that is lower.

Working with only weight and height measurements and a hematocrit value is a severe disadvantage to the health care provider. It would be helpful to obtain additional medical data, including a medical/health history, especially when counseling high-risk women. For example, if a pregnant woman has a poor weight gain, ask her about her previous prenatal weight gains.

It is also important to ask a pregnant woman questions about her diet. (The 24-hour dietary recall, food frequency, and diet history are tools that can be used to collect information on dietary intake.) Inquire about her eating habits and food attitudes in addition to what she eats. For instance, if she reports that she is a vegetarian, ask her how long she has been a practicing vegetarian and whether she is a strict vegetarian (vegan) or one who consumes fish, poultry, eggs and/or milk. As a rule, women who eat meat, fish, and poultry on a regular basis have much higher hemoglobins and much better iron status than vegetarians.

When counseling, stay tuned in to all possible problems that may affect nutritional status. For example, substance abuse has both medical and nutritional implications. Ask clients questions about their social situation as well, such as about how much money they have to buy food and where they live. Spouse abuse and other things possibly going on in their lives can impact their nutrient intake and requirements. Be observant. It is important to look at the state of the client's body. Is she tired or edematous? Try to receive training on client interviewing techniques and how to ask nonthreatening questions for nutrition assessment.

Self-Reporting Weight and Dietary Intake

People do not always accurately report their weight. This can apply to women stating their prepregnancy weight. According to one study, people who are underweight or normal weight are fairly accurate when reporting their weight. In comparison, overweight people tend to under-report their weight by about 4-5 pounds. People who are very overweight tend to under-report their weight on the average of 5-6 pounds. Some of them misrepresented their weight by as much as 30-35 pounds.

Inaccuracies may also occur in self-reporting dietary intakes. In one study, researchers gave a group of people a meal and observed what they ate. The next day the researchers requested that the group complete a 24-hour dietary recall, including the meal provided. People in this particular study tended to over-report their nutrient intake, with the worst over-reporting in kilocalories from protein and fat.

Counseling Clients

A counselor will not be effective unless the client is engaged in the counseling process. First, explain any problem identified in simple terms. Be clear and nontechnical in your explanations. Then involve her in a discussion on what she could do to improve or correct the problem. Never ask a client to change more than three things at any one time. Focus on the most important problem first.

Client Referrals

Making referrals for clients to receive additional assistance or services from another source or provider can be an important component of a nutrition care plan. This is especially true of a client who has overwhelming social problems that prevent her from getting good nutrition. The referral system you use, however, must work in order to help the client. The person or agency making the referral has a responsibility to make sure the referral network is effective in serving the client.

Poor Prenatal Weight Gain

If a pregnant woman is very underweight, some clinicians may want to recommend that she consume a daily can of Ensure or some other protein supplement. But care needs to be exercised in recommending such a practice in America. A study conducted in Harlem showed that neonatal mortality was three times higher in a group of pregnant women who got a calorie and protein supplement than a group of malnourished pregnant women who received no special intervention.

If a prenatal's weight gain is poor, ask her about why she thinks she is not gaining weight. Reasons for poor prenatal weight gain include:

- social problems;
- lack of money to buy food;
- lack of facilities to prepare food;
- emotional upset or psychological depression;
- desire to limit weight gain (prenatal thinks she is too fat);
- high coffee consumption which may increase metabolic rate; and
- use of tobacco or other substances which can increase metabolic rate.

When counseling a prenatal about poor weight gain, tailor the advice given to her specific problem(s). (See Exhibit B.)

Excessive Prenatal Weight Gain

The goal is to have a pregnant woman gain the recommended amount of weight. A dietary history is a useful tool in trying to determine why a pregnant woman has

a high weight gain. It is essential to determine the cause of a high weight gain before developing an intervention. Intervention plans may be quite different depending upon the cause of weight gain. Remember that it is inappropriate to advise a pregnant woman to stop gaining weight or to lose weight during pregnancy.

Excessive prenatal weight gain is considered to be a gain of more than about 1.65 pounds a week. The associated risks include:

- preterm delivery;
- pregnancy-induced hypertension;
- increased rates of Cesarian section;
- longer second stage labor; and
- macrosomia, a newborn that weighs more than 4,000 grams (a large baby has a difficult time passing through the birth canal, especially if the mother is a normal or small size).

The cause of excessive prenatal weight gain could be an excess intake of kilocalories compared to energy expenditure. A high weight gain could also be due to a normal rebound in a prenatal who is recovering from dehydration due to previous nausea and vomiting. Further, a high and unexplained prenatal weight gain is the first symptom that a woman is carrying twins.

Pregnancy-induced hypertension is also preceded by excessive weight gain which can be a catastrophic condition if not corrected. Symptoms of pregnancy-induced hypertension include an increase in blood pressure, proteinuria and edema in the face and hand. Sodium restriction for a prenatal is not appropriate unless she is consuming excessive amounts of sodium. Calcium supplementation is now being used in the treatment of pregnancy-induced hypertension. In severe cases of this condition, a pregnant woman may be advised to limit her activity and stay at home resting on her left side. Close followup for this problem is warranted. (See Exhibit C).

Anemia

The Centers for Disease Control (CDC) cutoff values for iron-deficiency anemia during pregnancy are a 11 grams/deciliter hemoglobin (Hbg) and 33 percent hematocrit (Hct) for the first and third trimesters and a 10.5 grams/deciliter Hbg and 32 percent Hct for the second trimester. The National Academy of Sciences endorses the use of these values. In addition, CDC has also established upward adjustments in the cutoff Hbg and Hct values for persons living at high altitudes and for cigarette smokers. (Ms. Dimperio does not recommend using the CDC adjusted cutoff values for pregnant smokers.)

Hematocrit and hemoglobin values are very inadequate as the basis for diagnosing nutritional anemia. In order to correctly diagnose this condition, the health professional should:

- obtain additional laboratory data, such as a complete blood count (CBC);
- inquire about the symptoms of anemia which include tiredness, pallor, irritability, and trouble sleeping; and
- assess dietary intake to determine:
  - the adequacy of a client's intake of hematopoietic nutrients, including iron (especially heme iron), folic acid, protein, and vitamin C;
  - bizarre eating habits or pica, such as eating dirt, clay, ice, laundry starch, etc. (pica tends to be associated with anemia); and
  - the intake of interfering substances, such as tannin (tea), polphenols (coffee) and phosphates (soft drinks). See attached sample care plan on anemia for a more inclusive list.

There are other things that can cause anemia, such as thalassemia or sickle cell anemia. Chronic infection or a chronic disease can also artificially lower one's Hbg and Hct which will not respond to nutrient intervention. A low Hbg or Hct due to a high plasma volume during pregnancy will also be associated with an increased weight gain and swelling around the ankles. (See Exhibit D).

Iron Supplementation

Be aware of the problems caused by high iron supplementation. Many pregnant women who take high iron supplements get diarrhea, constipation, or an upset stomach. Consequently, they may discontinue taking their iron pills and not return to the health clinic for followup. High iron supplements can also interfere with zinc absorption which is not good for the growing fetus either.

Supplements of 60-120 milligrams of iron and 300 micrograms of folic acid are recommended for treating a nutritional anemia during pregnancy when it cannot be determined if the anemia is due to iron or folic acid. In addition, concurrent zinc and copper supplementation is recommended when high iron doses are used. If a prenatal's Hbg and Hct normalize after intervention, she should be advised to decrease the dose of her iron supplement to 30 milligrams of iron. See Exhibit E for a list of references.

EXHIBIT A

Developing Nutrition Care Plans For Pregnant Women

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I. General Concepts of Care Plan Development

A. Components
1. Define problem
2. Gather information
3. Professional determination
4. Do something

B. Problem Definitions
1. Requires:
   a. establish standards for normal
   b. what deviation is considered abnormal
2. Which standard and measurement to use
   a. BMI/rule of thumb, table of standard weights (frame size?)
   b. metric, English units
3. How to define normal—may be different for various women
   a. pattern of gain different for PPW
   b. ethnic variations
4. How to define abnormal, e.g., hct association with LBW

C. Gather information
1. Clinical measurements—anthropometric, lab, clinical indicators
2. Dietary information—not very accurate for an individual, mainly a guideline for nutritionist to help analyze patterns and trends
3. Symptoms—not always diagnostic but very important, e.g. tired for anemia, hungry for ↓ weight gain.
4. History—personal, medical, psychosocial
5. Substance Abuse
6. Social/cultural—who she eats with, financial status, ethnicity, stress
7. Attitudes/values—body image, vegetarian
8. Observe client

D. Professional Determination
1. Does she really have a problem?
2. What contributed to this problem?
   a. e.g., if PWG due to money, divorce, substance abuse—counsel differently, can't tell her to do *all*
   b. e.g., Folic acid deficiency won't respond to iron

E. Do something
1. Counsel her
   a. direct counseling to etiology of problem
   b. short, simple, concrete, practical
   c. 1-3 action changes/never more than 3
   d. make it fun
2. Give her something
   a. make sure it's not bad for her b. make sure she knows what to do with it
3. Refer her—give her name, address, phone number, and an idea of what to bring
4. Followup—who, what, where, when

II. For three examples of care plans see following Exhibits B, C, and D.

EXHIBIT B

Sample Care Plan: Inadequate Weight Gain

Less than 3 pounds per month
(after 1st trimester)

Subjective

1. *Ask about*
   a. food budget
   b. stress
   c. body image
   d. use of tobacco, caffeine, cocaine, etc.
   e. life style issues, e.g., food storage and preparation area, cooking skills, schedule f. Appetite g. Advice
2. *Dietary intake with emphasis on calorie intake, pattern of eating*

Objective

1. *Prepregnancy weight status*
2. *Total gain for week of pregnancy*
3. *Pattern of gain*
4. *Fundal height*
5. *Sonogram results*
6. *Ketones*

Assessment

Determine:
1. *If weight gain is inappropriate for this woman*
2. *Cause(s) of poor gain*
3. *Desired amount/pattern of gain from now until next visit and to end of pregnancy*

Plan

1. *Counsel client on behavior changes needed (if appropriate), e.g., calories, frequency of eating, caffeine*
2. *Refer client for assistance as appropriate, e.g., food stamps, smoking cessation, substance abuse counseling*
3. *Document in prenatal chart*
   a. counseling recommendations
   b. weight gain recommendations
   c. followup needs

EXHIBIT C

Weight Management: Excessive Weight Gain*

Definition: Weight increase above maximum recommended amount/rate of gain.
Rationale: Excessive weight gain during pregnancy may be associated with cephalopelvic disproportion, prolonged labor, increased Cesarean section rate, carbohydrate intolerance, maternal obesity, or excessive fetal fat cell hyperplasia.
Management
1.0 Goal: To achieve recommended total weight gain and/or pattern of weight gain
2.0 Guidelines

2.1 Determine possible causes for excessive weight gain:
- *High energy intake*
- *High fat/sugar intake*
- *Infrequent large meals*
- *Low physical activity level*
- *Emotional stress, depression, boredom, isolation*
- *Increased appetite*
- *Rapid weight loss prior to conception or in early pregnancy*
- *Fluid retention*
- *Multiple gestation*
- *Smoking cessation*
- *Pica (e.g. laundry starch, cornstarch)*

2.2 Refer to nutritionist/registered dietitian if weight pattern is not approved within 4 weeks.
2.3 Refer to psychosocial counseling, if indicated.
2.4 Provide client with personal copy of prenatal weight gain grid.
2.5 Client decreases energy intake while maintaining nutrient adequacy.
2.6 Client avoids weight loss or weight stabilization.
2.7 Client moderately increases physical activity level.

3.0 Client Education/Counseling

3.1 Discuss concerns of excessive weight gain.
3.2 Stress importance of improved weight gain pattern.
3.3 Reassure that excess rate of gain after recent weight loss is related to replacement of fluid, lean tissue.
3.4 Reassure re: weight gain associated with fluid retention.
3.5 Reassure that weight gain associated with smoking cessation is healthier than continued smoking.
3.6 Provide dietary counseling, considering ethnic background and economic limitations, to achieve recommended eating pattern.
3.7 Provide dietary counseling to decrease energy intake and moderately increase dietary fiber (e.g. 1% or skim milk, fish, chicken, turkey without skin, lean meat, moderate use of whole grain products, low- calorie salad dressing, decreased intake of sweetened bever ages, presweetened cereals, fried foods, desserts, etc.)
3.8 Advise 4-5 light meals/snacks per day and caution against excess hunger/large meals.
3.9 Instruct to keep 3-day record of food/beverages consumed.
3.10 Instruct is use of personal prenatal weight gain grid.

4.0 Monitoring

4.1 See client q. 2-3 weeks.
4.2 Determine weight and plot on prenatal weight gain grid at each visit.
4.3 Determine presence of edema.
4.4 Review food record and compliance with dietary recomendations.
4.5 Evaluate outcome of referrals made.

* From. *"Guidelines for Nutrition Care during Pregnancy"* by Irene Acton, editor, and Mariel Caldwell, DHHS, USPHS - Region V, July 1990.

EXHIBIT D

Sample Care Plan: Anemia*

I. Risk Criteria

A. Hgb/Hct is below 11.7 g/36 percent in 1st trimester and 11.0 g/34 percent in 2nd and 3rd trimester

II. Assessment

A. Biochemical
1. Obtain all data on Hgb/Hct
2. Obtain results of CBC

B. Anthropometric Assessment –Assess for prepregnancy weight status and appropriate weight gain in pregnancy.

C. Dietary Assessment
1. Assess and document overall quality of diet by means of a diet history (24-hour recall/food frequency). State adequacy of dietary intake of hematopoietic nutrients - iron, folic acid, protein, and vitamin C.
2. Record history of current practice of pica or bizarre food consumption (large amount of ice, clay. dirt, laundry starch, cornstarch, etc.)
3. Assess the amount of consistent intake of compounds which, if eaten during or shortly after a meal (within 1 hour), will prevent or decrease non-heme iron absorption:
   phytates–unleavened bread, raw grain, cocoa, raw soy products
   tannin–tea
   polphenols–coffee
   phosphates–soft drinks, some flavored powdered drink mixes, some antacids
   bran–raw grains and bran products
   oxalates–spinach, beet greens, swiss chard, cocoa, rhubarb
   minerals–megadoses of zinc, magnesium, chromium, manganese, cadmium
   EDTA–(food additive that prevents oxidative damage) carbonated soft drinks, dressings, mayonnaise, sandwich spreads, sauces.
4. Assess the use of nutritional supplements prescribed and over the counter.

D. Clinical Assessment
1. Record status/type of non-nutritional anemias (e.g. sickle cell disease, anemia of chronic disease).
2. Assess for signs of pallor, irritability, anorexia, listlessness, and poor exercise tolerance. (These signs are nonspecific and will be present only with severe anemia).
3. Assess for presence of infections.

III. Intervention

A. Counsel client to
1. Increase intake of iron, folic acid, and vitamin C.
2. Decrease intake of interfering substances.

B. Repeat diet history in 3-6 months to assess compliance with dietary recommendations. Reinforce/review client teaching objectives as necessary.

C. Give supplements containing 60-120 mg of iron and 300 mcg folic acid.

*Adapted from Arizona's Iron Deficiency Anemia Protocol

EXHIBIT E
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Nutrition During Pregnancy–Institute of Medicine Report

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Moderator:

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The National Academy of Sciences' Institute of Medicine is publishing four reports on nutrition:

- *"Nutrition During Pregnancy,"* published in 1990, has two parts:
  I. Nutritional Status and Weight Gain in Pregnancy, (235 pages plus 30 pages of appendixes) makes new weight gain recommendations.
  II. Dietary Intake and Nutrient Supplements, (183 pages) reviews the need for supplemental protein, minerals, and vitamins in pregnancy.
- *"Nutrition during Lactation,"* published in 1991, (300 pages) analyzes the nutrition of lactating women and makes nutritional recommendations.
- *"A Clinical Applications Guide,"* to be published in 1991, describes situations with exemplary nutritional input in the care of pregnant and lactating women. This guide will be tested in some clinics around the country. The guide reviews nutritional needs during pregnancy and lactation, making it meaningful and useful in your clinical practice.

Weight Gain During Pregnancy

New reports on nutrition during pregnancy were needed because the old recommendations in the 1970 report for weight gain during pregnancy were 24 to 27 pounds, but most clients were gaining much more weight than that. In 1956, weight gain was only about 8 kilograms (18 pounds). By 1982, it had risen to 15 kilograms, or about 33 pounds. Currently, the average weight gain of pregnant women in the United States is still about 33 pounds.

There has also been a small increase in average birthweight from about 3,300 grams (7-1/4 pounds) in 1956, up to about 3,400 grams (7 1/2 pounds) now. Unfortunately, nearly all of this increase is seen in the white population while blacks, on average, have not improved birthweights at all.

Why is maternal weight gain important? First and foremost, because it improves fetal and infant outcomes. The mother who gains more weight tends to have lower infant mortality, infants have bigger birthweight, and their length and head circumference are larger. There is no good evidence that gestational duration, spontaneous abortions, or congenital anomalies are related to weight gain in pregnancy. But infant outcome in terms of size and health is definitely better.

Some research shows that maternal outcomes are also improved, but we really don't have much information on that. Women who are fatter, or have a normal to higher fatness before pregnancy, however, produce milk for the infant which contains more fat and, therefore, is a better energy source for the infants.

Weight gain in pregnancy doesn't have much effect on postpartum obesity. The leftover gain, once the weaning process is complete and the mother has recovered from the pregnancy, is only about a kilogram, a couple of pounds, of additional weight. In general, women who are thin at the beginning of pregnancy will gain more weight, and need to gain more weight. Women who are fatter at the beginning of pregnancy will gain less weight and need to gain less weight.

For very overweight or moderately overweight women, there isn't a strong relationship between her weight gain and the weight of the infant at birth. In other words, infant birthweight is quite protected, even if the mother has low weight gain. But if the mother is underweight, there is a very strong relationship between her weight gain and the infant

birthweight—she needs to gain weight in order to allow for the infant to develop well in utero.

Body Mass Index

The subcommittee recommends calculating body mass index (BMI), weight divided by height squared, as soon as possible at the beginning of pregnancy. Then categorize the pre-pregnancy BMI to identify women as being underweight, normal weight, overweight, and obese. For each of those categories you expect and encourage a different weight gain. The categories of BMI and recommended weight gains are:

- Low: less than 19.8 BMI – gain between 12.5 and 18 kilograms (28 to 40 pounds).
- Normal: 19.8 to 26 BMI – gain between 11.5 and 16 kilograms (25 to 35 pounds).
- High: 26.1 to 29 BMI – gain between 7 and 11.5 kilograms (15 to 25 pounds).
- Obese: more than 29 BMI – gain only about 7 kilograms (15 pounds).

Weigh the woman as soon as you can, preferably prior to conception, using consistent and reliable procedures. If you cannot weigh the woman prior to conception, do it at the first prenatal visit, then repeat at each visit. Calculate BMI using the table in the back of the book.

If there is inadequate weight gain during pregnancy, you should assess habits, such as cigarette smoking and substance abuse, that reduce weight gain. You should do dietary questioning and counseling, and assess levels of physical activity to see if there is low, or high energy expenditure. Provide counseling referral where necessary, reassurance and followup care. The new clinical guide will provide specific questions that will be helpful for each of these categories.

A weight gain over 28 pounds is recommended for young adolescents. Very young adolescents should gain more. Black women should gain more because they have a 70 percent greater risk of low weight gain than white women.

The recommended weight gain for twins is 35 to 45 pounds, but we are not classifying weight gain by prepregnancy BMI in this group, because there is not enough information.

Nutrient Supplements During Pregnancy

The questions on nutrient supplements during pregnancy were:

- For which nutrients is it reasonable to expect that food alone will provide adequate intake?
- For which nutrients is supplementary intake from pharmaceutical preparations desirable?
- If supplementation is recommended, what level is appropriate for pregnant women?
- Is there danger of toxicity from supplements?
- Do interactions among nutrients and between drugs and nutrients substantially change the pregnant woman's ability to achieve satisfactory nutritional status?
- Should recommendations be different for teenagers, for women age 35 and over, and for women of different ethnic backgrounds?

The subcommittee considered food to be the normal vehicle for delivering nutrients, because food supplies nutrients, such as protein, energy, and other essential nutrients which are not found in supplements. In contrast, nutrient supplementation is an intervention. Secondly, there is much less risk of harmful interactions among nutrients, if they are not given in large doses in a pill form. Finally, dietary supplements should not replace dietary counseling or a well-balanced diet. We were concerned about women who took multivitamin/mineral pills, thinking that then they didn't have to worry about their diet. We also said that in order for a supplement to be beneficial it had to either help the health of the mother or her fetus.

Iron

After reviewing all of the information over the last 10 years on what pregnant women usually consume, the nutrient that most concerned us was iron. Iron intake averages less than half the RDA. Normally hemoglobin falls in pregnancy by about 2 grams per deciliter between the first and second trimester; however, it goes up again at the end of pregnancy. The new values we are recommending for cutoffs for anemia in pregnancy, which are actually the same as the CDC values, are 11, 10-1/2, and 11 grams per deciliter during trimesters 1, 2, and 3, respectively.

We decided that it is simply not practical to keep screening for hemoglobin throughout pregnancy. If women are diagnosed as anemic on their first visit, then you should intervene with iron. If we intervene with iron for all pregnant women, is this going to help? Studies that compared hemoglobin of those women who had iron during pregnancy with those having no iron supplements during pregnancy found an increase in hemoglobin.

There is also a little evidence that it will help pregnancy outcome. Low hemoglobin seems to increase risk of prematurity, low birthweight, and perinatal mortality.

How much iron should we give? Our recommendation is to give 30 milligrams of ferrous iron a day, with fluid, at bedtime or between meals. This will provide the 5 milligrams of iron supplement a day needed during pregnancy. We advise that supplements be given in the last two trimesters, because the woman becomes

much more efficient at absorbing iron in late pregnancy. Also she is after the time when there is nausea that she might associate with iron. Even though it isn't the iron causing the problem, she may feel nausea and decide to give up the iron supplements, thinking that they are the cause.

The ascorbic acid in orange juice does not increase iron absorption from ferrous sulfate. If the iron is already in the ferrous form, orange juice is not more helpful than water. Advise them not to take it with milk, however, because the calcium in milk drops the absorption of iron to about half what it would be with water or juice. Coffee also decreases iron absorption. Also, because the calcium in multivitamin/mineral supplements interferes with iron absorption, it is better to take the iron separately from any other supplements that are taken.

The supplements should be continued for about a month after vaginal delivery or 3 months after a Caesarean because of the heavier blood and iron loss with the Caesarean.

Iron interferes with the absorption of zinc and copper, so it is important to take zinc and copper, or at least vitamin/mineral supplements containing zinc and copper, if the woman is taking 60 milligrams of elemental iron a day. As soon as hemoglobin comes up to normal, reduce the dose of iron back down to 30 milligrams, because it is very rare that a woman will continue with anemia after pregnancy. When the iron dose has come back down to 30 milligrams, you can stop recommending zinc and copper supplements.

Calcium

It was a surprise when we looked at the literature on calcium. Unlike the situation with iron, there is absolutely no evidence that low calcium intakes in pregnancy are harmful to either the mother or the fetus. There is also no evidence the supplements are helpful.

But the problem with calcium is that even if the fetus gets all of its calcium from the mother's bones, it is only the equivalent of 2-1/2 percent of her bone calcium. So you may not be able to measure that small amount.

We have decided to recommend supplements of 600 milligrams a day, especially for young women. Since women under age 25 are still increasing their bone calcium density, this may protect against osteoporosis in later life. When you are older it is almost too late to do anything about osteoporosis, but when you are younger the amount of calcium you take in makes your bones more dense, so that when you start to age there is more calcium there to protect you.

Women whose daily dietary calcium intake is less than about 600 milligrams (which is only one serving of a high calcium source, such as milk) should take an extra 600 milligrams. Those women are more likely to be strict vegetarians, and blacks and Hispanics whose milk intake is quite low. The supplements should be taken with meals to get better absorption of the calcium, and should be taken apart from iron because calcium has such a bad effect on iron absorption. Pregnant women over 35 years old do not need more calcium than younger women.

Vitamin D

Vitamin D is a special concern only for women who do not drink milk. At northern latitudes in winter, from about November until May, in the northern half of the United States, we don't make any vitamin D in our skin, even on a bright, sunny day. And even in the South, synthesis is not very good. So we recommend 400 IU, or 10 micrograms of cholecalciferol a day, for strict vegetarians not eating dairy products, or others with a low intake of vitamin D fortified milk.

Folates

We have not recommended folate supplements be taken by all pregnant women. The prevalence of folate deficiency anemia in pregnancy is very low, so routine supplements are probably not justified. The RDA for folates has come down to 400 mcg. The main interest around folates centers on the benefit for women who had a previous baby with spina bifida or neural tube defects. It had been found in several studies that, if women who have had a previous neural tube defect occurrence were supplemented from just before conception to about 9 weeks after conception, it reduced the recurrence of another neural tube defect in the same mother. We don't believe, however, that routine supplementation of folate for all pregnant women will necessarily be helpful.

Vitamin B-12

Vitamin B-12 is needed for strict vegetarians – 2 micrograms a day.

Summary of Recommendations

We recommend the following:

- Routine assessment of dietary practices and food intake.
- Measurement of hemoglobin or hematocrit, but no other lab tests related to nutritional status. The reason is the state of pregnancy itself changes women's blood levels of all nutrients, making it virtually impossible to say if she is deficient in any nutrient other than iron.
- Initial measurement of height and regular measurement of weight.
- Screening of potential problems relating to such things as lifestyle, multiple gestation, and other problems.

Assessing Diet

We are recommending against 24-hour recalls. The 24-hour recall method, unless accompanied by more probing questions about dietary intake and food patterns, is not very useful for assessing the usual dietary intake of a woman. So we are recommending a food frequency questionnaire.

In addition, we want you to ask questions about inadequate income and access to food, such as: "Are you often short of money to buy food? How often? What do you do then? Where do you have your meals?"

It is important to ask if the woman avoids some kinds of foods because of intolerance or aversion. So you could ask: "Are you on a special diet? What kind? Are there foods you avoid eating? Which ones, and why?" Strict vegetarian diets with no animal or dairy products would put a woman at risk for B-12, calcium, and vitamin D deficiency.

Assessing Lifestyle

Questions about alcohol, cigarettes, and illegal drugs are important. We know that smoking has a drastic effect—it lowers weight gain to about half of what would happen otherwise. It lowers birthweight by 200 grams. Alcohol lowers nutrient intake and impairs nutrient metabolism, and we are not sure what level of intake is safe.

Caffeine at high levels lowers birthweight, and has a very adverse effect on iron metabolism. Daily intake of more than five cups of coffee, seven cups of tea, or 10 cans of soft drinks with caffeine might be harmful. In these situations women should be asked questions such as: "Have you cut back on your consumption? Are you trying to stop? Do you want to stop?" The woman should be counseled when she is willing to cut back.

Be concerned that the woman might have a lifestyle unlikely to support an adequate diet. She might skip meals, and you should ask why and how often? You should ask where she eats, does she have facilities at home for preparing food? A woman who has been restricting her diet to control weight is another high-risk person. You can ask questions about recent weight gain or loss and whether the woman is trying to lose weight and how. Pica is another problem, especially in the South.

Another suggestion is discussing the woman's feelings about being pregnant. Is she unhappy about it? If so, she is at much greater risk of not caring about her diet or continuing substance abuse.

Finally, if you think there is a risk that a woman is not eating a healthy diet, recommend that she take a vitamin/mineral preparation with this specific formulation: 30 mg iron, 15 mg zinc, 2 mg copper, 250 mg calcium, 2 mg vitamin B-6, 300 mcg folate, 50 mg vitamin C, and 5 mcg vitamin D. Until a manufacturer makes this specific formulation, I would advise using a regular vitamin/mineral supplement that is on the market.

Summary of New Suggestions

To summarize the new positions taken by the report:

- Only iron should be routinely supplemented, and this at 30 mg a day.
- Folate supplements, in contrast to previous and usual recommendations, are not recommended routinely, except for women who have had a previous neural tube defect, and then at 400 mcg a day during the first trimester.
- We recommend a dietary assessment of all pregnant women at the beginning of pregnancy and continuing throughout pregnancy to assess her usual intake with questioning for indicators of a poor diet. If found, she should be referred for counseling. We are recommending a list of questions about specific foods which, if low in the diet, will put a woman at risk, rather than a 24-hour recall. ■

Nutrition Education Materials for Pregnant Adolescents

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Laurie Miller

The booklet, "Healthy Foods, Healthy Baby," and the related materials for pregnant adolescents were developed by funding from a DHHS Special Projects of Regional and National Significance (SPRANS) grant and the Delaware Valley March of Dimes. The booklet is in national distribution in its fourth reprinting.

The booklet differs from most nutrition booklets in that it focuses on people and foods rather than on nutrient sources or amounts. It provides sensible nutrition information in language and concepts that people commonly use. This story of two pregnant teenagers, Kim and Maria, tells how to eat right, using familiar, available foods eaten together as meals and snacks. It brings in family and friends to reinforce advice provided by the booklet and health staff.

I will share with you the steps used to create this appealing booklet and how the booklet has been used and revised. Traditional materials, although well-intentioned, tended to be loaded with detailed rationale, nutrient functions, measured exchanges and food groups. They give less attention to how to select common foods and combine them into everyday meals and snacks, and even less attention to fast foods and convenience foods purchased on the street.

Our principal concerns were:

- Appropriate literacy level—approximately 40 percent of our population reads at or below the fifth grade reading level.
- Practical help in choosing foods as meals and snacks.
- Attractive, appealing format.

Appropriate Literacy Level

Literacy appropriateness is more than using simplified wording. It involves saying only what you really need to. In *"Healthy Foods, Healthy Baby"* heartburn is described simply, with a list of about six possible remedies.

For understanding to occur, the language, logic, and experience of the materials needs to match the language, logic, and experience of the patient. Poor readers especially have difficulty interpreting and using categories. For example, a client was instructed to eat red meat and avoid poultry. When asked about his diet, the client answered that he often had fried chicken for supper. When asked about poultry he answered that he didn't eat poultry because it was not allowed. In general, do not use the word "avoid." Rephrase your suggestions to describe what to do, or be clearer about what not to do.

"Healthy Foods, Healthy Baby" talks about WIC the way we hear women talk about WIC. We also use typography, format, and page layout to improve comprehension. For example, words written in all capital letters are not easy to read. The easiest line length for reading is about 35 characters including spaces, about the size of most newspaper line lengths.

Social Marketing Development Process

"Healthy Foods, Healthy Baby" was produced using a comprehensive development process that applied techniques from social marketing, including:

- Obtaining extensive staff input from nurses, social workers, and nutritionists.
- Conducting focus groups with pregnant teens to assess their knowledge and concerns about nutri-

tion, their language and manner of expressing themselves and for expressing nutrition concepts, and their reactions to existing materials.
- Writing successive drafts.
- Conducting technical review for both content and literacy appropriateness.
- Pretesting the content and design elements with the target audience: faces, hair styles, clothing, believability of conversation, the relevance of the topics, the usefulness of the suggestions, and comprehension.
- Revising endlessly.
- Implementing material through training in all prenatal sites and other community groups.
- Expanding materials to include training manual, two posters, a shopping list, an iron pamphlet, a self-assessment sheet, and a group teaching curriculum.

Focus Group Responses

Focus groups are guided discussion groups to learn more about people's thoughts and reactions to products and issues. The facilitator makes no judgments about what is said and does not correct or instruct in any way. The participants are helped to feel comfortable in expressing themselves in their own way. Here is what we learned:

- Women received a lot of negative comments about being young and pregnant from family and health providers. They wanted something with a positive quality that would not put them down.
- They wanted to know about what they could do to help their pregnancy along. They did not want to hear a lot of negatives about how they were or could be hurting the growing baby.
- They wanted to bring the baby home with them from the hospital.
- These teens did not have scales at home and did not weigh themselves.
- They most often mentioned grandmothers, mothers, aunts, sisters, female friends, as sources of help and encouragement. Boyfriends, baby's father, male relatives were mentioned less often.
- The young women were interested in foods as meals and snacks. They had little interest in or time for using food diaries or lists of foods and groups. They wanted to be able to choose among familiar foods that tasted good to them, and they wanted to continue to enjoy their favorite foods.
- Most of their food was eaten away from home, on the street or in fast food places. A meal at home, which they referred to as a sit-down meal, was very infrequent. They liked to see menus that put food ideas together.

Realistic Serving Sizes

We made the recommendations for the number of servings as consumers think of them. A roll for a sandwich is a serving to a consumer. It may be two or more servings of bread to a nutritionist. If the consumer takes the advice literally, recommendations based on exchange-sized servings could result in a lot of food being eaten. To our women a bowl of cereal was not a modest little cereal bowl; it was a mixing bowl sometimes. Very few women drank juice as a 4-ounce serving. More often it was something like a 12-ounce glass.

At the end of each focus group we spread out a pile of nutrition booklets and asked them to look and talk about what they liked and did not. They liked colorful booklets with realistic drawings or photographs. One small pink booklet with menus was picked up again and again. The menu in our booklet is modeled on that popular booklet. The women also liked booklets with a story or characters that they could relate to.

We opted for an especially colorful cover and a more expensive quality of paper with coating so the booklet would stand up to repeated thumbing. The booklet is not inexpensive, but a cheap handout that is never read is actually quite expensive.

Weight Gain Chart

We included in the booklet a chart to record prenatal weight gain and their individual goal. The young women use the charts themselves, either with the help of staff or on their own. We also show a colorful weight gain graph to reflect the new weight gain guidelines. We selected a general guide of about 30 pounds.

The weight gain section has been an excellent tool for encouraging ongoing interaction between staff and pregnant women. At one of our sites the nurse records the woman's weight, the physician records the gestation, and then the nutritionist discusses the gain and plots it on the graph. Having each staff member ask for and use the booklet adds to its perceived importance.

A feature of the booklet that encourages interaction is a little yellow box at the bottom of the page next to the page number. It can be checked, dated, or initialed to show when or whether a topic has been discussed. A staff member can see an area marked and ask followup questions, "How is your heartburn now? What did you try that helped?" They can also see what content has not been covered and discuss this.

You can use the dialogue in the booklet to encourage the women to express their own concerns. You can ask, "Is Maria talking about a concern of yours? Have you ever had an experience like Kim's?"

We encourage the women to share the booklet with someone at home who can be supportive. Many of our teens did not shop or cook—someone else decided what was purchased and prepared as meals and snacks. At each prenatal visit we hand out a shopping list to write down nutritional goals to share at home

and to help organize food shopping to include new foods. The list also has some snack recipes on the back.

Available from the National Maternal and Child Clearinghouse

"Healthy Foods, Healthy Baby" materials are distributed at no cost to the providers serving low-income women, with the requirement that they attend all day training sessions about the materials.

The book is available nationally through the National Maternal and Child Health Clearinghouse. You can get 25 free copies from them. You can purchase the booklet from us at as close to cost as possible, $.50 to $.60 a copy. We will continue to provide the posters, iron pamphlets, and shopping lists at cost.

We are happy that 2 years of development has paid off in a book that seems to work well for both providers and the young women who use them. Although designed for teens, it seems that adults enjoy the booklet just as much. For more information about "Healthy Foods, Healthy Baby," contact: Laurie Miller, Ph.D., Public Health Nutrition, Philadelphia Department of Public Health, 500 S. Broad Street, Philadelphia, PA 19146, (215) 375-5937. ■

Nutrition Education Strategies for Children

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Magic Shows and Health Fairs

—Amy Shuman

About 12 years ago, the Allegany County WIC Program hired a creative home economist who began the wonderful WIC Magic Shows, which were described in the September-October 1982 WIC Currents.

The keys to a magic show are the props—they aren't expensive, but locating them can be difficult. One was a magic milk pitcher that poured, yet there was no milk in whatever you poured it into. Another one turned WIC cereal into WIC eggs. We went to a local magic store, told them what we needed and they helped us. After we had done shows for a lot of WIC children in the clinics, we began also doing them at our local shopping mall.

Also successful through the years were the story hours, where we drew a story page by page on poster board, and sat on a quilt on the floor and shared it with the children.

Farmer Green Puppet Show

Our Farmer Green Puppet Show probably came next. We had a WIC staff member behind the "stage" with little hand puppets, Ms. Broccoli, Ms. Carrot, etc. I was out front as the farmer interacting with the children. We still get a lot of requests for that show.

Our dental hygienist also helped us one year to produce a video and a puppet show. She used a tape-recorded song and voices so that she could work two puppets at a time and not need anyone to assist her.

Recently, I filmed a video called, "Cooking with Ben and Aunt Amy." It can be used with parents and children of all ages to encourage them to integrate children's activities into family meals and snacks. I have used it in a classroom setting with third and fourth graders. We do videos with the help of our local community college which has professors and students in audiovisual subjects.

Tasting food has always been a treat. We found the kids were especially hungry first thing in the morning, and that this was an optimal time for teaching.

Many times we are teaching the parents more than the children with the children's shows. Many parents have limited reading skills, and they relate well to the activities for the children. So we began to make sure the parents were comfortable around the edges of the children's area so they could sit, watch and learn, without them thinking that we knew they were learning.

My most touching story is of a mother who arrived on voucher day for one of our puppet shows. When our staff realized that no one in the family was still getting vouchers, she said, "Oh, I know we don't get vouchers any more, but we wondered if we could just come and watch the show today." She had walked over 3 miles with 3 small children to come to that show.

"Kids are Special People" Health Fair

Our main focus for 4 years was a large "Kids are Special

People" Health Fair, which was part of a larger health fair at our local mall. We described the details in the *"Journal of Nutrition Education,"* Volume 21:142A (1989). You can organize a similar event or just take one small portion of it.

I coordinated this event along with the help of a very energetic R.N. and lots of support from Health Department employees. We had 150 volunteers just for the children's part. It is a large undertaking, but it was worth it. We reached over 1,000 children the first year and slightly less in other years. We did all kinds of advertising to try to get the WIC children to come.

Kids were invited to wear their Halloween costumes. Every professional who helped us also had to wear a costume. We had stage shows every 15-30 minutes throughout the day. During the times that they weren't on stage, the professionals were out talking to the children.

The self-image area was called "Kingdom of Special People." Kids were asked to look in a mirror and say what is special about what they see. They would fill out a little paper that we would help them write and take it to their parents or whoever was their significant caretaker. It was one of our best areas.

For the past year I have wanted to promote fruits, vegetables, and grains more, so I researched animals that were vegetarian. The new show I'm doing for younger children involves a 6-foot high artificial tree where Red Cardinal has a perch. Below him hangs Sammy Squirrel with Bucky Beaver and Grandma Rabbit around the bottom. I go walking through the woods, bringing treats to my forest friends at my favorite tree. [Puppets can be purchased reasonably from Folkmanis, 1219 Park Avenue, Emeryville, CA 94608, (415) 658-7677.]

Some of my other puppet friends include Mr. Tux from my puppet show for older children, Karla Kangaroo and her baby in her pouch, Ellie Elephant and Oscar Ostrich. When you are looking for puppets, be sure to get ones whose mouths move. They should also be able to snuggle and to use one or two arms.

I have the larger puppets sitting in my office as I am doing one-on-one counseling. One little guy I was counseling for weight control actually talked to me through Oscar Ostrich. It was marvelous!

In conclusion, I would say to each of you, "Our kids need us and the fun ways we can think of to teach nutrition. So get out there and do it."

Nutrition Classes for 3- to 5-Year-Olds

—Ann O'Neill

Nutrition education for 3- to 5-year-olds is a lot of fun. The more creative we get, the more fun we and the kids have. Puppet shows are just one way to do it. We have a lot of different scripts that you can use for 3- to 5-year-olds. [We get our puppet show stage from Childcraft, 20 Kilmer Road, P.O. Box 3081, Edison, NJ 08818-3081.]

We offer the classes every 2 to 3 months. Every 3- to 5-year-old who comes in for certification is scheduled for a class. One to 2 weeks prior to the class they get a reminder letter. Also, we tell them that it is a responsibility of being on the WIC program to attend class.

Rescheduling is extremely important. When participants call in and say they can't make a class, your clerical staff, if motivated about your classes, can say, "We have another one in 2 months. The kids will love it. Let's schedule you for that one." This kind of attitude can make a huge difference.

For the seasonal classes we make it a party kind of atmosphere—the reminder letters are in the form of invitations, with a heart for Valentines Day, a little picnic basket for summer, etc. We decorate the rooms, have prizes, contests, and games.

For Halloween, the kids come in costume. We carve out pumpkins, discussing the color of the pumpkin, the seeds, and how pumpkins grows. The kids make their own trick or treats bags and go through the health department collecting healthy snacks and prizes. We discuss general safety for trick-or-treating, healthy snacks, and the importance of tooth brushing.

For the summer party, we often play a little game called "Going on a Picnic." We ask each child what foods they would like to take on a picnic with them. As they shout out the food item, we discuss which of the basic four food groups that food item would fit into. We walk to a nearby park to eat the picnic lunch that each child is provided.

A hands on approach is effective in teaching this age group, as well as adults. The more we get into physically touching and feeling things, the more likely we will be to take information back with us. One way we teach the basic four food groups is to take a walk through the "Basic Four Food Jungle." It is a fun way for them to touch the vegetables and other foods. Lots of conversation stems from this experience. We use a "feely" box sometimes. The kids feel the food item inside the box and guess what food it is. Crafts is another hands-on thing you can do in your classes.

Snacks include Edible Clay

We try to provide nutritional snacks at all of the sessions, such as strawberry milk shakes, popcorn, orange juice, cheese kisses, etc. We make edible clay from peanut butter, honey, and powdered milk. The kids love it. They make snowmen, flowers, dinosaurs, etc., using raisins for eyes.

We also use videos and books. If you can find pictures and let the kids tell the story instead of you reading it to them, they seem to get more involved. The Dairy Nutrition Council has a good one called *"Where and How We Get Our Food."* It is just pictures that you can let the kids talk to you about. Then you can elaborate on those things a little bit if needed. Another one is called "What We Do Day by Day," which shows children eating, tooth brushing, and playing. You can talk about all kinds of healthy things this way.

It is extremely important to include the parents in the discussion in some way. While the children are using their coloring books as part of the activities, go back and work with the parents, pass out some healthy recipes, and talk to them about the theme for that day. ■

Nutrition Surveillance

Speakers:

Ibrahim Parvanta, M.S.,
Public Health Nutritionist,
Field Services Branch,
Division of Nutrition,
Center for Chronic Disease Prevention and Health Promotion,
Public Health Service,
Centers for Disease Control (CDC), DHHS,
Atlanta, GA

Karen Sell, R.D.,
WIC Coordinator,
Arizona WIC Program,
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Merryjo H. Ware, M.P.H., R.D.,
Executive,
Nutrition Services Coordinator,
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Moderator:

Nancy Bates, M.S., R.D.,
Regional WIC Nutritionist,
Midwest Regional Office,
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Chicago, IL

Surveillance Systems at CDC

—Ibrahim Parvanta

CDC defines surveillance as "the dynamic, close, continued watchfulness over the distribution and trends of the critical aspects of disease occurrence through a systematic collection, tabulation, analysis, and application of relevant data." The purpose of surveillance is to give a general idea of what is going on. If you are interested in finding out exactly the reasons for any changes, you need to do additional and more detailed studies, usually through surveys. Surveillance data can be used in needs assessment, program planning, patient care, quality assurance, and program evaluation.

Three Nutrition-Related Surveillance Systems

There are three nutrition-related surveillance systems at CDC. The first is the Behavioral Risk Factor Surveillance System, which is population-based. It uses nationwide random digit telephone dialing to ask a series of behavioral risk questions. New data are now being analyzed on fat consumption patterns and fruit and vegetable intake among the adult population.

The second is the Pregnancy Surveillance System (PNSS), in which the majority of the data come from the WIC Programs around the country. It is a program-based system as opposed to population-based. The same is true for the third, the Pediatric Nutrition Surveillance System (PedNSS), which includes data from WIC, EPSDT, and Head Start Programs.

Surveillance data is useful in program evaluation. For example, if there are breastfeeding promotion campaigns in your area, a surveillance system would indicate whether rates are going up or down or not changing at all. You can look at nutrition-related health problems in your population, such as anemia, obesity, short stature, etc., or look at health behaviors. In the PNSS, we study smoking and alcohol consumption patterns among pregnant women.

For patient care, you can identify individuals at risk through the system. You can also look at quality assurance issues by identifying how many errors are made in

measurements. And, of course, find training needs for your personnel.

When you use surveillance data, remember that it is a program-based sample—it is not a population-based, random sample—so you cannot generalize the data to all the population in your area or in your State. You can, however, generalize it to the population that you serve.

PedNSS

The objectives of the PedNSS are to promote the development and use of standardized pediatric surveillance methods and to monitor trends and prevalence of health and growth problems in children. This data is reported back from CDC to the States on a monthly, quarterly, and annual basis. We are considering reporting the data back semiannually, instead of quarterly.

The quarterly (or semiannual), and annual reports are summary data, while the monthly reports are about individual children by clinic. An example of the type of data that can be obtained through pediatric surveillance is low hemoglobin prevalence by ethnic group.

PNSS

The PNSS has similar objectives. It can monitor trends in the prevalence of prenatal and early infancy factors related to infant mortality and low birthweight. The whole purpose is to see if we can reduce low birthweight, which is the biggest risk with regard to infant morbidity and mortality. It collects information on hemoglobin and hematocrit, anemia, weight gain during pregnancy, and so on.

The CDC has funded 19 States with cooperative agreements that are like grants to implement pregnancy surveillance. Those of you who are interested may want to apply in a couple of years when the next cycle of funds becomes available.

An example of the information is entry into medical care by ethnic group during pregnancy. In the first trimester, it is only 30 percent. So 70 percent of the people are still not getting medical care early in pregnancy. Entry into WIC is only about 40 percent by the second trimester.

Exhibit A shows an increase in anemia (low hematology) in the third trimester as well as in the postpartum stage. Exhibit B shows smokers have the highest risk of producing low birthweight babies. According to exhibit C, at highest risk are those who start pregnancy in the later years, are very underweight, and smoke.

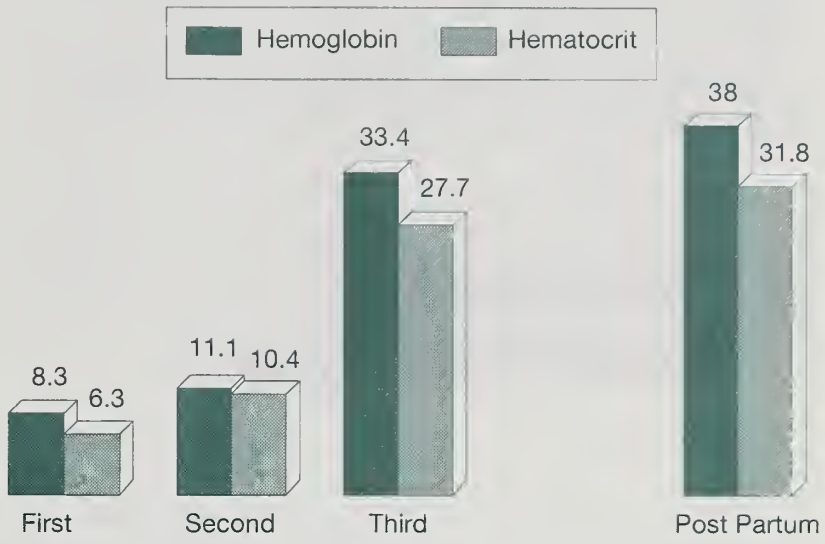
New Happenings at CDC Relative to WIC

CDC now has mainframe and PC computer software available for installation by States to do pediatric surveillance on their own.

The Division of Nutrition at CDC has been given a major responsibility in the development of a 10-year

EXHIBIT A

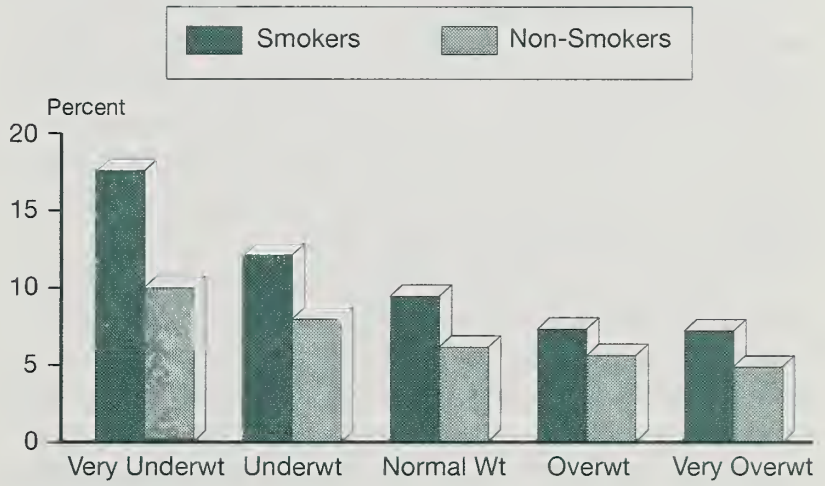
Percent Low Hematology (Anemia) by Trimester



Data from CDC/PNSS Table 7G

EXHIBIT B

Low Birthweight for Smokers and Non-smokers

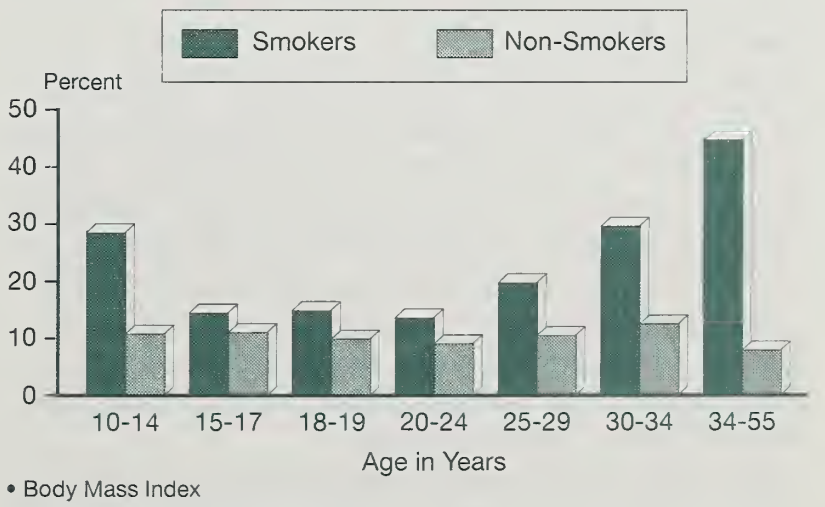


• Body Mass Index

Data from CDC/PNSS Table 10A-10B

EXHIBIT C

Low Birthweight by Age for Smokers and Non-smokers



• Body Mass Index

Data from CDC/PNSS Table 10

plan for the National Nutrition Monitoring System, which will include the Pediatrics and Pregnancy Surveillance Systems, with WIC as the major contributor of data into the system.

The Behavioral Risk Factor Surveillance System is collecting dietary information on fruit and vegetable consumption, fat consumption, and more.

The Arizona Surveillance System

—Karen Sell

The Arizona Surveillance System, which feeds data into both the Pregnancy and the Pediatric Nutrition Surveillance Systems of CDC, collects data on three different populations. Information from over 12,000 women, infants, and children in the Commodity Supplemental Food Program (CSFP) as well as from WIC are combined into our data base.

Currently, data is collected in 15 counties throughout Arizona. In 1989, Arizona began to look at data by the prevalence of the risk that was influencing the WIC and CSFP population. We found smoking among 20 percent of white participants, 20 percent of black participants, less than 10 percent of Hispanics, and essentially none among Native Americans.

Here's how Arizona uses the pregnancy risk factors identified by the Institute of Medicine committee to study and to prevent low birthweight. Social and demographic variables such as race, marital status, and medical conditions are used to identify behavioral and environmental factors and also the available health care services.

In 1989, Arizona restructured its pregnancy surveillance system to collect new fields of data, such as, when does mother receive prenatal care, who provides that care, and who pays for that care? We are using that information to monitor the Medicaid system in our State to get mothers into early prenatal care.

Sources of Data

When a client comes into a WIC clinic in Arizona, we screen that client for certification. We collect 105 fields of data at the initial interview, depending on the status type of individual that we are screening. We do height, weight, hematocrit or a hemoglobin (if the individual is over 6 months of age), blood pressure (on all children 3 years and older), and blood glucose (on a random sample of all children 2 years and older). We are currently, under State funding, collecting total cholesterol on all children 2 years and older.

We collect all of the fields required by the CDC data base on both alcohol and smoking. In addition, since 1972, we have collected data on the history of cardiovascular risk, the history of diabetes, and the prevalence of diabetes in the family. We also collect data on hemoglobin or hematocrit level, height and weight, and the prevalence of household smoking at the last visit before delivery. We found a higher prevalence of anemia when we used a HemoCue rather than a hematocrit analysis. So this year, we will go to HemoCue analysis in all WIC clinics.

We are documenting the need for services in specific rural areas, because of our surveillance of the population. We are also using it for accountability to the State for Federal allocations as well as State allocations. For the first time, the State of Arizona gave WIC a million dollars this year, because we showed that children are in need.

In addition, we use the data that is available to us on a monthly basis for quality assurance activities and surveillance of the clinics themselves.

This system only works if you do regional workshops to train every single worker on your data system.

Nutrition Surveillance in Illinois

—Merryjo H. Ware

How is CDC nutrition surveillance data used in Illinois? First of all, we have developed an *"Annual Summary of Nutrition Surveillance."* It is an 88-page report distributed through the Governor's office to the news media, private health care sector, local health agencies, volunteer agencies, and professional associations such as ADA, the American Public Health Association, the American Medical Association, and so forth. In addition, it is provided to USDA as well as to DHHS.

There are regular surveillance reports as part of a health report series which comes out of the governor's office.

We also put out a 2-page *"Data Highlights"* newsletter at least twice a year. One was on the new hemoglobin values and the use of those values within Illinois. Another was on low birthweight by pregravid weight and smoking status.

We also submit abstracts to professional associations for their annual meetings and publish data summaries in local, state, and national publications.

We have a designated staff person to coordinate nutrition surveillance projects and interventions. This person assures that nutrition surveillance is always on our agenda.

We also share data with other divisions within the Department of Public Health, other State agencies and Federal programs. The data is used in preparing our

WIC nutrition education plans and the State Human Services Plan. Our data results are simplified with graphs and tables, often specific to a particular clinic for our field visits.

Staff Training and Monitoring

We offer ongoing training on collecting and utilizing nutrition surveillance data. We train, and assist with interpretation of data, at quarterly meetings of local nutritionists. We have a State nutrition surveillance specialist who presents nutrition surveillance reports at all regional nutrition staff meetings. We identify any errors in monthly reports and do followup and training for corrections.

Our Illinois WIC Training Center has a standardized training program which emphasizes appropriate data collection, utilizing, monitoring and evaluating the information. We also monitor data collection during WIC site visits.

For more information, contact Chandana Nandi, Nutrition Surveillance Specialist, Illinois Department of Public Health, 535 W. Jefferson St., Springfield, IL 62761, (217) 782-2166. ■

Oral Health for Infants and Children

Speakers:

Thomas G. Salmon, D.D.S., M.S.,
Past Chair,
Dental Care Committee,
American Academy of Pediatric Dentistry,
Greenville, MS

Roslyn Bolzer, R.D.,
WIC Nutrition Coordinator,
Rosebud Sioux WIC Program,
Rosebud, SD

Barbara Carnahan, R.D.H., M.S.,
Assistant Chief,
Bureau of Dental Health,
Ohio Department of Health,
Columbus, OH

Moderator:

Delores E. Stewart, M.N.S., R.D.,
Regional WIC Nutritionist,
Mid-Atlantic Regional Office,
FNS, USDA,
Robbinsville, NJ

Preventing Baby Bottle Tooth Decay (BBTD)

—Thomas G. Salmon

Our academy is excited about the opportunity to work with WIC staff in trying to prevent BBTD, a disease that is extremely painful, debilitating, and very expensive to treat. Yet it needs no inoculation or medication to prevent it—just information!

The American Academy of Pediatric Dentistry has put together a slide and script series relating to BBTD that our volunteers can take to your State WIC meetings to provide the information that you need to present to your clients to stop this disease. It was primarily developed by David Johnsen, D.D.S., M.S., Chairman, Department of Pediatric Dentistry, Case Western Reserve University. Over 40 health organizations have also developed health education materials, pamphlets, and posters, videos, and slide series to try to get the information out to stop it.

Dental caries is an infectious disease caused by bacteria in combination with sugar which produce acid. BBTD is one form of dental caries. It is a feeding disorder that can be prevented by WIC staff who provide nutrition counseling.

BBTD Is Caused by the "Sleeptime Bottle"

BBTD happens when a child sleeps with a bottle containing anything but water. Any liquid that has sugar in it, such as milk, formula, juice, tea, or soda, can cause BBTD. When the child goes to sleep with a bottle containing a sugary liquid, the liquid pools around the upper front teeth causing them to decay. In about half the children, the molars also decay.

When the child is awake, the saliva flows, protecting the teeth. But when the child sleeps, the saliva stops flowing. If the parents would take the bottle away from the child before the child goes to sleep, we would never see BBTD. The worst thing the parent can do is put the child in bed with the bottle, but it also happens if the parent rocks the child to sleep sucking on a bottle. BBTD can even happen with a breastfed baby. The lactose in mother's milk causes the same problem that sucrose does. In the cases that I have seen, the child slept in bed with mother all night long and nursed at will.

BBTD is Painful and Expensive

Baby bottle tooth decay may not be evident right away. The decay can start on the backs of the teeth and be difficult to see at first. It will be light in color. BBTD usually occurs before the age of 2.

It can progress quickly, causing abscesses and discomfort. In many cases the infection is so severe it has eaten through the bone and pus is draining out through the gums.

BBTD is expensive to treat. Millions of dollars each year are spent correcting this particular disease process. Some children may have to be hospitalized. In addition, children who get BBTD are more likely to have decay on other teeth as they grow older.

Do parents know the cause of BBTD? A third of the parents of children with BBTD knew what would happen if they let their child go to sleep with a bottle, yet they allowed this practice anyway.

Prevention Through Education

How do we prevent BBTD? Fluoridated water cannot prevent BBTD. Health education is the only way. BBTD is totally preventable by discontinuing the sleeptime bottle. It is also important for caretakers to bring their infants in for the first dental exam by age 1. Prevention of BBTD is so much easier than treatment.

Nutritionists and other providers of WIC nutrition education can help prevent BBTD through counseling on feeding practices and followup reinforcement. The WIC Program has a crucial role because

- You have ready access to the target population, the caregivers for infants and young children.
- You see them at the perfect time.
- You have identification of at-risk children and the opportunity for behavioral contracting.
- You are health professionals delivering preventive protocols on a followup basis.
- You can reassess feeding practices and reinforce counseling recommendations at a followup visit.
- You can facilitate referrals to a pediatric dentist because WIC is integrated into the community health care system.
- You have national guidelines.
- You have nutrition as a central theme.

You should:

- Provide accurate information.
- Identify and confirm these children at risk.
- Engage the client in a self-assessment of feeding habits.
- Provide periodic reinforcement on preventing BBTD.
- Engage other health professionals, if necessary, in delivering BBTD messages to the client.

Preventing BBTD in South Dakota

—Roslyn Bolzer

The Rosebud Sioux WIC Program, which is on a small reservation in South Dakota, was involved in an experimental program implemented in 12 Native American communities aimed at the prevention of BBTD.

The intervention approach chosen at Rosebud was one-on-one counseling for the caretakers of the young children. Training material used included a booklet "Parents Helping Parents Stop Baby Bottle Tooth Decay," a special little packet to put baby pictures in, a handout "BBTD Does Not Have to Happen" (see Exhibit A), and posters that said:

"Growing up means using a cup."
"Love is putting your child to bed without the bottle."

We taught WIC caregivers the importance of weaning their infants at 12 months. WIC staff presented the BBTD prevention information to the community health workers of the reservation as well as to the Tribal Council. The staff also did BBTD prevention announcements over the radio.

Baby Picture "Bribes"

The Rosebud Sioux WIC staff spends a great deal of time teaching the importance of preventing BBTD. When the baby comes in at 6 weeks, we tell the mom, "When your baby is 6 months of age, bring her/him in. We want to take a picture." The picture is then put on display at the entrance to the WIC office.

Then we tell her, "When your baby is 1 year old, bring your baby back. We want to take that second picture. As soon as you wean your baby from the bottle, you get both pictures back free."

A Slide Show on BBTD

We had the booklet (see Exhibit A) about parents helping parents stop BBTD converted to slides and showed them at the senior citizens' site. The elders of our reservation are respected—children listen to the grandparents. We hoped that the grandmothers could help pass the word on to other people throughout the reservation.

The slide presentation makes the following points:

- How many Native American children have BBTD? Approximately 50 percent.
- BBTD causes pain, more cavities, ear and speech problems, crooked permanent teeth, and possible emotional problems.

- How does BBTD happen? By putting any of these in a bedtime bottle: milk, formula, Jello water, sugar water, juice, or soda pop. And letting the child walk around or sit with a bottle during the day.
- Can it be fixed? Only with stainless steel crowns or extractions of the teeth.
- BBTD does not have to happen. We can stop BBTD.
- If your child becomes attached to the bottle, it may be a difficult habit to break. Your child may cry or fight giving up the bottle.
- Suggestions include diluting the liquid you usually put in the bedtime bottle until there is only water. Use a pacifier. Do not dip the pacifier in honey, syrup, or anything sweet. Better yet, put your baby to bed without the bottle. Use a musical mobile. Hold or rock your child. Give a security blanket or a teddy bear. Give a back rub, sing, or play music.
- And trade the bottle for a cup at 1 year of age.
- Begin teaching your baby to drink from a cup at 6 months of age. Your child may need reassurance during the change from a bottle to a cup. It may be messy. But it is worth the effort.
- By age 12 months your child will prefer drinking from a cup. Hang in there! Your child will love learning a new skill.
- Remember: (see Exhibit B)

1. Put your child to bed without a bottle.
2. Do not let your child walk around or sit with a bottle during the day.
3. Trade the bottle for a cup at 1 year of age.

- It is up to all of us. Stop BBTD.

The Cost of BBTD

It has been estimated that the cost to treat BBTD is between $700 and $1,200 per child, depending on the severity of the case. If hospitalization is necessary, it can be twice as expensive.

Incidence Down from 41 to 22 Percent

In 1986, the Rosebud Sioux reservation had a prevalence of 41 percent of the children in Head Start with BBTD. By 1990, the incidence had dropped to 22 percent. We have proven that BBTD intervention does work.

Preventing BBTD in Ohio

—Barbara Carnahan

In 1987, the Ohio Department of Health was awarded a SPRANS grant. Our goals were to increase the number of children in Ohio served by BBTD prevention programs and to integrate the project into WIC and child health clinics around the State of Ohio.

We started in 12 demonstration sites by assessing the needs of both the caregivers who are served in these clinics, and the staff who counsel those caregivers. The information we collected helped us develop appropriate materials.

Four Components to the Program

We had four main components to our program:

1. To identify children at risk or to confirm that a child was at risk through discussions with the caregiver about feeding practices. It was important to engage the client in that self-assessment.
2. To provide accurate information about the disease.
3. To offer the client the opportunity to be a part of the prevention process through the use of a number of different educational materials.
4. To offer the use of behavioral contracting.

Materials Developed

We developed a flip chart with five pages that deliver the prenatal or newborn message to the caregiver, hopefully before the habit of giving the bedtime bottle has been established. It emphasizes to caregivers that their babies depend on them to prevent this disease.

We also developed two tear-off worksheets; one in the shape of a duck and another in the shape of a training cup. The front side of both worksheets outlines what the disease is and how it is caused. The back side of the duck-shaped worksheet has a place for the caregiver to sign her/his name as a commitment to prevent BBTD. "I will prevent baby bottle tooth decay by never giving my baby a sleeptime bottle." The health professional also signs it, and puts his or her phone number on it so that the parent can call if there are any questions. The back side of the training cup-shaped worksheet provides a place to insert a date for breaking the habit of using a sleeptime bottle. It also engages the caretaker in identifying a substitute for the bottle in helping the child go to sleep at night.

On some of the forms, we ask, "Who am I going to get to help me do this?" Because we know that it is not just the parent who is feeding that child—it may be the babysitter, the grandmother, or the neighbor. Often

those people are telling the parent, "I gave my baby a bottle at bedtime and it never caused any problems." It is important to realize that the network around that parent is critical to breaking the habit.

We have developed a refrigerator magnet that has a "Prevent BBTD" logo on it. We also put cup and duck stickers on charts when a caregiver is counseled about BBTD, so when that client comes back, the counselor can see that this topic was discussed and can provide reinforcement.

We plan on sending these materials to the MCH Clearinghouse to see if they want to include them in their catalogue of materials. They will also be available through our State agency.

Breaking the Habit

What if the caregiver says there have been times such as illness or teething when the baby has needed a bottle to fall asleep? We say, "Sometimes your baby will need extra comfort, but don't get tricked into giving the sleeptime bottle. Sometimes it will be hard not to give the bottle, especially if the baby is used to having one. But breaking the habit takes usually only a few days. You can teach your baby healthier ways of settling down to sleep, such as rocking the baby, or providing a pacifier, a blanket, or a teddy bear." ■

EXHIBIT A

What is Baby Bottle Tooth Decay?

- It is a serious dental disease.

How does it happen?

Your child could get Baby Bottle Tooth Decay:

- If you give your child a bedtime bottle with juice, soda pop, sugar water, milk or formula . . .

  OR

- If you let your child walk around or sit with a bottle during the day.

Baby Bottle Tooth Decay causes:

- Pain
- Many cavities
- Crooked permanent teeth
- Ear and speech problems
- Possible emotional problems

Baby Bottle Tooth Decay does not have to happen!

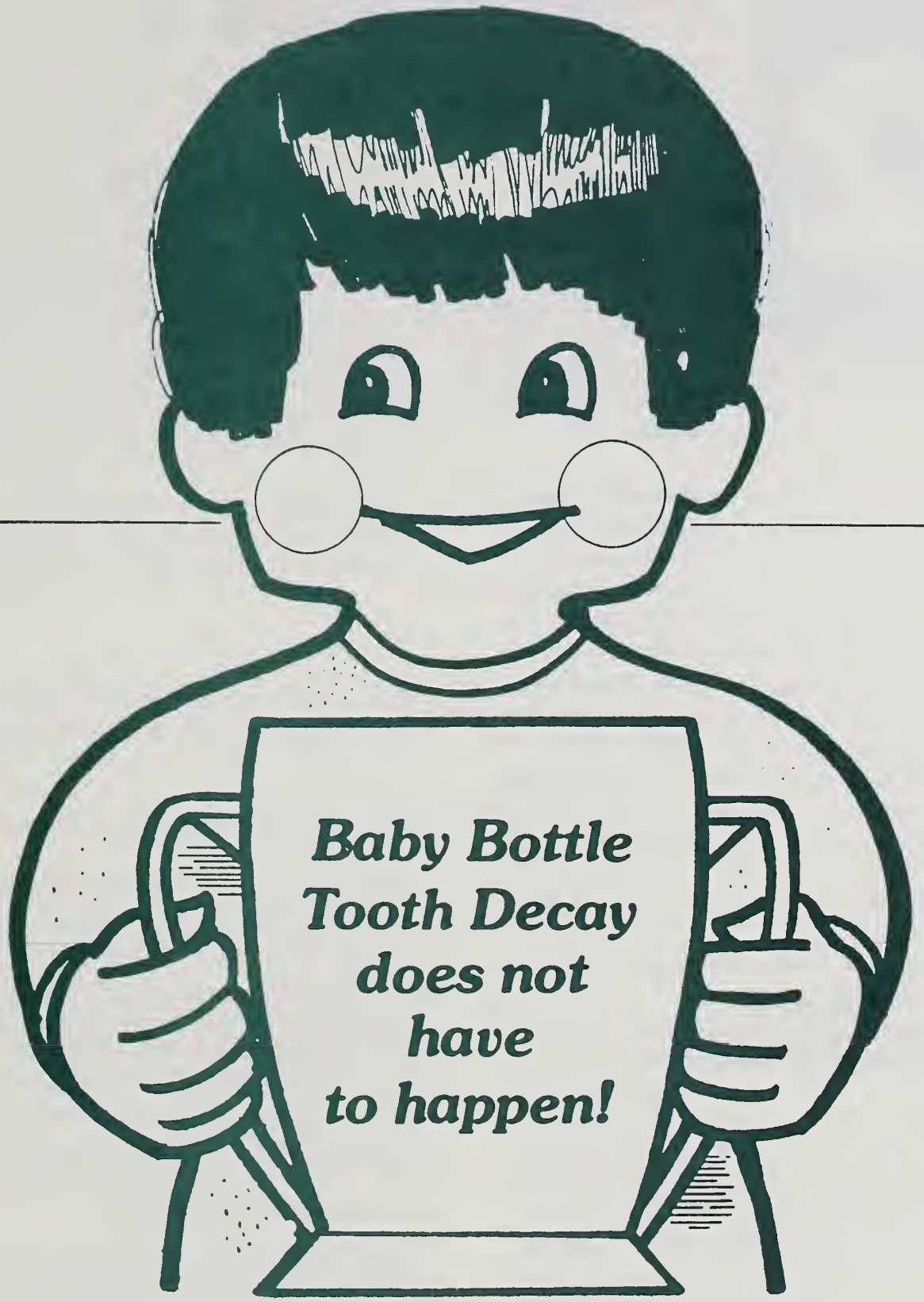
If your child has become attached to the bottle, it may be a difficult habit to break. Your child may cry or fight giving up the bottle. Here are some suggestions:

- Dilute the liquid you usually put in the bedtime bottle until there is only water.
- Use a pacifier. DO NOT dip the pacifier in honey, syrup, or anything sweet.

Better yet—put your child to bed without a bottle. Here are six ways:

- Give a security blanket or a teddy bear.
- Sing or play music.
- Hold or rock your child.
- Give a back rub.
- Use an infant swing or musical mobile.
- Read or tell a story.

Trade the bottle for a cup by one year of age. Begin teaching your baby to drink from a cup at 6 months of age. It may be messy, but it is worth the effort. Praise your child and make it a sharing time. Your child will love learning a new skill. By age 12 months, your child will prefer drinking from a cup.



Baby Bottle Tooth Decay does not have to happen!

- Put your child to bed without a bottle.
- Do not let your child walk around or sit with a bottle during the day.
- Trade the bottle for a cup by 1 year of age.

You can make a difference! Parents and Grandparents can stop Baby Bottle Tooth Decay. It's up to all of us!

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES • Office of Human Development Services • Administration for Children, Youth and Families • Head Start Bureau
Public Health Service • Indian Health Service • Centers for Disease Control

Promoting Access to Immunization

Speakers:

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Moderator:

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Why We Have a Measles Epidemic

—James W. Mize

Vaccination has two effects: First, the people who have been vaccinated are immune and are not likely to become infected; second, the indirect effect is that unvaccinated people who are not in direct contact with the one infected case, are shielded by the vaccinated people, and are unlikely to get the disease. It is a concept we refer to as herd immunity. If you get enough people vaccinated, the virus simply can't continue to be transmitted.

Exhibit A shows how vaccines in the United States have produced incredible drops in the numbers of reported cases. Today, our problem with measles is not among school-aged children. Because vaccinations are required for children to enter school, people have started to think that vaccines are not needed until children are school-aged.

Exhibit B shows what has happened with measles since the vaccine was licensed back in 1963. Starting in 1989, there was a dramatic increase, with most cases occurring among preschool-age children, as shown in exhibit C. Some cases occurred among children who were in school, who were vaccinated, but were vaccine failures. There is a 5-percent vaccine failure rate with almost every vaccine; however, that can be overcome if you vaccinate most children less than 5 years old.

Low Rates of Vaccination

If vaccinated levels for 2-year olds drop much below 80 percent, it is not a question of whether you are going to have an outbreak of measles, it is a question of when. In most inner cities, vaccination rates have dropped below 80 percent. In Jersey City, NJ, the rate is only 50 percent. Vaccination is also low among black and Hispanic children, as shown by data from Chicago in exhibit D. Eighty percent of white children get their measles vaccine by 24 months of age, in comparison with about 50 percent for black and Hispanic children.

The risk factors correlated with not receiving vaccines on schedule include low-education level, large family size, low socio-economic status, nonwhite race, public clinic attendees, young parental age, single parents, lack of prenatal care, and late start of the immunization series.

Missed Opportunities and Barriers

We see two major issues: missed opportunities and barriers. A missed opportunity is when a child comes into a public health department, and vaccines are indicated, but the public health nurse or doctor does not give every needed vaccine at once. Instead, they give one vaccination and say, "Why don't you come back in a few weeks and get the rest?"

Another missed opportunity, which pertains directly to WIC, is when a child seeks other health care services, but nobody assesses for vaccinations or vaccinates. We found many children with measles had been enrolled in various Federal assistance programs. From 25 to 61 percent were enrolled in WIC within the last 6 months before their infection. So, WIC children are getting sick and dying from measles.

The barriers to immunization in public health facilities include not enough staff to assess and vaccinate children, not enough hours, and improper or inadequate clinic locations.

Conclusions

All this information was reviewed by the National Advisory Committee on Immunization. Their conclusions follow:

- The measles epidemic is caused by the failure to vaccinate.
- The health care system itself bears much responsibility for low vaccination coverage, referring to the missed opportunities and barriers I just mentioned.
- Measles may be an early warning of other problems with vaccine-preventable diseases. Will we see diphtheria or polio raise their ugly heads again?

The Committee's recommendations to improve the availability and delivery of vaccines include

- Expanded infrastructure, which means more clinic staff, more locations, more hours.
- Insurance coverage of vaccinations, since insurance currently does not cover vaccines.
- Medicaid linkage, to assess coverage of clients and vaccinate if necessary.
- Outreach to those at risk.
- Minimum standards of immunization practice.
- Interagency coordination.
- WIC and AFDC coordination with immunization programs.
- Private sector collaboration.
- Day care vaccination requirements.
- Ongoing measurement of immunization status in the population.
- Full implementation of the two dose measles, mumps, rubella (MMR) schedule.
- Rotating funds for outbreak control.
- Operational research.
- Measles laboratory and epidemiologic research, including rapid diagnosis, measurement of immunity, analysis of disease and vaccine strains, and vaccines for very young infants.

Testing Vaccination Strategies in Texas

—Debra C. Stabeno

Texas WIC has been working on a vaccination project in cooperation with the Immunization Division of the Texas Department of Health. Because we are in the formation stages, I can't report results, but I can share aims, methodologies, and strategies.

Measles cases increased in Dallas from 279 in 1989 to 1,896 in 1990, with about 52 percent of the cases in children under age 5. Nine people died in 1990. The CDC study found that 41 percent of the reported cases in unvaccinated preschoolers in Dallas were currently or recently enrolled in the WIC Program. That was quite devastating for us.

Currently, most Texas WIC clinics are doing the following:

- Making referrals for immunization during WIC visits.
- Encouraging WIC participants to bring their immunization records to their WIC appointments for evaluation.
- Including in our nutrition education classes a sales pitch about the importance of immunization.
- Showing videotapes on immunization. Our Immunization Division purchased over 300 videotapes in both Spanish and English for distribution at our larger WIC clinics in Texas.

You may have noticed that I didn't say anything about WIC staff providing immunizations. This is because WIC administrative funds cannot be used to purchase vaccines or to provide immunizations. WIC funds, however, can be used for assessment of immunization status and to provide referrals to immunization services. In addition, immunization staff can be housed in WIC clinics, as long as there is no significant extra cost to WIC.

Four Different Strategies in Dallas

Our project in Dallas uses four different WIC sites to compare four strategies for immunizing children. We have deliberately chosen strategies that are cost-effective and affordable.

1. Restrict food vouchers to 1 month—if a participant fails to bring immunization records to the clinic or is not current with immunizations, food vouchers will be restricted to 1-month issuance rather than the customary 2-month issuance in Texas.
2. Provide onsite immunization, with an immunization nurse stationed in the WIC clinic to administer vaccines to WIC children and their siblings.
3. Make passive referrals – recommend that participants go to public health care clinics or to their own physicians to obtain vaccines.
4. Provide education – participants in all sites receive a standardized educational component that emphasizes both the availability and the advisability of immunizations.

Our hypothesis is that WIC clients are more likely to obtain adequate immunizations if immunizations are provided without barriers, and food voucher restrictions are used as a motivation to obtain the recommended vaccines. Our measurement tools will:

1. Determine the proportion of WIC participating preschoolers eligible for immunizations who have neither been vaccinated nor had the measles.
2. Determine the proportion of these children with valid contraindications for vaccines at the time of their clinic visit.

Demonstration Site Activities

By December 1992, we hope to determine what proportion of the vaccine-eligible children are fully current with their immunizations. Also, by that date, we plan to assess the effect of the different strategies at the different sites. The demonstration site activities will involve the following:

1. Each client will rotate through an immunization clerk as part of the routine WIC visit.
2. The clerks will record the immunization history at initial enrollment in the study and update the data as needed. They will enter the immunization status on laptop computers, using the CDC Chicago software module.
3. At two of the sites, food voucher issuance will be restricted if immunization records are not presented or if the immunizations are not up-to-date. It will be an inconvenience in that WIC participants must come back to the clinics every month for their food vouchers until they can bring their status up-to-date.
4. We are going to actively encourage mothers to bring all of their children, not just WIC participants, to the clinics for card pickup and nutrition education.
5. Non-WIC siblings will also have their immunization status checked and, depending on the site, we will either send them for immediate vaccination or make a referral.
6. Two of the sites will have an immunization nurse located on the premises.
7. We will encourage participants to bring their immunization records to all their WIC appointments. We are going to have a mass mailing this November and December in Dallas to alert participants that they should bring their immunization records to the WIC visit.
8. The project will promote immunizations aggressively during WIC nutrition education sessions. Media will include our instructors, videos, flyers, posters, reminder notices, reminder stickers on ID cards, etc.

Economics has been defined as "the collision between unlimited wants and limited resources." Our evaluation will analyze the cost effectiveness of different strategies, as well as their effects on raising immunization levels. Using an enrollment form modified from New York City, we will capture demographic data and other pertinent characteristics about the population we serve.

Successful San Antonio Project

A different immunization initiative in Texas is being conducted by the San Antonio Metropolitan Health District through a grant from CDC. They are also using four sites:

1. The first location is a control site in which existing WIC procedures are not changed in any way.
2. The second location involves no personal contact. The immunization staff cross reference the Metropolitan Health District's master files to determine the immunization status of WIC participants, and then send a personal letter.
3. At the third location, WIC staff conduct immunization referral and screening onsite as part of the WIC certification visit.
4. At the fourth location, immunization staff perform immunization screening, and offer and administer vaccines to WIC participants while they are waiting for their food vouchers.

The San Antonio project is not using food voucher restriction in any of their sites. So far, their results are exciting. At the maximum intervention site, compliance has risen from 45 to 70 percent. At that site, the San Antonio project uses what they call outreach screening, where immunization staff approach WIC participants in the waiting area, offer to do screening, and then offer immunization if needed.

While immunization staff are careful not to cause anyone to lose place in line, they found that it took about 3 months to establish a level of trust with the WIC clientele. They have also found that the presence of onsite immunization doesn't automatically mean that parents will permit their children to be vaccinated. Existing health care belief systems and trust play a major role.

Local initiatives and grassroots activities can also do a lot to get preschoolers vaccinated. Exhibit E is a list from local agencies and WIC clinics in Texas of ways they suggest to improve immunization rates.

Dealing with the Measles Epidemic in New York City

—Mary Warr Cowans

Efforts by the New York State WIC Program to integrate immunization into WIC services began a year ago when 1,800 confirmed and suspected cases of measles were reported to the New York City Health Department. This was the largest epidemic in New York in the last 10 years. The data showed that 97 percent of those cases involved black and Hispanic children, that 65 percent were children less than 5 years of age, and that 80 percent of the preschool measles cases involved children who had never been vaccinated.

As a result, WIC clinics and hospitals were identified as strategic locations for control and prevention of measles. This was based on data indicating that 90 percent of the cases in New York had been seen recently in a hospital emergency or outpatient department, and that 58 percent of the cases had had some recent contact with a WIC clinic, at a time when they could have been vaccinated.

One of our first activities was developing a WIC Immunization Action Plan which outlined specific activities and responsibilities. This allowed us to gain upper management approval prior to embarking on the effort.

Five Dollar Bonus for Each Child Immunized

One of the components of Phase I, which we called the Epidemic Response, was a bonus program which offered WIC providers a $5 incentive for each child immunized through WIC efforts, including siblings of WIC children.

Another component was to place public health nurses at nine WIC sites, which were not physically colocated with medical facilities, to facilitate same-day onsite immunization.

We also revised our local agency policies and procedures to require all local agencies in New York City to screen and determine the immunization status of every child seen in those clinics and either refer them for or provide them with needed immunizations.

Major Press Conferences

To gain support for and to publicize these activities, press conferences were held involving the State Department of Health, the City Department of Health, the Health and Hospital Corporation, and the New York Hospital Association. In addition, letters were sent out to all hospital administrators and all WIC programs enlisting their support for our campaign.

We met with and provided training to all of our WIC providers. We also met with the New York City Health Department and hospital corporation agencies. They were not, unfortunately, able to participate in the $5 bonus program, but they were able to receive free vaccine and, in some cases, free supplies and materials as needed.

In order for us to determine the agencies' success with this initiative, we implemented a weekly reporting mechanism in which the agencies reported, to our regional office in New York City, the number of children that they had seen during the week, and the number who were immunized or referred for services.

Simultaneously, State staff went out to over 75 sites during a 3-week period to monitor the initiative. The monitoring was very successful in making sure that people at the grassroots level were prepared to handle questions and serve clients in the manner that we had designed.

Warning Notices to 150,000 WIC Families

We also sent out warning notices directly to 150,000 WIC families, stating that they needed to have their children immunized immediately. We made 300,000 measles alert notices available to local agencies and enlisted the support of many community organizations, particularly in black and Hispanic communities to provide door-to-door distribution. We dis-

tributed 5,000 measles warning posters for waiting rooms and clinics.

We asked 2,000 vendors to post materials in their stores and to let WIC clients and other clients know about the measles epidemic. We developed several public service announcements for radio, TV, and newspapers, primarily targeted to black and Hispanic communities. Opera star Placido Domingo donated his services for one of them.

We also developed a sticker which was affixed to a medical referral form for health care providers to record the dates of measles immunization. This was helpful to us in easily distinguishing those children that were appropriately immunized from those who were not.

As a result of all of these activities, over 95,000 children were screened through WIC efforts in 3 months. Of the 8,394 children who were determined to be in need of a vaccine, 3,212 were immunized through WIC efforts, either through public health nurses or the escort system, and 4,371 were referred to their own health care provider for immunization.

Phase I ended in New York City on November 30, 1990. We are now in Phase II activities which include the following Statewide policies:

- All local WIC agencies throughout the State are required to screen children aged 1 to 5 for their immunization status at certification.
- Proof of measles immunization, including dates, must be presented at certification and documented in the participant's file.

Currently, all programs are involved in this activity of screening, referring and immunizing children at the time of certification. We have developed a computer tracking system so that agencies can report to us the numbers of children who were appropriately immunized or who were referred for immunization.

Project Testing Three Models of Intervention

In addition, we are currently involved in a CDC pilot project in New York City, similar to the Texas design, in which we are testing three models of immunization intervention:

1. The first model is the General Referral model in which all WIC programs are currently involved. This involves screening at certification. Those clients determined to be in need of a vaccination are referred to their own health care provider for immunization. They are asked to bring proof of immunization at the next check pickup.
2. The second model is Monthly Check Issuance. If children determined to be in need of immunization are considered high risk, we ask them to return monthly instead of bimonthly, until they are able to provide adequate proof of immunization.
3. The third model is the Escort System, where children determined to be in need of immunization are actually escorted down to the pediatric clinic area where the child receives the shot immediately.

We are about 5 months into this pilot project. The preliminary data shows what we expected: the escort and the check incentive models appear to be more effective. We expect definitive results of this project in January 1992. Exhibit A Comparison of Maximum and Current Morbidity for Vaccine-Preventable Disease Exhibit B Measles, by Year, in the United States Exhibit C Age-Specific Measles Incidence Exhibit D Age Vaccinated Against Measles by Race, Chicago. ■

EXHIBIT A

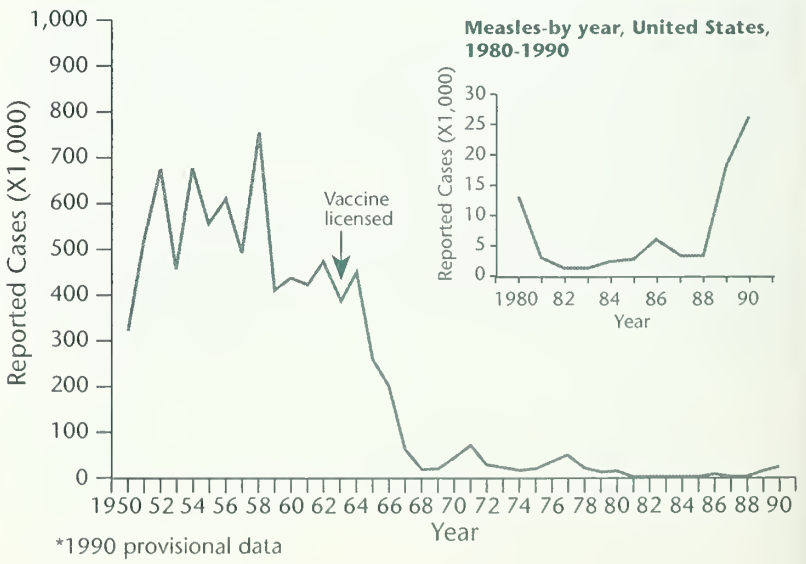
Comparison of Maximum and Current Morbidity Vaccine-Preventable Disease

	Maximum cases (Year)	1990 (Provisions)	Percent Change
Diphtheria	206,939 (1921)	4	-99.99
Measles	894,134 (1941)	26,520	-97.03
Mumps	152,209 (1968)	5,075	-96.67
Pertussis	265,269 (1934)	4,188	-98.42
Polio (paralytic)	21,269 (1952)	0*	-99.99
Rubella	57,686 (1969)	1,093	-98.11
CRS	20,000 (1964-5)	9	-99.96
Tetanus	601 (1948)	60	-90.02

* Six suspected cases under investigation

EXHIBIT B

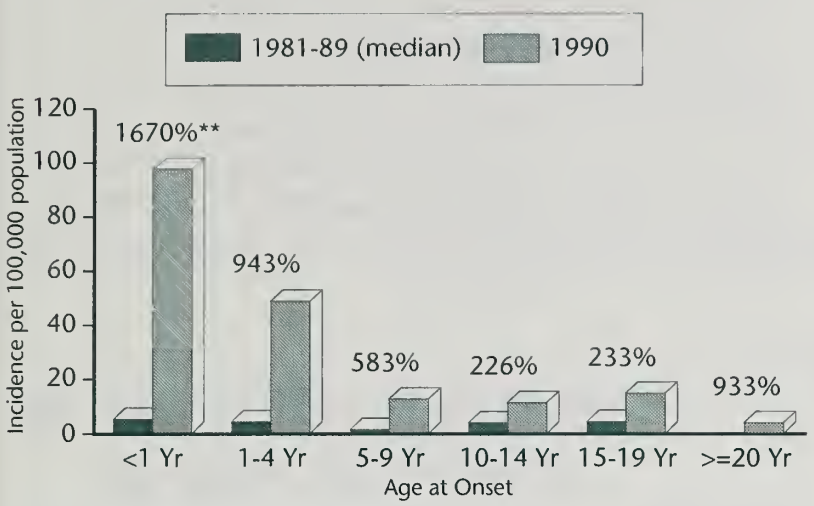
Measles-by year, United States, 1950-1990*



*1990 provisional data

EXHIBIT C

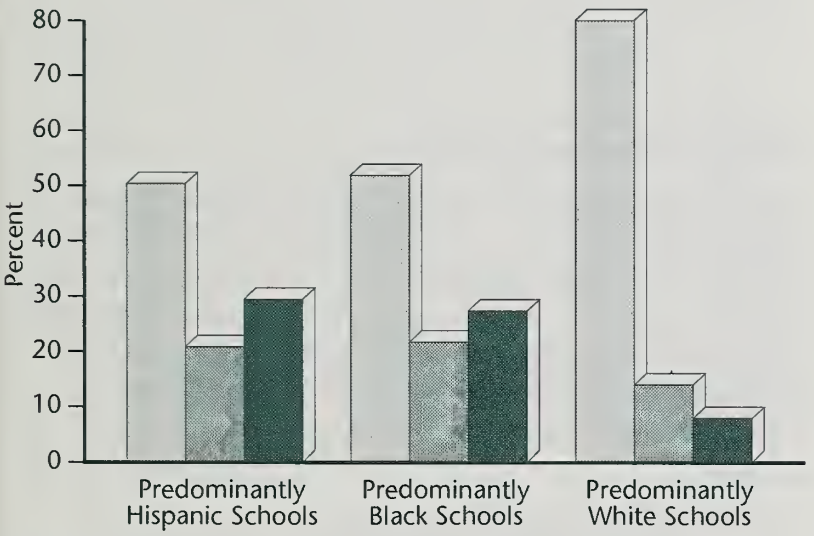
Age-Specific Measles Incidence—United States 1981-1989 and 1990*



* Provisional 1990 data through week 51
** Percent increase

EXHIBIT D

Age Vaccinated Against Measles by Race, City of Chicago, March 1990



Source: School-based retrospective review of vaccination record.
Adopted from reference 9

EXHIBIT E

Texas Department of Health

Wic Local Agency Tips for Increasing Immunization Percentages

- Written referrals far more effective than verbal referrals.
- Ask moms to bring vaccination records with them to appointment.
- Be sure to ask "Do you have your shot record with you?" Then have their immunization status reviewed as a routine part of the certification process. All who need immunizations should be referred.
- At clinic visits, check to see if immunization shot series are continuing normally. If so, positively reinforce parent (say "good!"), and continue with regular WIC sequence. If not current, refer participants to immunization clinic.
- When immunizations are available in the WIC clinic, you can fit immunization into the natural rhythm of the card issuance process by telling participants something like "you might as well go and get your shots now, as it will be a few minutes before your cards will be ready."
- Have immunization division personnel give inservice training to WIC staff, showing them how to read immunization cards, etc.
- Best results are obtained when immunization staff are on site at the WIC clinic.
- "One stop shopping" is important to clients, especially in a rural setting where transportation is frequently cited as a problem.
- Encourage mothers to bring children on class days.
- Be sure nurses are available to give immunizations on Nutrition Education class days, as most moms bring children along to class.
- Showing the immunization videotape in WIC clinics frequently (creating an immunization awareness "blitz") results in increased immunization percentages. More recent availability of Spanish language version of immunization video is expected to have a strong effect in Texas.
- Showing immunization videos out in the waiting area during "wait time" before appointments seems quite effective. Consider producing a child oriented video (animated or with puppets, etc.) to inform and assure children and amuse/occupy them in the waiting area.
- Give out an immunization pamphlet to each new baby enrolled in WIC Program. Also give a written referral for well baby checkup and immunization for each new baby enrolled.

Quality Assurance

Speakers:

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Moderator:

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The Concept of Continuous Quality Improvement

—Gaye Joyner

The philosophy of quality improvement must extend throughout the organization. It should not be limited to just the WIC Program or Medicaid, but cover the whole organization and any cross-over systems.

Quality assurance is being replaced by the concept of continuous quality improvement, which provides a much broader definition of quality—it looks at all aspects of the health care encounter: services, amenities, reliability, etc. It is based on industry-developed quality management principles.

The exhibit, *"References Related to Quality Assurance and Quality Improvement Issues,"* has 17 important reference articles. Number 7 on this list is an article providing an overview of an *"Agenda for Change"* from the Joint Commission on Accreditation of Hospitals. The concept of continuous quality improvement is woven in throughout the article. Another helpful reference (number 2 on the list) is *"Curing Health Care: New Strategies for Quality Improvement,"* a report on the National Demonstration Project on Quality Improvement in Health Care.

Prospective Quality Design

Continuous quality improvement means turning an entire organization's energies into the never-ending pursuit of continual improvement. It is built from the foundation of the positive aspects of quality assurance, but seeks to redirect the focus of the organization's attention to quality of care issues. It shifts the focus from after-the-fact inspection to prospective quality design.

Organizational systems are broken down into discreet multidepartmental processes, and opportunities for improvement are identified. Multidisciplinary quality management teams analyze opportunities for redesign. They might look at patient flow, information flow, systems flow, and their interrelationships. They look at the root causes of variation in performance. The main source of quality defects are problems in the process, not in the people.

Customer-Processor-Supplier Relationships

The concept of triple roles is that at different times each of us is the "customer," the "processor," or the "supplier." Let's say a clerk sends something to you. You are a customer because you receive input. Then you are the processor because you take action on it. Then you are the supplier as you pass it on to another employee or to the patient. Sound customer-processor-

supplier relationships are necessary to quality management. We must be customer-centered or, in our case, client-centered.

Another principle is, "Do it right the first time." Otherwise, it has to be redone, which is costly. An important term is, "joy in work." When employees are involved in the improvement process and see that the agency is working to fix the problem, not fix blame, they are more satisfied.

Remember the three components: quality management, quality planning, and continuous improvement.

The USDA Nutrition Quality Standards

—Loretta W. Miller

The "focus on management" concept was developed at USDA in Washington about 1984. Three areas of the WIC Program were considered for improvement: caseload management, vendor management, and administrative cost management. Several committees worked with USDA to develop standards which were presented at the NAWD meeting in 1986 in Jackson, WY.

The nutrition services coordinators expressed concern that there was no mention of nutrition services standards. So a committee representing BBTD, NAWD, DHHS, and ASTPHND developed nutrition services standards in early 1988. They have become widely accepted benchmarks for assessing the quality of WIC nutrition services.

Each of the 12 nutrition services standards has a set of measurement criteria. They are primarily process and structure criteria rather than outcome criteria. The standards addressed:

- Nutrition/health assessment and risk criteria.
- Nutrition education.
- Nutrition services plans.
- Qualifications for nutrition services staff.
- Staff training.
- Supplemental foods and food packages.

Purposes of the Standards

The set of standards has several purposes:

- Identifies areas of WIC Program operations which are within the scope of nutrition-related services.
- Serves as a tool for State WIC directors and nutrition services coordinators to evaluate the quality of nutrition services in their programs.
- Provides a basis for improving nutrition services in the WIC Program.

States should use the standards for:

- Periodic self-evaluation.
- As a basis for planning.
- To develop standards of service and State and local policies.
- To improve the quality of nutrition services provided to Program participants.

Results in Pennsylvania

In Pennsylvania, we saw we already met 7 of the 12 standards. We identified the areas we needed to work on and formed some working committees. Our accomplishments include:

- Development of statewide high-risk criteria.
- Preparation of technical documentation for all nutritional risks.
- Development of statewide dietary assessment forms.
- Establishment of desired staff-participant ratios.
- Accomplishment of patient flow analysis.
- Later in 1991, we will be contributing to the PNSS. We plan to develop some training standards, including minimum training plans and strategies, particularly for paraprofessionals.

Application of the Standards in North Dakota

—Karen J. Oby

When we first got the standards, we evaluated our own State's WIC Program for each of the criteria. We identified the areas where we needed to improve. We knew we could not meet all standards within a year or two, so we selected the ones we could realistically work on over the next 2 years.

We included them in the nutrition objectives for the annual State plan. The next year we reviewed our progress and decided if we could proceed to others. Each State is in a different point in the standards. We want to emphasize that you do not have to report progress on these standards to the Federal office.

When we set the standards, we did not want to simply repeat the WIC regulations. Nor did we want the standards to be established at such a low level that everyone would achieve them without any effort. These standards are meant to represent ultimate, highly desirable program goals that may take a considerable time to achieve. In addition, the standards are intended to be used as an ongoing tool for self-assessment. Sometimes a WIC Program may meet a standard

at a particular time, but, because of additional responsibilities, fail to meet the same standard later.

Results in North Dakota

We have:

- Developed job descriptions for all the WIC staff.
- Developed a tool for evaluating nutrition education materials.
- Developed written policies on the food package criteria, which has made it easier to respond to requests from the food companies. We now have just one time each year when we change the food lists. So all the companies have to submit their materials to the State by a certain date for our review. ■

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References Related to Quality Assurance and Quality Improvement Issues

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August 1991

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Screening and Referrals for Alcohol and Other Drug Use

Speaker:

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Moderator:

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Donna Skoda

Use and abuse of drugs occurs more frequently than we realize. It has been estimated that about 60 percent of all pregnant women use some kind of drug during pregnancy, mostly over-the-counter medications such as Tylenol, antacids, etc. However, it is estimated that about 11 to 24 percent of those women use illicit drugs, such as cocaine, heroin, and marijuana.

It is also estimated by age 28, 40 percent of the population have tried cocaine. The 1-800-COCAINE data indicate about 20 percent of all pregnant women have tried cocaine. (There is a common, but erroneous belief that cocaine will induce a spontaneous abortion. So if drug users find themselves pregnant, they may try to use enough cocaine to cause an abortion.)

Effects of Drugs

Fetal complications of cocaine can include intrauterine growth retardation, congenital cardiac anomalies, urogenital malformations, low birthweight, and behavior disorders. After birth, mothers complain that their kids are cranky, they have feeding problems, a prolonged high pitched cry, inability to sleep, trouble breathing, vomiting, fever, and tremors. These children also experience a higher incidence of SIDS (sudden infant death syndrome), and intraventricular hemorrhages. Beyond 6 months, these children have more behavioral disorders, attention deficit disorder and hyperactivity, compounded with learning disabilities.

For the mother, the effects of drug use include euphoric feelings, paranoia, psychosis, and severe depression.

The Perinatal Center for Chemical Dependency at Northwestern Medical University compared three groups of women: those that stopped using drugs during the first trimester of pregnancy, those that kept using drugs, and those who had no drug history. The mean birthweight, length, and head circumference for full term infants was reduced only in the mothers that kept using drugs throughout pregnancy. So if we can get these women to stop using drugs early in their pregnancies, there is a chance for better outcome.

Identifying Drug Users

I categorize drug users into three groups. The first group are recreational drug abusers. They are capable of continuing recreational abuse without ever showing anyone that they do drugs. They may go through an entire pregnancy without you knowing that they have done anything.

There are, however, some specific signs of drug use you can look for. Does a pregnant woman show inconsistent weight gain during the pregnancy? If she is continuously gaining and losing weight (without any nausea, vomiting, emotional strife, or other issues in her life you can relate it to), you should start to wonder about drugs. Does she appear exhausted, unconcerned, pretty depressed about being pregnant? Is there a constant misuse of resources, homelessness, or losing coupons? If you hear those stories over and over again from the same person, you should question what she is doing.

You can also look for physical symptoms. Are her pupils dilated or constricted? Does the weight gain coincide with the gestational age? Are there any signs of track marks, ischemia, or abscesses on her body? Does she show continuous signs of blood pressure changes? You will get an elevated 1-hour postprandial glucose tolerance test if she is doing a lot of cocaine.

Sometimes you can see very peculiar scars which are usually an attempt to disguise needle marks. Also she may have burns to the hands and lips from crack. She can be jaundiced. She may be drowsy. If she is in between fixes, she will be itching a lot, very nervous, very fidgety.

Another group of drug-using women are those who avoid any sort of prenatal care like the plague. If we do see them, we see them at 36 weeks or more of pregnancy. They often have a venereal or pelvic disease. Many times they have tattoos or self-scarring to disguise needle marks.

How do we reach them early in their pregnancy? The Maternity and Infant Health Care Project has a group of 18 women who go door-to-door to find pregnant women. If they are not receiving care, the effort is made to get them to one of our facilities.

Then there is a third group of women that will tell you, "Yes, I have done drugs during my pregnancy." At that point you should ask, "What kind of drugs have you used? We are interested in all the drugs you have used during your pregnancy, not just street drugs." I always start out interviews with, "Do you use any over-the-counter drugs, such as Tylenol or a cough syrup? Any prescribed medications? Are you under a physician's care for diabetes, heart disease, liver problems?"

And then I ask about illicit drugs, cocaine, crack, marijuana. Find out when she did it, how much, and the method of use. Method of use is important because somebody who uses IV needles, as compared to snorting cocaine, is much more committed to the drug habit, because she has advanced to the needle level.

Ask these questions in a very nonthreatening manner. Let her know that your intent is not to call the police. You have to feel comfortable with your own attitudes and not communicate judgement. You also have to deal with cultural sensitivity.

Treatment Approaches

The treatment approach that is most often used includes a multidisciplinary team, with a physician, a nurse, a social worker, a psychologist, dieticians, nutritionists, visiting nurses—all sharing in a treatment plan. The major goal is to stop the abuse as quickly as possible. Counseling should begin in the first trimester of pregnancy.

First and foremost is addressing the motivation level. If she doesn't want to stop doing drugs, she isn't going to. If she is ready to stop, you can refer her to outpatient treatment. There is a lot of organized treatment through Narcotics Anonymous (NA), Alcoholics Anonymous (AA), and other agencies. You can also try inpatient counseling at hospitals, clinics, or drug treatment centers. You can also refer her to a church or another private group, such as the Salvation Army or the Quaker church And there is also referral for psychiatric care or counseling.

The problem with residential treatment centers is they often use sedatives during detox, which could harm the fetus. Detox is also very dangerous—there are people who have died during drug detox. Another problem is the treatment centers want "success cases." So it is standard procedure to brief drug clients on what they should and should not say during the interview at the center. Be careful what center you refer them to. If it is not an exemplary drug center, it could be a bad experience and they won't be back.

I have never known anybody who chose only one drug and stayed with one drug, other than maybe alcohol. If a cocaine user tells you she doesn't do anything else but cocaine, she is probably lying to you because she needs something, such as alcohol, to come down off cocaine. Have realistic expectations. If you are asking her to give up cocaine and alcohol, don't expect her to stop smoking the same week.

Also, they can just stop on their own. I have seen plenty of people quit using drugs. They just decided to stop using them.

Remember, drug users respond much more to kindness and genuine caring than to criticism.

Maintaining Confidentiality

Confidentiality is a big issue, which I would never violate, either as a health care professional or just as another human being. The Privacy Act means you can't mail a letter, you can't talk to anybody, you can't ask any questions of any referral you ever make unless the person for whom you are making the referral signs a written consent. Without a release, it is illegal to call up the drug center to which you referred that person and say, "I would like to find out how Jane Doe is doing."

You should never ask a patient to sign a blanket release that says, "I can find out anything I want about you any time I want." The courts do not like that. You should date the release for a specific period—no longer than 90 days—and it should specify the agency to which you are referring the person. And the patient has the right at any time to rescind the release. A sample release is shown in the following exhibit. ■

Exhibit

MEDICAL INFORMATION PERMIT

To: _____

_____

_____

You are hereby authorized to allow _____

_____

_____

(name of person, organization to which disclosure is to be made)

to review and/or make a copy of my entire medical record and/or psychiatric, drug abuse or alcoholic problem-related records, pursuant to the Privacy Act of 1974 and applicable Federal and State Laws, for the purpose of _____

_____

_____

Specific information to be released: _____

_____

Time period for which authorization is valid: _____ 90days

_____

(Specify date, event or condition after which this authorization may no longer be used not to exceed one (1) year from the date of this authorization)

_____ _____

Date: *Signed:*

_____ _____

Patient's name: *Authorized representative*
Please state relationship

Unit number: _____

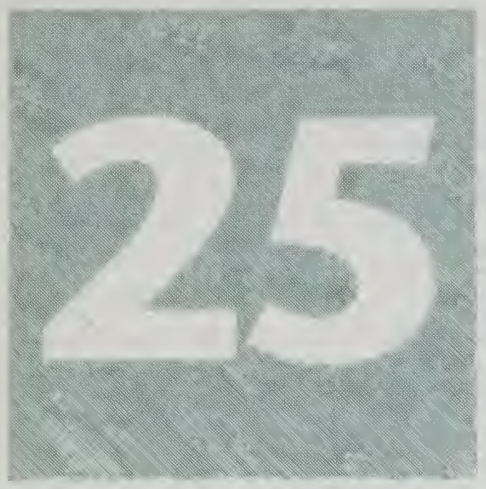
Birth date: _____

Address: _____

Phone: _____

This consent to disclose may be revoked by me in writing at any time, except to the extent that action has been taken in reliance thereon.

Note: An incomplete or improper authorization cannot be honored.



Sharpening Counseling Skills

Speaker:

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Patricia Daniels

I was asked to address two topics: first, how to provide culturally appropriate nutrition counseling to the increasingly diverse population served by WIC, and second, how to be an effective nutrition counselor, especially in settings with severe time restrictions.

The most important tool you need in order to address both these areas is yourself. Counseling is a helping relationship which takes place between someone who is seeking help and someone who is capable and willing to give help. It can be defined as the total process of providing individualized guidance, so the client acquires the ability to self-manage his/her own nutrition care, and successfully change behavior. I will look briefly at:

- The characteristics of an effective helper.
- Some of the interactions between the helper and the client.
- The interaction between the helper and the work environment (or what I have chosen to call the bureaucracy).

Distinction Between Nutrition Education and Nutrition Counseling

Note the distinction between nutrition education and nutrition counseling: nutrition education involves providing information, whereas nutrition counseling helps the client use that information to change her own eating habits or those of her family. The object of education is to tell, advise, and provide information. The object of counseling is to guide clients through a decisionmaking process. The educator uses prepared presentations of facts and ideas. The counselor, on the other hand, has to make some instantaneous responses to the needs of clients. You WIC nutritionists are providing more than nutrition education—you are providing counseling.

The educator views herself as the person with information and ideas to give to the client. The counselor views herself as a facilitator of a client's own exploration of information and ideas.

In education, a client's understanding of the material presented is the primary goal. In counseling, the primary goal is to help clients reach self-understanding and self-determination regarding their behavior.

Client change is possible only if they believe that it is in their best interest, that they really have a problem that is significantly worth addressing, and if they trust that you are capable, willing, caring, respectful, and committed to helping and supporting them in that process.

Characteristics of an Effective Helper

Research has identified some of the characteristics of an effective helper:

- Self-awareness involves knowing yourself and understanding that others may not share your beliefs or values, being accepting of other people and very slow to make judgments of others.
- Commitment to personal development includes reading, taking time to gain personal insight, talking with coworkers, seeing self-development as an ongoing continuous process and being aware that people can grow and change throughout their lives.
- Interest in other people means taking a true interest in others, experiencing genuine satisfaction

from seeing others grow and develop and make positive changes in their lives.

- Personal ideology involves believing in those you help, expecting that people have the ability to change.
- Awareness of personal limitations means being willing to acknowledge your limitations and make referrals to sources who can address problems more appropriately. If a client recognizes that you as the helper do not know your limitations, they will not trust you. Clients share their problems in areas far from nutrition. They may not be ready to talk about food groups or reducing fat in diets. It is better for them to go away feeling you have listened to them as a whole person, than having felt they learned nutrition.
- Personal characteristics, such as showing helpful feelings, being empathetic, sensitive, caring, open, and honest, are very important.
- Ability to use and appreciate different helping methods means being flexible in the helping relationship. Because the responsibility for making decisions is the client's, not yours, you allow them to take on that decisionmaking role whenever they choose, not when you choose to give it to them. In some issues, you can decide to be passive, and others you confront directly, with tact, with genuine feeling, with great love and care.

Exhibit A,"My Profile as a Helper," lists 20 characteristics of an effective counselor.

Interaction Between Helper and Client

The nutrition care process resembles the medical model of the care process:

- Assess the client's nutritional status.
- Analyze assessment data to make accurate diagnosis of the problem.
- Develop a nutrition care plan.
- Implement the plan.
- Evaluate effectiveness of the plan and make appropriate changes.

Many aspects of this model work very well, but what concerns me is that it implies the clients are just sitting there as you assess their nutrition status, you analyze the assessment data, you develop their nutrition care plan, you implement that plan and you evaluate it. This does not imply interaction.

The truth is that you can't assess nutrition status unless the client interacts with you and provides the appropriate data. You certainly cannot implement the plan without the client's cooperation. Since the process must be interactive, the counseling approach is the one that works in WIC. Exhibit B lists many "Guidelines for Good Listening."

Another point on the interaction between helper and client is how you feel in the helping situation. We are always told that we have to be accepting of everyone. But the truth is that clients are not equally likeable, nor are they equally receptive to helping efforts. What creates a problem is when you refuse to acknowledge that you have these feelings. When you deny those feelings, they come out in very subtle ways that your clients tune into. To understand yourself better, fill in the questionnaire in exhibit C, "How Do You Relate To Various Groups Of People In the Society?"

Cross-Cultural Helper/Client Interaction

Clients differ in their cultural patterns and lifestyles, which affect their responses to problems, their willingness to accept particular types of help, and the counseling methods or techniques that are most appropriate. What you need to remember is that, if you embody those characteristics of an effective helper and you are honest with yourself, you can deal with anyone. No one is expected to know everything about another's culture—you get that knowledge from the client. Exhibit D shows a "Quick Guide for Cross-Cultural Counseling."

You can make yourself better informed about a particular cultural or ethnic group in your clientele by reading the local magazines and newspapers, going into a neighborhood grocery store, etc. Exhibit E provides a bibliography from the book by Elizabeth Randall-David, *"Strategies for Working With Culturally Diverse Communities and Clients."* I also recommend the FNS "Quick Guide for Cross-Cultural Counseling."

Interaction Between the Helper and the Work Environment

Another problem is that people who develop the characteristics of the good helper are frequently frustrated by the bureaucratic systems in which they work. WIC as a Federal program is structured for efficient operation. It is designed to be impersonal while you want to deliver a personalized service.

We often talk about how the bureaucracy does not allow us to treat our patients well, but we have to recognize we don't have an organization or a system to replace the bureaucracy. So we have to learn to cope, and if we don't, we burn out. Remember the system changes slowly, but it does change. Exhibit F gives some "Tips on How to Survive in A Bureaucracy." ■

EXHIBIT A

"My Profile as a Helper"

Candid answers to the questions below will indicate your current strengths and areas for growth as a helper.
Rate yourself on the following characteristics of a helper

Helper Characteristics	1	2	3	4	5
1. Have you worked out your own feelings of who you are and where you are going in life?					
2. Do you appreciate the differences in others without feeling your need to impose your own values and beliefs on others?					
3. Do you consider yourself as always growing and changing, or do you see yourself as "static?"					
4. Are you aware that growth and change occur throughout one's life?					
5. Do you have a genuine, sincere interest in other people?					
6. Do you wish to learn who another person really is?					
7. Are you willing to listen openly to others?					
8. Do you really believe that another individual can change himself or herself?					
9. Do you believe you can help him or her in an effort to make positive changes?					
10. Do you recognize that your primary responsibility is to the person you are trying to help?					
11. Are you aware of your own limitations?					
12. Do you know in what ways you can and cannot be an effective helper?					
13. Are you willing to learn from others and to be candid about your limitations with others?					
14. Do others recognize you as truly trying to be helpful?					
15. Can you demonstrate sincere empathy, warmth, and caring toward others?					
16. Can you honestly and openly accept the opinions, feelings, and concerns of others?					
17. Are you aware of several different methods of helping?					
18. Do you recognize the importance of using different methods at different times?					
19. Do you recognize when it is appropriate to use a given method?					
20. Are you comfortable in changing methods as situations indicate?					

EXHIBIT B

Guidelines for Good Listening

STOP TALKING!
You cannot listen if you are talking.

Be interested and show it.
Genuine concern and a lively curiosity encourage others to speak freely. Interest also sharpens your attention and builds on itself.

Tune in to the client.
Try to understand the client's viewpoint, assumptions, needs, and system of beliefs.

Be patient.
Avoid jumping to conclusions. Hear the client out. Plan your response only after you are certain you have gotten the whole message.

Look for the main ideas.
Avoid being distracted by details. Focus on the key issue. You may have to dig hard to find it.

Watch for feelings.
Often people talk to "get something off their chests." Feelings, not facts, may be the main message.

Monitor your own feelings and point of view.
Each of us listens differently. Our convictions and emotions filter - even distort - what we hear. Be aware of your attitudes, prejudices, cherished beliefs and your emotional reaction to the message.

Notice nonverbal language.
A shrug, a smile, a nervous laugh, gestures, facial expressions, and body positions speak volumes. Start to "read" them.

Give the client the benefit of the doubt.
We often enter conversations with our minds already made up, at least partially, on the basis of past experience. Prejudgments can shut out new messages.

Work at listening.
Hearing is passive. Our nervous system does the work. Listening is active. It takes mental effort and attention.

Ask questions.
Make certain you are really listening. Get feedback. Ask a question. Confirm with the client what he or she actually said.

STOP TALKING!
This is the first and last, because all other guidelines depend on it. You just can't do a good listening job while you are talking.

Nature gave man two ears but only one tongue, which is a gentle hint that he/she should listen more than he/she talks.

EXHIBIT C

"How do you relate to Variuos Groups of People in the Society?"

Described below are different levels of response you might have toward a person.

Levels of Response

1. Greet: I feel I can greet this person warmly and welcome him or her sincerely.
2. Accept: I feel I can honestly accept this person as he or she is and be comfortable enough to listen to his or her problems
3. Help: I feel I would genuinely try to help this person with his or her problems as they might relate to or arise from the label-stereotype given to him or her.
4. Background: I feel I have the background of knowledge and/or experiencve to be able to help this person.
5. Advocate: I feel I could honestly be an advocate for this person.

The following is a list of individuals. Read down the list and place a check mark by anyone you would not "greet" or would hesitate to "greet." Then move to response level 2, "accept," and follow the same procedure. Try to respond honestly, not as you think might be socially or professionally desirable. Your answers are only for your personal use in claryfying your initial reactions to different people.

	Level of Response				
Individual	1 *Greet*	2 *Accept*	3 *Help*	4 *Background*	5 *Advocate*
1. Haitian	❑	❑	❑	❑	❑
2. Child Abuser	❑	❑	❑	❑	❑
3. Jew	❑	❑	❑	❑	❑
4. Person with Hemophilia	❑	❑	❑	❑	❑
5. Neo-Nazi	❑	❑	❑	❑	❑
6. Mexican American	❑	❑	❑	❑	❑
7. IV drug user	❑	❑	❑	❑	❑
8. Catholic	❑	❑	❑	❑	❑
9. Senile, elderly person	❑	❑	❑	❑	❑
10. Teamster Union member	❑	❑	❑	❑	❑
11. Native American	❑	❑	❑	❑	❑
12. Prostitute	❑	❑	❑	❑	❑
13. Jehovah's Witness	❑	❑	❑	❑	❑
14. Cerebral palsied person	❑	❑	❑	❑	❑
15. E.R.A. proponent	❑	❑	❑	❑	❑
16. Vietnamese American	❑	❑	❑	❑	❑
17. Gay/Lesbian	❑	❑	❑	❑	❑
18. Atheist	❑	❑	❑	❑	❑
19. Person with AIDS	❑	❑	❑	❑	❑
20. Communist	❑	❑	❑	❑	❑
21. Black American	❑	❑	❑	❑	❑
22. Unmarried expectant teenager	❑	❑	❑	❑	❑
23. Protestant	❑	❑	❑	❑	❑
24. Amputee	❑	❑	❑	❑	❑
25. Ku Klux Klansman	❑	❑	❑	❑	❑
26. White Anglo-Saxon	❑	❑	❑	❑	❑
27. Alcoholic	❑	❑	❑	❑	❑
28. Amish person	❑	❑	❑	❑	❑
29. Person with cancer	❑	❑	❑	❑	❑
30. Nuclear armament proponent	❑	❑	❑	❑	❑

EXHIBIT D

Quick Guide for Cross-Cultural Counseling

Preparing for Counseling

- Understand your own cultural values and biases.
- Acquire basic knowledge of cultural values, health beliefs, and nutrition practices for client groups you routinely serve.
- Be respectful of, interested in, and understanding of other cultures without being judgmental.

Enhancing Communication

- Determine the level of fluency in English and arrange for an interpreter, if needed.
- Ask how the client prefers to be addressed.
- Allow the client to choose seating for comfortable personal space and eye contact.
- Avoid body language that may be offensive or misunderstood.
- Speak directly to the client, whether an interpreter is present or not.
- Choose a speech rate and style that promotes understanding and demonstrates respect for the client.
- Avoid slang, technical jargon, and complex sentences.
- Use open-ended questions or questions phrased in several ways to obtain information.
- Determine the client's reading ability before using written materials in the process.

Promoting Positive Change

- Build on cultural practices, reinforcing those which are positive, and promoting change only in those which are harmful.
- Check for client understanding and acceptance of recommendations.
- Remember that not all seeds of knowledge fall into a fertile environment to produce change. Of those that do, some will take years to germinate. Be patient and provide counseling in a culturally appropriate environment to promote positive health behavior.

Exhibit E

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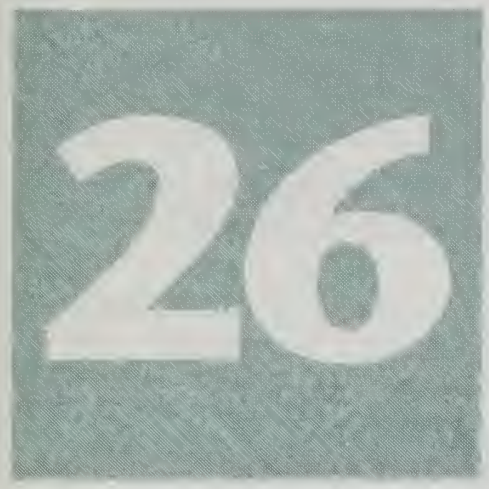
Published by:
The Association for the Care of Children's Health through the Family-Centered Care Grant, #MCH 113793, from the Bureau of Maternal and Child Health and Resources Development, U.S. Department of Health and Human Services.

EXHIBIT F

Tips On How To Survive In A Bureaucracy

1. Whenever your needs, or the needs of your clients, are not met by the bureaucracy, use the following problem-solving approach:
   a. Precisely identify your needs (or the needs of clients) that are in conflict with the bureaucracy. (This step is defining the problem.)
   b. Generate a list of possible solutions. Be creative in generating a wide range of solutions.
   c. Evaluate the solutions.
   d. Select a solution.
   e. Implement the solution.
   f. Evaluate the solution.
2. Obtain a knowledge of how your bureaucracy is structured and functions. Such knowledge will reduce fear of the unknown, make the system more predictable, and help in identifying rational ways to best meet your needs, and those of your clients.
3. Remember that bureaucrats are people, too, who have feelings. Communication gaps are often most effectively reduced if you treat them with as much respect and interest as you treat clients.
4. If you are at war with the bureaucracy, declare a truce. The system will find a way to dismiss you if you remain at war. With a truce, you can identify and use the strengths of the bureaucracy as an ally, rather than having the strengths being used against you as an enemy.
5. Know your work contract and job expectations. If the expectations are unclear, seek clarity.
6. Continue to develop your knowledge and awareness of specific helping skills. Take advantage of continuing education opportunities (for example, workshops, conferences, courses). Among other advantages, your continued professional development will assist you in being able to contract from a position of competency and skill.
7. Seek to identify your professional strengths and limitations. Knowing your limitations will increase your ability to avoid undertaking responsibilities that are beyond your competencies.
8. Be aware that you can't change everything, so stop trying. In a bureaucracy focus your change efforts on those aspects that most need change, and which you also have a fair chance of changing. Stop thinking and complaining about those aspects you cannot change. It is irrational to complain about things that you cannot change or to complain about those things that you do not intend to make an effort to change.
9. Learn how to control your emotions in your interactions with the bureaucracy. Emotions which are counterproductive (such as most angry outbursts) particularly need to be controlled.
10. Develop and use a sense of humor. Humor takes the edge off adverse conditions, and reduces negative feelings.
11. Learn to accept your mistakes, and perhaps even laugh at some of them. No one is perfect.
12. Take time to enjoy and develop a support system with the people you work with.
13. Acknowledge your mistakes and give it sometimes on minor matters. You may not be right, and giving in sometimes allows other people to do the same.
14. Keep yourself physically fit and mentally alert. Learn to use approaches that will reduce stress and prevent burn-out.
15. Leave your work at the office. If you have urgent unfinished bureaucratic business, do it before leaving work or don't leave.
16. Occasionally take your supervisor, and other administrators, to lunch. Socializing prevents isolation, and facilitates your involvement and understanding of the system.
17. Do not seek self-actualization or ego-satisfaction from the bureaucracy. A depersonalized system is incapable of providing this. Only you can satisfy your ego, and become self-actualized.
18. Make speeches to community groups which accentuate the positives about your agency. Do not hesitate to ask after speeches that a thank-you letter be sent to your supervisor or agency director.
19. If you have a problem involving the bureaucracy, discuss it with other employees, with the focus being on problem solving, rather than complaining. Groups are much more powerful and productive than an individual working alone to make changes in a system.
20. No matter how high you rise in a hierarchy, maintain direct service contact. Direct contact keeps you abreast of changing client needs, prevents you from getting stale, and keeps you attuned with the concerns of employees in lower levels of the hierarchy.
21. Do not try to change everything in the system at once. Attacking too much will overextend you, and lead to burn-out. Start small, and be selective and specific. Double-check your facts to make certain they accurately prove your position before confronting bureaucratic officials.
22. Identify your career goals and determine whether they can be met in this system. If the answer is no, then either: (a) change your goals, (b) change the bureaucracy, or (c) seek a position elsewhere in which your goals can be met.

Source: Knopf, Ron 1979. Surviving the BS (Bureaucratic System). Wilmington, N.C.: Mandala Press.



Training Programs for Paraprofessionals

Speakers:

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WIC Manager for Education and Training Center,
Washington WIC Supplemental Food Program,
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Moderator:

Michele Lawler, M.S., R.D.,
Nutritionist,
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Alexandria, VA

Training Paraprofessionals in Florida

—Suzanne Wilson

In FY 1988, Florida WIC submitted a proposal to USDA and subsequently received $50,000 in a special project grant to develop a training manual for paraprofessionals. Once developed, the guide was distributed to local agencies at a statewide meeting in August 1989. At that point, we embarked on the beginning of our paraprofessional training program. I thank especially the Colorado and California WIC Programs, whose materials we utilized and adapted to produce our guide.

The goals of the training program are to train paraprofessionals, which we call nutrition assistants, through a standardized curriculum provided by the guide, so that they are qualified and equipped to:

- Provide quality services to low-risk WIC clients.
- Serve as an adjunct to the nutritionist.

This support allows the nutritionist to concentrate on providing counseling, nutrition intervention, and other services to our high-risk clients.

Instructional Components of the Guide

The instructional components of the current guide include the following five modules:

1. Orientation to the modules, which gives the information needed to use the materials
2. Basic Nutrition Module
3. Prenatal Nutrition Module
4. Infant Nutrition Module
5. Preschool Child Nutrition Module

A breastfeeding module is scheduled for production and distribution by the end of this year.

We have mailed the first five modules to all State directors, and will notify them when the breastfeeding module is available. You may order the complete Paraprofessional Training Guide for $50 (including shipping), payable to WIC and Nutrition Services, Attn: Mary Ann Patterson, 1317 Winewood Blvd, Building 1, Room 200, Tallahassee, FL 32399-0700.

Each module is a self-contained booklet of instructional materials on a particular topic. Supplementary materials, such as brochures, pamphlets, and handouts accompany each module. There are also evaluation materials, such as checklists, post-tests, and answer keys for each module.

Self-Paced Individualized Instruction

The guide was designed for self-paced individualized instruction rather than group instruction. The competency-based approach emphasizes student development of certain job competencies or skills and demonstrated mastery of them. The evaluation tests at the end determine if the person has gained the desired competencies. If the nutritionists see problems when they grade the tests, they can review those points with the trainee to be sure the needed skills are learned.

The guide has knowledge objectives, which are statements that identify the information or knowledge that the nutritionist assistants must know in order to perform their job tasks successfully. These objectives are monitored by the text, self-checks, and a post-test.

It also has performance objectives, which are statements that identify the skills the nutrition assistant must perform as part of her job. We have practical activities, worksheets, and checklists to indicate if they have mastered the performance objectives for this particular unit.

The guide has worked well. We have over 35 paraprofessionals trained and functioning in nutrition education. We are now looking to standardize a quality assurance tool for nutrition education of our paraprofessionals.

Training Paraprofessionals in Arizona

—Karen Sell

Our goal was to develop a community nutrition worker to meet the needs of three different Arizona programs: WIC, CSFP, and a cholesterol education program. To meet that need, we worked with Central Arizona College to create the Dietetic Education Program (DEP).

The DEP Training Program Curriculum

Students have the opportunity to earn four different certificates:

- Community Nutrition Worker certificate.
- Dietary Management Manager certificate.
- Dietetic Technician I.
- Dietetic Technician IV/V, which can qualify them to become Registered Dietetic Technicians (DTR's).

The program is designed to provide a community nutrition worker, who has either a GED or a high school certificate, with the opportunity to become a licensed DTR. In 1990 to 1991, we enrolled 376 students from Arizona.

The program, which is managed by the Central Arizona College, is accredited by the ADA as an AAS Dietetic Technician Program. Students are encouraged to take the national registration exam, once they complete their programs.

The DEP courses are in modular components. The student works through each self-paced component with the onsite registered dietitian. Once they have tested competent, they move on to the next section. We integrate it into our working environment by giving students time during work to do the modules, so classroom instruction is provided in an at-work environment.

The community nutrition worker is required to take the following classes: Introduction to Health Care, Community Health Agencies, Basic Nutrition, Food Preparation and Sanitation, Economics of Food and Nutrition, Nutrition During Physical Stress, Physical Stress Internship, Therapeutic Nutrition, Therapeutic Nutrition Internship, and Meal Management. The course work has been standardized, pre-tested, post-tested, and validated by the college staff.

Students can enroll in the course any time during the year. We allow students the opportunity to have a portion of their classes covered as part of continuing education. A student in a working environment finds it very difficult to carry more than 6 hours of instruction at one time, as these classes are at a college level. This program can also be coordinated with other junior colleges to fulfill core requirements for an AA degree.

Unfortunately, Central Arizona College has decided not to accept out-of-State students. If you are interested in working with the college, you can contact Glenna McCullen at Central Arizona College, 8470 N. Overfield Road, Coolidge, AZ 85228, (602) 723-5522.

Competency-Based Training Manual

In addition, we are working on a modular competency training manual that will establish base competency for

certification and other functions within our clinic environment. Although we find that DEP is very successful, we want a faster way to bring someone up to competency. So we are considering other options, such as the Illinois model or the Washington model. The training manual will also allow the tailoring of instruction to meet the unique needs of a local WIC Program.

Training Paraprofessionals in the State of Washington

—Jacqueline Beard

We provide comprehensive training to new local staff statewide at our WIC Education and Training Center. We offer monthly classes throughout the year, with a maximum number of 10 trainees per class. The class is for one entire week. In addition to the training that they receive at the Training Center, paraprofessionals must also complete 6 months of training at their individual clinics.

Before coming to the training program, we recommend professional staff have a minimum of 2 weeks at their clinic and paraprofessionals have a minimum of a month, so that they have some initial training and experience prior to coming to the training center.

During the training session we try to help new staff feel good about their jobs. We want them to feel proud of their program and proud to be a part of the WIC team. We try to treat our trainees as we would like them to treat our clients. Our mission statement is, "to provide comprehensive training in an informal, non-threatening environment where trainees can share their expertise and experiences, expand their knowledge and their skills, and enjoy a positive learning experience."

Training Goals

Our Center training goals are to:

1. Provide staff with the knowledge and skills to provide quality nutrition services in a WIC clinic.
2. Assist staff in developing an environment and clinic philosophy which promotes warm, caring services to the client.
3. Provide staff with an opportunity to observe and learn about another clinic's services, systems, and operations.
4. Support staff in learning about WIC clients' special needs and develop effective communication skills for working with this clientele.
5. Improve staff understanding of each other's roles and develop a team approach for providing WIC services.
6. Provide staff with an opportunity to network with other local staff and begin developing support systems in WIC.
7. Increase staff's knowledge and understanding of the Federal regulations and State policies and procedures.
8. Provide staff with a wealth of ideas, systems, methods, and procedures for operating and managing a clinic, depending on clinic size, facilities, staffing patterns, coordination of services, etc.

WIC Certifier Training Course

In the certifier course, we go step-by-step on how to complete a certification. We also include topics such as nutrition assessment, interviewing techniques, nutrition risk criteria, counseling skills, food prescriptions, referrals, and coordination of WIC services with other MCH programs. Other information that helps them provide good nutrition services and operate their clinics is also shared.

The focus of this course is to teach certification. We don't really cover nutrition principles. A limited amount of nutrition information is provided within each unit as it applies, and we also share a lot of different education resources from which trainees can learn more about nutrition. We use a variety of instructional methods, including demonstrations, skits, lectures, case studies, and role playing games.

During the training week, the first few days are spent in the classroom. On the fourth day the trainees go to a local WIC clinic where they observe our trained staff do a certification. Then they have the opportunity to participate in assessing and providing WIC services. Specific feedback is provided by the trainers.

There are three ways we evaluate our training program:

- Trainees' reaction to training – what they liked and did not like about the training.
- Quality assurance – whether learning objectives were met as determined by pre- and post-tests and benchmarks (activities during the training session).
- Behavioral tracking – were the trainees able to transfer acquired knowledge, skills, and attitudes back to the job?

Strengths of a Statewide Training Program

One of the best strengths of this particular method for training is that we can provide consistent comprehensive training to all staff every month. In addition, we have removed the burden of training from the local staff and placed it at the State level.

The same training is provided to all staff via the same trainers on the most up-to-date information available from the State. We promote positive services and a positive attitude towards clients. The trainees observe quality nutrition services at our model clinic. Group interaction and involvement at the training is very positive—it is a fun experience. Local people come and network with one another, which is seen as an important benefit.

Challenges We Face

A problem that we have run into is that some of our smaller agencies have a difficult time sending someone to training for 5 days in a row. Another issue is that we have a more difficult time meeting the individual needs of a trainee because there is such diversity in staff backgrounds and educational levels.

Sometimes our training week seems to be rather intense. We have long days. Some nights we even have homework activities. For some staff this intensity can be overwhelming, particularly for some of our paraprofessionals who are not maybe as used to intense training as the professional staff who attended college.

A concern I have as a trainer is communication of so much information. The WIC Program is a very detailed program and we have so much to cover in a very limited time. ■

Use of Paraprofessionals for Providing WIC Nutrition Services

Speakers:

Michele Lawler, M.S., R.D.,
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Nutrition and Technical Services Division,
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Alexandria, VA

Rosalind Wilkins, M.S., R.D.,
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WIC Program,
Missouri Department of Health,
Jefferson City, MO

Moderator & Speaker:

Ronald J. Vogel,
Director,
Supplemental Food Programs Division,
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Alexandria, VA

Introduction

—Ronald J. Vogel

This session deals with the use of paraprofessionals in the delivery of nutrition services. We have concerns that some State and local agencies have been using paraprofessionals to deliver program services that we felt were clearly set aside for a competent professional authority (CPA).

Recently we put together an internal FNS policy guidance statement proposing what we thought would be appropriate roles of the paraprofessional and of the CPA in WIC. Our policy statement was guidance and had no mandatory overtones to it. We are struggling with a definition of the WIC paraprofessional, because paraprofessionals in WIC cover a wide range of levels of skill, knowledge, and competencies. It is difficult to establish a universal policy about appropriate functions for a paraprofessional.

We are here to listen. We are interested in your questions. And we are a long way from making up our minds. We are interested in quality nutrition services for the WIC Program, and we will take whatever policy stand is necessary to protect that basic goal.

Paraprofessional Training Manual

—Michele Lawler

For the last 2 years, we have been working in the Nutrition and Technical Services Division (NTSD) on a paraprofessional training manual. It will be going to print in September 1991.

Drafts have been reviewed by staff within the FNS, the NTSD, and Supplemental Food Programs Division, as well as by our Supplemental Food Programs Regional Directors, Regional Nutritionists, many State WIC nutritionists, nutrition coordinators, and nutrition health educators. In addition, in the last round of review, we asked the Regional offices to send it out to the States in their region for comment.

Use of the Manual

The manual is designed to be a useful reference for WIC State and local agencies in training their paraprofessionals by:

- Assisting WIC Program administrators in meeting the Focus on Management (FOM) Nutrition Services Standards by identifying appropriate role functions for paraprofessionals.

- Providing guidelines for Regional and State WIC directors, coordinators, and nutritionists to use in designing training programs for paraprofessionals within their States.
- Describing for local agency WIC directors the "special" training needs of paraprofessionals, that need to be considered in implementing programs at the local level.

Prior to the initiation of the project we solicited, through our Regional offices, paraprofessional training materials and program descriptions from the State WIC agencies. Those States that submitted paraprofessional training materials, were then surveyed for their training protocols, position descriptions, and descriptions of their programs. In addition, we also consulted the ADA's Role Delineation Studies, their standards of education for dietetic technicians, and the FOM Nutrition Services Standards.

Several issues emerged in developing this publication:

- Diversity in roles of paraprofessionals between State WIC agencies.
- Differences in educational backgrounds and technical training of paraprofessionals.
- Confusion as to the definition of WIC paraprofessionals.
- No standardization of training programs as to the content, length, and program effectiveness.

Definitions of a WIC Paraprofessional

The term "paraprofessional" as applied to the WIC Program has never been clearly defined. Within WIC, workers in this category include:

- Professionals, such as registered nurses or home economists, who have college degrees in fields other than nutrition, yet provide nutrition education.
- Allied health paraprofessionals, such as registered dietetic technicians and licensed practical nurses, who have 2-year associate degrees, but do not possess the specialized training of professionals.
- Locally trained nutrition support workers who have no formal college education in nutrition, but have received some job-specific training at the local or State WIC agency.

The manual is targeted at this last group of paraprofessionals. "Nutrition assistant," the term used in the manual to refer to this type of paraprofessional worker, is defined as follows:

A WIC nutrition assistant is a nutrition support, paraprofessional worker in WIC who possesses less than 2 years of higher education (that is, less than an associate degree) in a nutrition-related field and whose training in nutrition consists only of job-specific training provided by the State or local WIC agency.

Training of Paraprofessionals

Because of the diversity in educational backgrounds and work experiences of paraprofessionals, it is best to approach training on the basis of the basic skills or the competencies required in an entry level WIC position, including the skills involved in screening, certification, and voucher issuances processes. We recommend using a competency-based program to train paraprofessionals as nutrition assistants which allows them to develop the essential knowledge and work skills necessary to support the nutritionist in providing competent nutrition care.

Factors to consider in developing a training program for nutrition paraprofessionals:

- The paraprofessional position should first be defined and essential work skills and education determined.
- Paraprofessionals may require greater time for training than professionals.
- Frequent assessment of work performance will be needed to ensure quality of nutrition services.
- Paraprofessionals require greater supervision than professionals.
- Ongoing training and education is essential to maintaining quality of services.

Roles of Paraprofessionals

The manual has detailed role delineations and knowledge and performance responsibility statements for WIC nutritionists and WIC nutrition assistants. Role functions identified in the manual are considered to be optimal and most conducive to providing quality nutrition services. They are not intended to describe the level of services currently being provided in the local WIC clinics. Replacement of the term "nutritionist" with the terms "health professional" or "CPA" is appropriate for those State WIC agencies that are using health professionals other than nutritionists to perform many of the professional duties outlined in the manual. From these role delineations, competency statements for the WIC nutrition assistant were derived.

Nutrition assistants can be trained to provide many supportive services which complement and enhance the roles and responsibilities of the WIC nutritionist. The key to effective utilization is to define role functions and implement them accordingly.

Functions of Paraprofessionals in Missouri

—Rosalind Wilkins

In Missouri, our paraprofessionals are called "Health Professional Assistants (HPA)." A HPA is defined as:

> *"An individual who is trained to assist the CPA by performing specific functions or duties. The HPA may have formal education, such as an LPN (licensed practical nurse) or a home economist, or limited formal education. At a minimum the HPA must have earned a high school degree or a GED equivalency."*

The HPA is under the supervision of the local agency nutritionist or other CPA. Job duties and functions the HPA performs vary from one local agency to another. Even though the local health departments are separate autonomous units, each must have a standard and State-approved personnel system. Consultation and monitoring regarding specific job duties and functions of HPA's are provided on a State level to local agency supervisors. Our Operations Manual outlines specific duties and responsibilities that can be performed by HPA's. The majority of HPA's perform nutrition education activities through counseling or group nutrition education. They may also take anthropometric data.

Training of Paraprofessionals

All new employees, whether they are HPA's or CPA's, have to attend State competency-based training. HPA's must attend a Statewide HPA training session, with 24 hours of contact instruction, including training on the certification form, health assessment activities, diet assessment activities (emphasizing correct completion of the forms), review of risk factors and priorities, and some counseling and nutrition education skills. The training provides the HPA with an understanding of what the program is about but does not train them to determine client eligibility. In a final evaluation, the State staff evaluates how well they have mastered their duties.

We also have a two-volume self-teaching training manual for all new employees, with emphasis on material for paraprofessionals. Local agency personnel are expected to complete the two manuals within 6 months. At the end of each manual is a final examination which is sent to the State district nutritionist for evaluation. The results are provided to the participant, as well as to the supervisor in the local agency.

We have annual district in-service meetings to which all HPA's are invited. Also, we have a biannual WIC conference that the HPA's participate in. They also have an opportunity for additional continuing education activities. We have set up a software system in our State to track the training attended by health and paraprofessional staff from local agencies. ■

APPENDIX 1: SPEAKERS/MODERATORS

Speakers for National WIC Nutrition Services Conference August 26-28, 1991

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Lactation Resource Coordinator, Childbirth Graphics, Ltd., P.O. Box 20540, Rochester, NY 14602-0540, (716) 272-9230

Nancy S. Snitzer
Nutrition Education Coordinator, WIC, Lancaster, Pennsylvania, Community Action Program, 630 Rockland Street, P.O. Box 599, Lancaster, PA 17603, (717) 299-7301

Darwin Snyder
Rebate Clerk, Nebraska Indian Inter-Tribal, RR# 1, P.O. Box 66-A, Winnebago, NE 68071, (402) 878-2242

Denise Sofka
Nutritionist, Head Start/Maternal and Child Health, Department of Health and Human Services, Early Childhood Branch, Room 9-31, 5600 Fishers Lane, Rockville, MD 20852, (301) 443-6600

Helen Spahich
WIC Nurse, Texas Department of Health, 600 S. Cedar, Suite 400, Borger, TX 79007, (806) 274-5214

Betsy Speer
Community Health Services Director, East Tennessee Regional Health Office, P.O. Box 59019, Knoxville, TN 37950-9019, (615) 549-5253

Brenda Speight
Nutritionist, Memphis & Shelby County Health Department, 814 Jefferson Avenue, Memphis, TN 38105, (901) 576-7823

Nancy Spyker, M.S., R.D.
State Nutritionist, WIC Program, South Dakota Department of Health, Box 790, Spearfish, SD 57783, (605) 642-6391

Debra C. Stabeno, B.B.A.
Director, WIC Program, Texas Department of Health, 1100 West 49th Street, Austin, TX 78756, (512) 458-7444

Janet Stammer, M.S., R.D.
Data Management Coordinator, WIC Bureau, Iowa Department of Public Health, 3rd Floor, Lucas State Office Building, Des Moines, IA 50319, (515) 281-4919

Eileen Stevens
WIC Director/Nutritionist, Franklin County WIC Program, 103 South Bickett Boulevard, Louisburg, NC 27549, (919) 496-6454

Margaret Stevens
Staff Nurse, Franklin County Health Department, 231 East Main Street, Frankfort, KY 40601, (502) 564-7647

Delores Stewart, M.N.S., R.D.
Regional WIC Nutritionist, Mid-Atlantic Regional Office, U.S. Department of Agriculture, Food and Nutrition Service, CN 02150, Trenton, NJ 08650, (609) 259-5163

James R. Stewart, Ph.D
Documentor, 4501 Glencoe Ave, Marina del Rey, CA 90292 - 6372, (310) 821-2722

Patricia G. Stieren
Coordinator, Supplemental Food Programs, Illinois Department of Public Health, 535 W. Jefferson Street, 3rd Floor, Springfield, IL 62761, (217) 782-2166

Cherie Stock
RN - WIC Coordinator, Harrison County WIC Programs, 1070 Highway 62 West, Corydon, IN 47112, (812) 347-3417

Candice Stoiber, M.S., R.D.
Senior Nutritionist, Northeast Regional Office, U.S. Department of Agriculture, Food and Nutrition Service, #10 Causeway, Room 501, Boston, MA 02222, (617) 565-6442

Donna Stolfa
Regional Nutritionist, Navajo Nation WIC, 915 West Coal Avenue, Gallup, NM 87301, (505) 722-4767

Sandra Storch
Nutritionist, Alameda County WIC, 3316 Birdsall Avenue, Oakland, CA 94619, (415) 436-5614

Patricia Ann Strojny
Coordinator, La Parte County WIC Program, Indiana State WIC Program, 1606 E. Michigan Boulevard, Michigan City, IN 46360, (219) 879-3025

Carol Suitor, D.Sc., R.D.
Study Director/Program Officer, National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, DC 20418, (202) 334-1917

Elenita K. Sumaylo
Nutritionist I, Guam WIC Program, Department of Public Health, P.O. Box 2816, Agana, GU 96910, (671) 734-7120

Mona Swimmer
Certifier III, Rosebud Sioux WIC Program, P.O. Box 99, 400 WIC Drive, Rosebud, SD 57570, (605) 747-2617

Jane Talbert
Nutritionist, State of Tennessee Department of Health, 140 University Drive, Cookeville, TN 38501, (615) 528-7531

Rosa Tamayo
Nutritionist, St. Elizabeth Hospital, 1124 East Jersey Street, Elizabeth, NJ 07202, (908) 527-5219

Billie Tant, M.S., R.D., L.D.
Director, Nutrition Services, Mobile County Health Department, P.O. Box 2867, Mobile, AL 36652-2687, (205) 690-8805

Cynthia Templeton, R.D.
Nutrition Coordinator,, State of Alabama, Department of Public Health, Area 4, P.O. Box 2648, Anniston, AL 36202, (205) 236-3274

Martha Thomas
Local Nutritionist, Purchase District Health Department, P.O. Box 414, Mayfield, KY 42066, (502) 247-1490

Martha B. Thomas
Extension Agent, University of Tennessee, 5565 Shelby Oaks Drive, Memphis, TN 38134, (901) 766-2946

Dora Thomas, M.S., N.D., L.D.
WIC Coordinator, D.C. WIC Program, 4601 Martin Luther King Avenue, South, Washington, DC 20032, (202) 574-5789

Patrice Thomsen
WIC Dietitian, KCK-Wyandotte County Health Department, 619 Ann Avenue, Kansas City, KS 66101, (913) 321-4803 ext. 733

Kim Threet
WIC Nutrition Counselor, Brownwood County Health Department, 205 B South Greenleaf, Brownwood, TX 76801, (915) 646-1514

Debbie Tipton, R.D., L.D.
Nutrition Coordinator, Choctaw Nation WIC, P.O. Drawer 1210, Durant, OK 74702, (405) 924-8280

Kathy Tomashitis, M.N.S., R.D.
Nutrition Consultant, Division of Children's Health, S.C.D.H.E.C., 2600 Ball Street, Columbia, SC 29201, (803) 737-4061

Georgia Tortalita
Assistant Director, Santo Domingo WIC Program, P.O. Box 238, Santo Domingo, Pueblo, NM 87052, (505) 465-2214 ext. 21

Leigh Trail
Home Economist, Arkansas Department of Health, Area 9 Office, P.O. Box 788, Forrest City, AR 72335, (501) 633-6812

Katherine Tucker
WIC Director, Lenoir County WIC Program, Lenoir County Health Department, P.O. Box 3385, Kinston, NC 28502-3385, (919) 527-7116

Susan Tucker, R.D., L.D.
Public Health Nutritionist, Oklahoma State Health Department, Latimer County Health Department, 201 West Main, Wilburton, OK 74571, (918) 465-5673

Ann Twiggs
Health Planning Consultant, Ohio WIC Program, 131 N. High Street, 5th Floor, Columbus, OH 43266-0118, (614) 644-8571

Carmene Tyndall
WIC Director, Nebraska Indian Inter-Tribal, RR# 1, P.O. Box 66-A, Winnebago, NE 68071, (402) 878-2242

Abeba Tzeggai
WIC Coordinator, Columbia Hospital for Women, 2425 L Street, N.W., Washington, DC 20037, (202) 293-6020

Natalie Updegrove
Nutritionist, Food & Nutrition Information Center, Room 304, NAL Building, 10301 Baltimore Boulevard, Beltsville, MD 20705-2351, (301) 504-5719

Mary A. Vanden Bosch, R.N., M.S.
State WIC Breastfeeding Coordinator, Michigan Department of Public Health, WIC Division, 3423 North Logan, P.O. Box 30195, Lansing, MI 48909, (517) 335-9226

Susan Vigrass, R.D., L.D.
Public Health Dietitian, Guernsey County Health Department, WIC Program, 326 Highland Avenue, Cambridge, OH 43725, (614) 439-3577

Karen Virostek, M.S., R.D.
Field Supervisor/Nutrition Education Coordinator, Family Health Council, Inc., 625 Stanwix Street, Pittsburgh, PA 15222, (412) 224-1530

Ronald J. Vogel,
Director, Supplemental Food Programs Division, U.S. Department of Agriculture, Food and Nutrition Service, 3101 Park Center Drive, Room 540, Alexandria, VA 22302, (703) 305-2746

S. Jane Voichick, Ph.D.
Professor, Department of Nutritional Sciences, University of Wisconsin, 1415 Linden Drive, Madison, WI 53706, (608) 262-3718

Carolyn Waggoner
Chief, Agency and Nutrition Services Unit, WIC Branch, State of California, 1103 North B Street, Sacramento, CA 95814

Jane Wagner
Nutrition Education Consultant, Dairy Council of Michigan, 2163 Jolly Road, Okemos, MI 48864, (517) 349-8480

Gloria F. Wagner, M.S.
WIC Nutritionist, Nutrition Education Liaison, Monongalia County Health Department, Morgantown, WV 26505, (304) 598-5181

Nancy Wahahrockah
WIC Representative, WCD-WIC Program, P.O. Box 247, Anadarko, OK 73005, (405) 355-9389

Ricki Waldman
WIC Administrator, University of Medicine and Dentistry of New Jersey, 65 Bergen Street, Room GA-06, Newark, NJ 07107, (201) 456-4537

Cindy Walker
Allied Health Director, Cabarrus County Health Department, P.O. Box 1149, Concord, NC 28026-1149, (704) 786-8121

Deborah Walker, M.A., R.D.
WIC Nutrition Coordinator, California WIC Program, 1103 North B Street, Suite E, Sacramento, CA 95814, (916) 323-5507

Madeleine C. Walker
Clinical Nutritionist, The MED, Gailor Clinic, 42 North Dunlap, Room 134, Memphis, TN 38103

Bernese Walker-Dix
WIC Coordinator, WIC Program, Edisto Health District, 550 Carolina Avenue, Orangeburg, SC 29116, (803) 536-9060

Dianne Ward
WIC Assistant, Arkansas Department of Health, Crittenden County Health Unit, 901 North 7th Street, West Memphis, AR 72301

Merryjo H. Ware, M.P.H., R.D.
Executive, Nutrition Services Coordinator, Division of Health Assessment and Screening, Illinois Department of Public Health, 100 West Randolph, Suite 6-600, Chicago, IL 60601, (312) 814-5157

Peggy Ware, R.N., B.S.N.
Clinic Supervisor, Franklin County Health Department, 231 East Main Street, Frankfort, KY 40601, (502) 564-7647

Betsy Waters
Nutrition Director, East Tennessee Regional Health Office, 1233 Southwest Avenue Extension, Johnson City, TN 37604, (615) 929-5900

Marilyn Watkins, R.N.C., M.N.
WIC Coordinator, Community & Family Services, 118 Hickory Knoll, Bluffton, IN 46714, (219) 824-0180

Joan Wayburn
WIC Coordinator, Kankakee County Health Department, 150 South Evergreen, Kankakee, IL 60901, (815) 937-7870

Connie Webster
Nutrition Services Coordinator, Maryland State WIC Program, Department of Health and Medical Hygiene, 201 West Preston Street, 1st Floor, Baltimore, MD 21201-2399, (301) 225-5242

Roslyn Weiner, Ph.D.
Coordinator of Eating Disorders Program, Division of Child and Adolescent Psychiatry, Consultant to Families, Weight Control Clinic, Division of Pediatric Gastroenterology and Nutrition, New England Medical Center, Box 395, 750 Washington Street, Boston, MA 02111, (617) 956-0132

Paulette Weir
WIC Coordinator, Medical Health Research Association, Child Health Station, WIC, 40 Worth Street, Room 706, New York, NY 10013, (718) 335-7563

Doris Welborn, M.Ed., R.D.
WIC Director/Nutritionist, Randolph County Health Department, 2222 South Fayetteville Street, Asheboro, NC 27203, (919) 629-2131 ext. 3218

Connie Welch, M.P.H., R.D.
WIC Nutrition Coordinator, Wisconsin WIC Program, Department of Health/Human Service, 1414 East Washington, Room 294A, Madison, WI 53703, (608) 267-7320

Chris Wells, R.D.
WIC Coordinator, Wichita-Sedgwick County WIC, 1900 East Ninth Wichita, KS 67214, (316) 268-8409

Larry White Eagle
Data Processing Technician, WIC Program, Standing Rock Sioux Tribe, P.O. Box 437, Fort Yates, ND 58538

Priscilla Whitehorne, M.A.
Nutritionist III, Navajo Nation WIC, Box 2230,, Tuba City, AZ 86045 (602) 283-5404

Kay Wiesenfeld, M.S., R.D.
Supervisor, Nutrition Services, MCOSS - New Jersey WIC Program, 133 Leonardville Road, Belford, NJ 07718, (900) 787-3589

Lois Wilkins
Dietitian, Hamilton County WIC Program, Nutrition Services, 3101 Burnet Avenue, Cincinnati, OH 45229, (513) 352-2464

Rosalind M. Wilkins, M.S., R.D.
Associate Chief - Nutrition, Bureau of WIC, Missouri Department of Health, 1730 East Elm, P.O. Box 570, Jefferson City, MO 65101, (314) 751-6204

Gwen Williams, R.D., L.D., M.S.
Nutrition Supervisor, Arkansas Department of Health, Area I Health Office, 204 S.E. Third Street, Bentonville, AR 72712, (501) 271-1055

Kimberly Williams
Assistant WIC Coordinator/Nutritionist, Kankakee County Health Department, 150 South Evergreen, Kankakee, IL 60901, (815) 937-7870

Louella J. Williams
Project Director, Fort Worth WIC Program, 1800 University Drive, Room 209, Fort Worth, TX 76107, (817) 871-7215

Yvette Williams
WIC Coordinator, Florida WIC Program, Pinellas County Public Health Unit, 500 Seventh Avenue, West, St. Petersburg, FL 33701, (813) 823-0401 ext. 3017

Suzanne Wilson, M.S., R.D.
Nutrition Program Manager, Florida Department of Health and Rehabilitative Services, WIC & Nutrition Services/State Health Office, 1317 Winewood Boulevard, Building 1, Room 200, Tallahassee, FL 32399-0700, (904) 488-8985

Susan Winchester
WIC Program Coordinator, Louisville-Jefferson County Health Department, 400 East Gray Street, Louisville, KY 40202, (502) 625-6676

Patricia A. Winn, R.D., L.D.
Nutritionist, Madison County Health Department, 304 Eustis Avenue, Huntsville, AL 35801-3118, (205) 539-3711

Cathy Winston, R.D.
WIC/MCH Nutrition Coordinator, Northern Kentucky District Health Department, 401 Park Avenue, Newport, KY 41071, (606) 491-6611

Donna Wiseman
Staff Nurse, Franklin County Health Department, 231 East Main Street, Frankfort, KY 40601, (502) 564-7647

Denise Wolf
WIC Nutritionist, Texas WIC Program, 825 North McDonald Street,, McKinney, TX 75069, (214) 548-5500

Dorothy A. Wolf
WIC Director, Lorain County Health Department, 9880 South Murray Ridge Road, Elyria, OH 44035, (216) 323-7320

Ruby Wolf
WIC Technican, Pueblo of Zuni WIC Program, P.O. Box 339, Zuni, NM 87327, (505) 782-4481

Sue Wolfe
Program Administrator, Ohio WIC Program, 131 North High Street, 5th Floor, Columbus, OH 43266-0118, (614) 644-8571

Diane Woloshin
Senior Nutritionist, Orange County WIC Program, P.O. Box 355, Building 50, Santa Ana, CA 92703, (714) 834-7986

Lynn Wonders
Director, Northeast Region, U.S. Department of Agriculture, Food & Nutrition Service, 10 Causeway Street, Room 501, Boston, MA 02222, (617) 565-6440

Ruth Woods
WIC Specialist, Arkansas Department of Health, P.O. Box 788, Forrest City, AR 72335, (501) 633-6812

Cheryl Yarrington
WIC Director/Nutritionist, Eau Claire County WIC Program, 720 Second Avenue, Eau Claire, WI 54703, (715) 839-5051

Suzanne Yates, M.S., R.D., L.D.
Director, Women, Infants & Children, Mobile County Health Department, P.O. Box 2867, Mobile, AL 36652-2867, (205) 690-8806

Gail Yest, R.D., M.S.
WIC Project Director/Nutritionist, Waupaca County WIC Program, 811 Harding Street, Courthouse, Waupaca, WI 54981, (715) 258-6392

Tammy Young, R.D., L.D.
Nutritionist, Arkansas Department of Health, Jefferson County Health Unit, P.O. Box 7267, Pine Bluff, AR 71603, (501) 535-2142

Marie Zaczkowski, M.S., R.D., L.D.
WIC Program Manager, City of Dallas, 2922 B.M.L. King, Jr. Boulevard, Dallas, TX 75215, (214) 670-8285

Sally Zahn-Biava, R.D.
One Valley Community Health Services, East Gate, #8, Monessen, PA 15062, (412) 684-9000 ext. 448

Kathy Zilys, R.D.
Nutritionist/Coordinator, Spokane County Health District, WIC Program, West 1101 College Avenue, Spokane, WA 99201, (509) 456-3687

Donna Zink
Public Health Nutritionist, Oklahoma County Health Department, 921 N.E. 23rd Street, Oklahoma City, OK 73160, (405) 794-8307

Mary Jo Zinsius
Nutritionist, Park-Duvalle Community Health Center, 1817 South 34th Street, Louisville, KY 40211, (502) 774-4401 ext. 232

Barry Zuckerman, M.D.
Chief, Division of Developmental and Behavioral Pediatrics, Boston City Hospital, Talbot Building, Room 214, 818 Harrison Avenue Boston, MA 02118, (617) 534-4235

APPENDIX 3: EXHIBITORS

Commercial and Nonprofit Company Exhibitors

Altschul Group Corporation

The Altschul Group Corporation is one of the Nation's leading producers and distributors of audiovisual programs for health education. Latest releases include two programs on nutrition for infants and toddlers, a four-part series on Fetal Alcohol Syndrome and a six- part series on cocaine.

Margaret Dugan and Nor Randall at the following address:

Altschul Group Corporation
930 Pitner Avenue
Evanston, IL 60202
(708) 328-6700

Ameda/Egnell

Breastfeeding pumps, accessories,and educational materials will be featured.

Carol Pockrus, Kay Hughes and Keith Hughes at the following address:

Ameda/Egnell
765 Industrial Drive
Cary, IL 60013
(708) 639-2900

Best Start, Inc.

Best Start is a program promoting breastfeeding among economically disadvantaged women in the United States. A display of the Best Start public service announcements, training program, pamphlets and posters designed specifically for use in WIC clinics will be featured. Program founder, Carol Bryant, will be available to discuss ways these materials may be used for maximum impact.

Carol Bryant, Ph.D.
Best Start, Inc.
3500 E. Fletcher Avenue, Suite 106
Tampa, FL 33613
(813) 974-4867

Burger, Carroll Associates

This booth will display works of partners or associates of this firm related to the provision of nutrition services. At a minimum, this will include display copies and order forms for "The Monthly Supplement" and a book on breastfeeding.

Julie M. Carroll
Burger, Carroll Associates
2442 Cerrillos Road
Santa Fe, NM 87505
(505) 471-0418

Carnation Nutritional Products Division

Representatives will be available to discuss Carnation's formula products. The cow's milk whey protein in Carnation's Good Start, an iron-fortified infant formula, is specially processed to make it gentle and easily digestible. Carnation Follow-Up Formula is a nutritionally complete, milk-based formula designed to complement the diet of babies 6 months of age and older who are eating cereals and other baby foods.

Terry Belush
Carnation Nutritional Products Division
800 North Brand Boulevard
Glendale, CA 91203
(818) 549-5511

Childbirth Graphics Ltd.

Childbirth Graphics Ltd. offers a selection of over 450 illustrations, videos, teaching models and pamphlets for maternal and child health professionals. The topics of breastfeeding and nutrition will be the main focus of materials displayed.

Marianne Oliveiri
Childbirth Graphics Ltd.
2975 Brighton Henrietta Townline Road
Rochester, NY 14623
(716) 272-9230

Dairy Council of Michigan

The Dairy Council of Michigan, the Michigan Department of Health, and WIC local agencies have cooperated to develop and pilot test standard education modules for use in Michigan WIC clinics. The modules address prenatal weight gain, shopping and growth patterns for children. The exhibit will display the modules and the results from pilot testing.

Jane Wagner
Dairy Council of Michigan
26105 Orchard Lake Road, Suite 203
Farmington Hills, MI 48334
(313) 476-9310

Expanded Food and Nutrition Education Program (EFNEP), Extension Service, USDA

EFNEP, Extension Service, USDA, will showcase the following nutrition education materials: "Today's Mom" developed by the Alabama Cooperative Extension Service and "Have a Healthy Baby" developed by the Purdue University Cooperative Extension Service. Both programs include videos and written materials. Literature will be available describing EFNEP and cooperative efforts with WIC.

Janie Ezell
Expanded Food and Nutrition Education
Program Extension Service, USDA
University of Tennessee
119 Morgan Hall
Knoxville, TN 37901
(615) 974-7402

Food and Nutrition Information Center (FNIC)

FNIC offers a wealth of free services to WIC staff. Stop by and learn how you can borrow materials, get copies of journal articles, and request literature searches. Copies of FNIC's newest publications are available at the booth.

Natalie Updegrove
Food and Nutrition Information Center
10301 Baltimore Boulevard, Room 304
Beltsville, MD 20705-2351
(301) 344-3719

Food and Nutrition Service, USDA

FNS has developed a wide variety of materials to assist local agency professionals with their nutrition education and drug abuse prevention information and referral activities. One of these materials is a new videotape to warn participants about the dangers of alcohol and other drug use during pregnancy. The video presents the dramatized stories of three women who were faced with choices to make about alcohol and other drug use during pregnancy. The video and other education materials are displayed.

Supplemental Food Programs Division
Food and Nutrition Service, USDA
3101 Park Center Drive, Room 540
Alexandria, VA 22302
(703) 305-2730

Food Research and Action Center

The Food Research and Action Center has developed numerous publications on domestic hunger issues. Information will be available on WIC, the Community Childhood Hunger Identification Project, and other topics.

Geraldine Henchy
Food Research and Action Center
1875 Connecticut Avenue, N.W., Suite 540
Washington, DC 20009
(202) 986-2200

Gerber Products Company

Patient literature as well as product information on the following will be featured: Gerber First Foods, Second Foods, and Third Foods; Gerber Graduates main dishes; Gerber Juices and Cereals; Gerber Baby Formulas; Precious Care Breast Pumps; NUK; and Gerber nursing accessories.

William Joe
Gerber Products Company
445 State Street
Fremont, MI 49413
(616) 928-2257

HealthQuest Inc.

HealthQuest Inc. is a specialty supplier of WIC items, including the Instant-Hb system for anemia screening, two full lines of scales and infant/adult measuring devices, quality latex gloves, lancets, centrifuges and plastic hematocrit tubes for safety. Call (216) 864-7054 for your WIC needs. HealthQuest supplies all locations.

Richard C. Harles, President
HealthQuest Inc.
P.O. Box 3410
Cuyahoga Falls, OH 44223
(216) 864-7054

IBM Corporation

The IBM Corporation will demonstrate its interactive computer-based Infant Feeding Nutrition Education Program that provides a new and exciting way for clients to learn about feeding their infants who may range in age from a newborn to 12 months of age.

Mason Wingo
Public Health Consultant
IBM Corporation
1333 Main Street
Columbia, SC 29201
(803) 748-5100

Carol Humphreys
Advisory Systems Analyst
IBM Corporation
HHES Solution Development Center
704 Quince Orchard Road
Gaithersburg, MD 20878
(301) 240-5956

International Lactation Consultants Association

Information will be provided on joining the International Lactation Consultants Association (ILCA); obtaining back issues of journals; ILCA conference tapes; and on Lactation Consultant training. Copies of the Journal of Human Lactation *will be displayed.*

Jane C. Van Nort and Ginger Carney at the following address:

International Lactation Consultants Association
5510 Fellowship Pine Circle
Spring, TX 77379
(713) 251-3563

Kellogg Company

Kellogg Company offers seven WIC-eligible cereals. Product information and order forms for free copies of the new brochures "Nutrition Know-How" and "Cooking Know-How," written in both English and Spanish, will be available.

Karen Ridley, Ph.D., R.D.
Nutrition Communications Manager
Kellogg Company
1 Kellogg Square
Battle Creek, MI 49016
(616) 961-2679

La Leche League International, Inc.

La Leche League International, Inc. provides education for effective lactation management to physicians and lactation specialists through the Medical Associations' Program, Physicians' Seminars, Center for Breastfeeding Information, Lactation Specialist Workshops, Peer Counselor Program, and mother support groups.

Carol Kolar
La Leche League International, Inc.
9616 Minneapolis Avenue
Franklin Park, IL 60131-8209
(708) 455-7730

Medela, Inc.

Medela, Inc. will exhibit its line of quality breast pumps and breastfeeding accessory products. Medela breast pumps feature automatic cycling to simulate a baby's sucking action, adjustable suction levels for mother's comfort, and interchangeable accessory items. Medela will provide information on how to help mothers.

Anita Roewer
Medela, Inc.
P.O. Box 660
McHenry, IL 60051
(800) 435-8316

NASCO

NASCO offers Life/form nontoxic food replicas which are extremely lifelike in appearance and proportionately sized. These replicas are excellent for teaching better eating habits and choosing balanced meals. They are available in kits or individually. NASCO will also display a variety of nutrition and health teaching aids.

Clarice Breidenbach
NASCO
901 Janesville Avenue
Fort Atkinson, WI 53538
(414) 563-2446

Office for Substance Abuse Prevention, National Clearinghouse for Alcohol and Drug Information (NCADI)

The Federal resource for current alcohol and other drug publications and information, NCADI, answers more than 18,000 telephone and mail inquiries each month and distributes some 18 million printed items a year. NCADI's resources include scientific findings; data bases on prevention programs and materials, field experts, Federal grants, and market research; tailored materials for parents, teachers, and youth; and information about organizations and groups concerned with alcohol and other drug problems.

Nelia C. Nadal, M.P.H.
Minority Affairs Coordinator
Office for Substance Abuse Prevention
U.S. Dept. of Health and Human Services
5600 Fishers Lane/Rockwall II
Rockville, MD 20857
(301) 443-0377

Ralston Purina/Beech-Nut Nutrition

Ralston Purina Company (manufacturer of Chex and store brand ready-to-eat cereals) and Beech-Nut Nutrition Corporation (manufacturer of infant cereals and juices) are pleased to have the opportunity to work toward WIC success. Samples of materials which might be useful in the WIC Program will be available.

Nancy Harr
WIC Coordinator
Ralston Purina/Beech-Nut Nutrition
Checkerboard Square
St. Louis, MO 63164
(314) 982-3182

University of Alabama at Birmingham

Exhibit will provide information regarding the following MCH training programs available at the University of Alabama: (1) MPH/MCH track (School of Public Health); (2) Traineeships in Nutrition/Adolescent Health (Department of Pediatrics); and (3) Nutrition/Pediatric Pulmonary Disorders (Department of Pediatrics).

Carol Hickey, Ph.D., R.D.
Division of Maternal and Child Health
School of Public Health
University of Alabama at Birmingham
Birmingham, AL 35294-0008
(205) 934-7161

University of Tennessee, Memphis, Boling Center for Developmental Disabilities

The Boling Center for Developmental Disabilities at the University of Tennessee in Memphis offers training in the interdisciplinary approach to nutrition and developmental disabilities. Enrollment is limited; $200 materials fee; past training program received 75 continuing education credit hours from ADA. The next training session will be offered October 7-18, 1991.

Dianne Brooks, M.S., R.D.
Chief of Nutrition
University of Tennessee, Memphis
Boling Center for Developmental Disabilities
711 Jefferson Avenue
Memphis, TN 38104
(901) 528-6511

Welch Foods, Inc.

Welch's WIC Program Educational Exhibit features Welch's WIC nutrition information and samples of its 100 percent grape juice.

Sarah Pyle, Nicholas Pyle, John Hutchings, and George Jackman at the following address:

Welch Foods, Inc.
c/o Robert Pyle and Associates, Inc.
P.O. Box 3731, N.W.
Washington, DC 20007
(202) 333-8190

Wyeth-Ayerst Laboratories

Representatives at the Wyeth-Ayerst Laboratories exhibit will be happy to discuss SMA, Nursoy, other Wyeth-Ayerst products and services of interest.

Susan J. Leasure
Wyeth-Ayerst Laboratories
P.O. Box 8299
Philadelphia, PA 19101
(215) 971-5609

Sheila Johnson, M.S., R.D., L.D.
Territorial Representative
Wyeth Pediatrics
P.O. Box 122
Palmerdale, AL 35123
(205) 681-1492

Beth Zimmerman, R.D., C.D.E.
Territorial Representative
Wyeth-Ayerst Laboratories
310 Medbury Road
Wallingford, PA 19086
(215) 872-0687

WIC State and Local Agency Exhibitors

Arkansas Department of Health

Nutrition education lesson plans, nutrition pamphlets, and slide tapes will be displayed.

Terrell Brock, M.P.H., R.D., L.D.
Arkansas WIC Program
4815 W. Markham, Slot 43
Little Rock, AR 72205-3867
(501) 661-2234

Arkansas Department of Health, Arkansas Beststart Breastfeeding Center

A large display board, T-Shirts, pamphlets, MCH, and WIC, funded breastfeeding promotion project will be exhibited.

Dr. Linda Black
Arkansas Department of Health
University Tower Building, Suite 1000
1123 S. University
Little Rock, AR 72204
(501) 663-0892

California Department of Health Services WIC Program

Participant education and outreach materials developed by the California WIC Program will be displayed. These will include videos on WIC orientation, voucher usage, and infant nutrition; nutrition pamphlets; and posters. In addition, the manual for health care professionals, "Nutrition During Pregnancy and the Postpartum Woman" developed by the California Department of Health Services will be available.

Deborah Walker, M.A., R.D.
California WIC Program
1103 North B Street, Suite E
Sacramento, CA 95814
(916) 322-5277

District of Columbia WIC State Agency

The District of Columbia WIC State Agency's exhibit will focus on its involvement in various breastfeeding promotion activities such as The Beautiful Breastfed Baby Contest, Motherfest, Breastfeeding Need Assessment Surveys for both the WIC participants and health professionals, breastfeeding abstracts and publications, breastfeeding education materials developed by our program, breastfeeding conferences and in-service training sessions, breastfeeding luncheon symposia, breastfeeding newsletters, breastfeeding posters and calendars.

Elizabeth A. Butler, M.S., R.D., L.D.
1660 L Street, NW, 10th Floor
Washington, DC 20036
(202) 673-6746

Fayette County Health Department - WIC

Nutrition education programs for children ages 3-5 years of age will be presented.

Ann O'Neill, R.N., B.S.N.
Fayette County WIC Program
317 S. Fayette Street
Washington Court House, OH 43160
(614) 335-5910

Georgia Department of Human Resources

Breastfeeding innovation in the Georgia WIC Program will be focus of the exhibit. This exhibit will encompass statewide and local agency highlights of breastfeeding in Georgia.

Carol MacGowan
Georgia WIC Program
878 Peachtree Street, NE, Room 218
Atlanta, GA 30309
(404) 894-7600

Georgia Department of Human Resources

Utilization of computerized nutrition education modules in the Georgia WIC Program: This exhibit will display methods used to provide infant feeding instruction by computer and an evaluation of its acceptance through WIC participant focus groups and staff surveys.

Marilyn Hughes
Georgia WIC Program
878 Peachtree Street, NE, Room 218
Atlanta, GA 30309
(404) 894-7600

Idaho WIC Program

Idaho WIC Paraprofessional training modules are displayed. They are competency-based and require skill demonstration to complete; Idaho Breastfeeding Teaching Kit and assembly information.

Kristin McKie, M.P.H., R.D.
Department of Health and Welfare
450 W. State Street
Boise, ID 83720-5450
(208) 334-5948

Iowa WIC Program

The exhibit will include the outreach display and selected print nutrition education materials available from the State WIC Office.

Brenda Dobson, M.S., R.D.
Iowa Department of Public Health
Third Floor, Lucas Building
Des Moines, IA 50319-0075
(515) 281-7769

Kansas Department of Health and Environment Nutrition and WIC Services

A display of nutrition risk factor and protocol books, and nutrition education materials.

Patricia Dunavan
Kansas Department of Health and Environment
900 SW Jackson, LSOB, 10th Floor
Topeka, KS 66612-1290
(913) 296-1320

Maricopa County WIC Program

A display that includes food cards for use for vendor and client education; "Breastfeeding Helper" - a guide for addressing clients, breastfeeding questions.

Paula Gregg, R.D.
Maricopa County WIC Program
1825 E. Roosevelt
Phoenix, AZ 85006
(602) 440-6840

Massachusetts WIC Program

Breastfeeding promotion in Massachusetts: Includes local program promotional activities such as gift packs, t-shirts/nightgowns, flyers, followup cards, and contests. State Agency promotional activities will include materials from the Northeast Region Breastfeeding Promotion Conference Services, Breastfeeding & HIV/AIDS policy, "Guidelines for Breastfeeding Support in Local WIC Programs", "Massachusetts Breastfeeding Study", Department of Public Health Breastfeeding Policy, and participant educational materials.

Jan Kallio, M.S., R.D.
Massachusetts WIC Program
150 Tremont, 3rd Floor
Boston, MA 02111
(617) 727-6876

Michigan Department of Public Health

The Michigan exhibit highlights a high risk policy, health history questionnaires, nutrition education participant survey, automated nutrition education documentation procedures, guidelines for designing a Food Frequency Questionnaire for the Low Literacy Population and Food Authorization Procedures.

Karen Bettin, M.S., R.D.
Michigan Department of Public Health
P.O. Box 30195
Lansing, MI 48909
(517) 335-8957

Mississippi WIC Program

A display of breastfeeding promotion materials.

Kathy Dugas, M.S., R.D.
Mississippi WIC Program
P.O. Box 1700
Jackson, MS 39215-1700
(601) 960-7842

Missouri Department of Health, Bureau of WIC

State agency will share training manuals and materials used for local agency training and orientation of health/nutrition staff. Emphasis will be placed on special training program for breastfeeding promotion support activities, program goals and objectives.

Rosalind M. Wilkins, M.S., R.D.
Associate Chief-Nutrition
Missouri Department of Health
1730 E. Elm, P.O. Box 570
Jefferson City, MO 65102
(314) 751-6204

Montana WIC Program

An electronic information and education resource for health professionals, HEALTHCON, will be displayed.

Pat Hennessey
Montana WIC Program
1400 Broadway, Cogswell Building
Helena, MT 59620
(406) 444-4746

Nebraska WIC Program

The Nebraska WIC Program, Lincoln Council on Alcoholism and Drugs, and the Alcoholism and Drug Abuse Council of Nebraska have jointly developed a questionnaire to screen pregnant and postpartum women for alcohol, smoking, and other drug use. CDC Pregnancy Surveillance data is also a part of the survey.

Janet Barnett, WIC Nutrition Coordinator
Nebraska WIC Program
301 Centennial Mall South
Lincoln, NE 68509
(402) 471-2781

North Carolina Division of Maternal and Child Health, Nutrition Services Section

The exhibit focuses on a new series of nutrition education materials on infant feeding, prenatal nutrition, and breastfeeding. The exhibit will also include training materials on nutrition assessment, breastfeeding promotion ideas, and computer assisted nutrition education.

Janice Lebeuf, M.P.H./Alice Lenihan, M.P.H., R.D.
North Carolina Division of Maternal and Child Health Nutrition Services Section
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 733-2973

North Dakota WIC Program

Samples of forms used to document nutrition education, a breastfeeding promotion poster, an outreach poster, and client newsletter series, along with information on breastfeeding promotion and support activities will be displayed.

Karen J. Oby, M.P.H., R.D.
WIC Nutrition Coordinator
North Dakota WIC Program
600 East Boulevard Avenue
Bismarck, ND 58505-0200
(701) 224-2493

Puerto Rico WIC Program

An exhibit of materials from a breastfeeding campaign: ball points, baby bib, bags, given to the mother that assist with the course of breastfeeding.

Marie De Los A. Diaz
Puerto Rico WIC Program
254 Padre Colon Street
P.O. Box 25220
Rio Piedras, PR 00928-5220
(809) 766-2804-09 Ext. 205

South Dakota Department of Health, Nutrition Services

Nutrition counseling guidelines from women, infants and children; nutrition assessment forms; and MCH materials will be displayed.

Nancy Spyker, M.S., R.D.
State Nutritionist
South Dakota Department of Health
118 West Capitol
Pierre, SD 57501
(605) 642-6391

Tennessee WIC Program

Three models for the collection of incidence and duration of breastfeeding will be presented. The first two systems which are used to evaluate routine WIC services are 1) categorical eligibility from the WIC Data System and 2) a special "duration breastfed" field from the WIC Data System. The third model is for more extensive monitoring an evaluation of special intensified initiatives using a five-tiered definition of breastfeeding (exclusive breastfeeding, mostly breastfeeding, equal breast and formula, mostly formula and exclusive formula). The primary issues to consider for the use of each model and the advantages of each will be discussed.

Minda Lazarov, M.S., R.D.
Tennessee WIC Program
C2-233 Cordell Hull Building
Nashville, TN 37247-5225
(615) 741-7218

Tennessee WIC Program

In 1986, a DHHS SPRANS grant was received to demonstrate the effectiveness of a comprehensive system of breastfeeding promotion and support among rural and black women. A professional peer counselor team was used to deliver these services. The peer counselor provided prenatal counseling and postpartum support, while the coordinator supervised and provided backup for all direct patient services, provided training, facilitated the networking with health care professionals, and implemented all other medial and community based activities. The activities, the results, and the implications for statewide expansion will be discussed.

Minda Lazarov, M.S., R.D.
Tennessee WIC Program
C2-233 Cordell Hull Building
Nashville, TN 37247-5225
(615) 741-7218

Texas Department of Health, Bureau of WIC Nutrition

Exhibit displaying State agency nutrition education, training, breastfeeding promotion and outreach materials.

Janet Rourke
Texas Department of Health
1100 W. 49th Street
Austin, TX 78756
(512) 458-7444

University of Tennessee, Memphis, The Health Science Center

Two video productions providing basic nutrition education during pregnancy, also addressing drugs, alcohol, and smoking. One uses a traditional presentation, targeting the older client, the other a rap music format, targeting minorities and teens (1 minute and 5.5 minutes respectively). Emphasis is on the basic four food groups, variety, proper weight gain, and motivation for a healthy baby and mother. Educational brochure to accompany video is included.

Treva G. Berryman, M.S., R.D., L.D.N.
University of Tennessee
Department of Obstetrics and Gynecology
853 Jefferson, E-100 Crump
Memphis, TN 38103
(901) 528-5843

Virginia WIC Program

A number of nutrition education and staff training materials will be available for persons attending the meeting.

Jenny Neville
Virginia WIC Program
P.O. Box 2448
Richmond, VA 23218
(804) 786-5420

Washington State WIC Program

The Washington State WIC Program has developed combination WIC Outreach and Breastfeeding Promotion posters that display various ethnic groups, including Indian, Hispanic, Asian, Black, and Caucasian. The posters display a pop art concept, which is appealing to all ethnic groups and is nonthreatening to low literacy clients. The posters have a cartoon-like concept with various messages. One poster shows a breastfeeding pair with the infant thinking "I eat at moms". This poster combines WIC outreach and breastfeeding promotion.

Kristin Hansen/Jacqueline Beard, R.D., L.D.
Department of Health
Mail Stop: LC-12C
Olympia, WA 98504
(206) 586-6733-0095

Wyoming WIC Program

Sample copies of nutrition risk criteria, nutrition risk factor sheets and other intake forms; food frequency forms; local agency nutrition newsletters; breast pump load agreement and criteria for use; computer food package tailoring; videotape about Wyoming's smartcard Pilot Project; and sample computer screens for collection CDC Nutrition Surveillance Information will be displayed.

Janet Moran, M.S., R.D.
Wyoming WIC Program
Hathaway Building, 4th Floor
Cheyenne, WY 82002
(307) 777-7494