United States
Department of
Agriculture

Food and
Nutrition
Service

3101 Park Center Drive
Alexandria, VA 22302

Reply to
Attn. of: SF-121

MAR 23 1992

Subject: Revised/Reissued Policy Memorandum 93-3A
WIC's Role in Screening for Childhood Lead Poisoning

To: Regional Directors
Supplemental Food Programs
All Regions

Attached is the subject revised policy memorandum. As we advised in our recent cc mail message to you and March 3 conference call, the revision consists of the deletion of the Maryland and New Jersey nutrition pamphlets (formerly Exhibits 1, 2 and 3 to Attachment 1). These pamphlets recommend reducing fat in the diet to fight lead poisoning. However, the Nutrition and Technical Services Division advises that recent conversations with experts on lead poisoning prevention indicate that information on dietary fat restriction for lead poisoning prevention is based on limited scientific data. The revision also includes some additional materials pertaining to lead ingestion from water (new Exhibits 3 and 4).

Please ensure that your WIC State Directors receive this revised policy memorandum. We appreciate your assistance on this matter.

We are also providing a list of State lead contacts which the Centers for Disease Prevention and Control recently sent to us. This information should be helpful to your WIC State Directors in setting up referral systems.

Alberta C. Frost

ALBERTA C. FROST
Director
Supplemental Food Programs Division

Attachments

FORM FNS-600 (6-82)

United States Department of Agriculture

Food and Nutrition Service

3101 Park Center Drive
Alexandria, VA 22302

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Subject: Policy Memorandum 93-3A
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To: Regional Directors
Supplemental Food Programs
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Recently, several regional offices and WIC State agencies have raised questions concerning WIC's role in screening for childhood lead poisoning and allowable costs associated with this screening. These questions were prompted by the October 1991 statement issued by the Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services (DHHS), entitled Preventing Lead Poisoning in Young Children. This statement establishes a lower threshold for detecting lead problems and encourages a renewed coordinated society-wide effort to eliminate this disease, one of the most common and preventable health problems today. The WIC Program does not have a specific legislative mandate to screen for lead poisoning. Even so, since 1979 FNS has supported CDC's lead poisoning initiative. This was done primarily by revising WIC regulations to (1) permit the use of free erythrocyte protoporphyrin (EP) as an appropriate blood test for iron-deficiency anemia in determining nutritional risk for WIC eligibility and (2) allow the purchase of the hematofluorometer to perform this test. The intent of these regulatory provisions was to maximize resources and eliminate duplication of effort, particularly invasive testing on children. At that time CDC recommended EP as an effective test not only for determining iron deficiency, but also for lead screening. Therefore, WIC could help detect children with possible lead toxicity and refer them for further testing.

In its 1991 statement, CDC has lowered the threshold of blood lead level at which follow up and intervention are recommended for children from 25 micrograms per deciliter (ug/dL) of whole blood to 10 ug/dL. The statement also explains that the EP test is not sensitive enough to identify most children whose blood lead levels are between 10 and 25 ug/dL and even misses many children whose blood lead levels are equal to or greater than 25 ug/dL. Consequently, CDC recommends that measurement of blood lead levels should replace the EP test for lead screening.

Further, CDC has identified the problem of possible contamination with capillary samples from improper blood drawing techniques, and clarifies that capillary tests are presumptive for lead toxicity and must be confirmed using venous blood samples (the preferred method of lead screening now being encouraged). However, CDC recognizes capillary blood samples to be a feasible method of blood collection provided practitioner errors are kept to a minimum. See Attachment 1 for additional details on WIC's historical involvement with and CDC's latest position on lead screening.

Based on the new guidelines from CDC, we now believe that the focus of WIC's role in lead screening should be that of providing information, making referrals and assisting in an appropriate plan of nutrition intervention. This change in focus is based on comments received on our first draft of this policy memorandum. (See Attachment 2.)

Therefore, the following is FNS policy which emphasizes this focus:

WIC State agencies are encouraged to:

- identify local health programs, e.g., Early and Periodic Screening, Diagnostic and Treatment Program, or local initiatives designed to address lead poisoning;
- establish referral systems for lead screening with identified programs;
- inquire during WIC nutrition screening if a client has had a blood lead test and make the necessary referral to obtain one, when appropriate;
- provide information about lead poisoning prevention to clients;
- encourage identified lead screening programs to assist WIC by sharing information on blood work that could expedite WIC certification; and
- assist in the development of an appropriate nutrition care plan for those children identified as having a blood lead problem, including the provision of nutrition education and counseling.

Further, WIC State and local agencies are also encouraged to change their nutritional risk cut-off levels for blood lead used for WIC certifications to be consistent with CDC's

recommendations. CDC states that levels in children as low as 10 ug/dL are associated with growth impairment and levels of 15-19 ug/dL require nutrition intervention. Maternal levels of 10-15 ug/dL may be associated with reduced gestational age and reduced birth weight.

In cases where WIC State and local agencies are interested in being more extensively involved with lead screening than prescribed above, cooperative arrangements should be worked out at the State and local level. However, it is important that ongoing WIC policy concerning allowable and unallowable costs be adhered to as follows:

Allowable WIC Costs

- All costs associated with performing hematological tests used for detecting iron-deficiency, such as hemoglobin, hematocrit or free erythrocyte protoporphyrin (EP). Examples of these allowable costs include:
  - Medical supplies, such as lancets, alcohol swabs, latex gloves and capillary tubes.
  - Medical equipment, such as spectrophotometers, hematofluorometers and centrifuges.
  - Staff time of WIC personnel to draw and analyze blood samples for iron-deficiency.
- Staff time of WIC personnel to develop a nutrition care plan, provide nutrition education and counseling, and make health care referrals.

In addition, we are aware that some WIC clinics operate in a hospital or other health care setting that has protocols which require blood samples for more complete blood work. In these instances, WIC can pay an agreed-upon amount that approximates the cost that WIC would have incurred if it had conducted its own blood iron screening for WIC eligibility. The WIC State agency would negotiate a "fair share" proration for the labor and materials associated with WIC's blood work expenses.

In order to minimize invasive testing of children, WIC State agencies are also extended the option to allow their local agencies, when drawing blood for WIC eligibility determination, to draw an extra sample(s) for use by other programs in conducting lead screening. The time required by WIC staff and medical supplies could, at State option, be reimbursable from the other program(s).

Nonallowable WIC Costs

- Costs associated with venous blood lead tests which are over and above WIC's fair prorata share cost that approximate the costs WIC would have incurred if doing an iron-deficiency screen using hematocrit, hemoglobin or EP testing. Venous blood lead tests, now being encouraged by CDC for lead screening, are inappropriately comprehensive for determining WIC eligibility.

- Laboratory analyses of blood samples, whether venous or capillary, that are intended for any purpose other than to assess for iron status. Therefore, analyses for lead screening are not WIC-allowable costs.

It is suggested that written agreements be entered into at either the State or local level to clarify roles and responsibilities in all coordination efforts.

Multiple copies of the CDC October 1991 statement are available at no charge by calling CDC's Lead Poisoning Prevention Branch at (404) 488-7330 or by writing to:

Centers for Disease Control and Prevention
Public Information Office
MS-F28
1600 Clifton Road
Atlanta, Georgia 30333

A copy of another new DHHS publication, Childhood Lead Poisoning Prevention: A Resource Directory, is attached for your information. Your WIC State and local agencies may obtain a copy at no charge by contacting the:

National Maternal and Child Health Clearinghouse
8201 Greensboro Drive, Suite 600
McLean, Virginia 22102
Telephone: (703) 821-8955, Ext. 254
Fax: (703) 821-2098

ALBERTA C. FROST
Director
Supplemental Food Programs Division

Attachments

Attachment 1

BACKGROUND INFORMATION

General Information on Childhood Lead Poisoning

According to the Centers for Disease Control and Prevention (CDC), childhood lead poisoning is one of the most common and preventable pediatric health problems today. CDC states that lead is a poison that affects virtually every system in the body. It is particularly harmful to the developing brain and nervous system of fetuses and young children. Very severe lead exposure in children can cause coma, convulsions, and even death. CDC points out that enough is now known about the sources of lead exposure and about ways of preventing this exposure to begin efforts to permanently eradicate this disease.

Sources and pathways of lead exposure in children include: lead-based paint, particularly in older homes; air, soil and dust; drinking water; parental occupations and hobbies; pottery for food storage; toys; some folk medicines; and imported canned food with lead-soldered seams.

Since virtually all U.S. children are at risk for lead poisoning, CDC recommends universal screening (except in areas that have been determined not to have a lead poisoning problem) using a blood lead test.

Background on WIC's Previous Involvement in Coordination

In 1979 CDC initiated an interagency coordinated effort to detect and prevent lead poisoning in young children. Federal, State and local agencies of various programs were involved. Other key players included: DHHS' Bureau of Community Health Services and Early and Periodic Screening, Diagnostic and Treatment Program (EPSDT); WIC; and the Department of Housing and Urban Development. With the assistance of State Health Departments, trial demonstration projects were to be carried out in five States--South Carolina, Maryland, Massachusetts, Michigan, and North Carolina.

At that time, the hematofluorometer--a scanning machine that could inexpensively analyze blood samples for iron deficiency and/or possible lead toxicity--had recently been developed. This blood analysis was referred to as an EP test. The EP was considered a more sensitive indicator of iron deficiency (before the onset of anemia) and possible lead toxicity than hematocrit or hemoglobin. A drop of blood

from the child's finger--a capillary sample--was placed on a slide and run through the hematofluorometer which recorded the EP level. Children who demonstrated an elevated EP were to be referred for management of iron deficiency as well as further testing for elevated blood lead levels. CDC established the threshold of blood lead level for follow up and intervention for children at 25 micrograms per deciliters of whole blood (ug/dL). As a result of the interagency coordinated effort, WIC regulations were revised to permit the purchase of hematofluorometers and use of the EP to determine nutritional risk.

However, the CDC interagency coordinated lead screening initiative was short lived. It was dismantled in 1983 with the onset of the Maternal and Child Health block grant program and the simultaneous removal of CDC's lead screening program as a line item in the budget.

CDC's Latest Initiative

In its 1991 statement, CDC is once again calling for a total interagency coordinated effort to eliminate lead poisoning. This latest statement by CDC lowers the threshold of blood lead level at which follow up and interventions are recommended for children from 25 micrograms per deciliter (ug/dL) of whole blood to 10 ug/dL. The statement also points out that the EP test is not sensitive enough to detect blood lead levels below 25 ug/dl. Therefore, CDC encourages increased use of venous blood lead tests.

EPSDT Program

The EPSDT Program, which is a Medicaid benefit and administered by DHHS, is required to screen children 6 to 72 months of age, unless it can be shown that the communities in which the children live do not have a childhood lead poisoning problem (highly unlikely in low-income areas). A revised State Medicaid Manual Instruction on lead screening in EPSDT is being issued at the Federal level to reflect CDC's latest guidelines. It will recommend coordinating with other programs, such as WIC.

Head Start Program

Head Start emphasizes the importance of early identification of health problems. Since many preschool children of low-income families rarely or never see a doctor or dentist, Head Start provides every child with a comprehensive health care program, including medical, dental, mental health, and nutrition services. Children receive a complete health examination, including vision and hearing tests, identification of disabling conditions, immunizations, and a dental exam.

However, we have been advised that no decision has been made at the Federal level concerning lead screening in Head Start. At this time, each local program has a Health Advisory Committee which makes its own decision on whether or not to require such screening based on incidence of lead poisoning in the community. Currently, about 58 percent of Head Start children also participate in EPSDT, so it is likely that the two programs would coordinate on such screening to eliminate duplication of effort.

U.S. Military

A legislative mandate, P.L. 102-190, enacted December 5, 1991, requires well-baby care offered by military health services to screen each infant who is a military dependent for blood lead levels.

Nutrition Intervention

Nutrition intervention is important in reducing or overcoming exposure to lead. According to CDC:

- a child should eat regular meals, since more lead is absorbed on an empty stomach; and
- a child's diet should contain plenty of iron and calcium.

Refer to page 31 of CDC's 1991 Statement for additional recommendations on interventions related to food storage and preparation to reduce a child's exposure to lead.

Potential for Lead Ingestion from Water Used to Prepare Infant Formula

Attached is information from CDC, the Infant Formula Council, and a comment from the Chairman of the Committee on Nutrition, American Academy of Pediatrics on the Infant Formula Council's statement on this matter. (See Exhibits 1, 2 and 3.) These provide recommendations on how to prevent leaching of lead from tap water in preparing infant formula powder or concentrate. Also included is a copy of a brochure entitled "Lead and Your Drinking Water" published by the Environmental Protection Agency (Exhibit 4).

Exhibit 1

1/21/92

Subject: CDC Recommendations Regarding Lead Poisoning from Powdered/Concentrated Infant Formula

Notes to the File: Conversation with Dr. Tom Matte, M.D., Medical Epidemiologist, New York Regional Office, Centers for Disease Control, on this subject

Jerry Hershovitz, with the Lead Poisoning Office, CDC (Headquarters) referred me to Dr. Matte in one of CDC's Regional Offices. Dr. Matte stated that CDC does not have a specific recommendation regarding preparation of infant formula to reduce lead poisoning. Rather, they have published general recommendations related to the hazards of lead from drinking tap water which are directed to all those at potential risk, i.e., infants, children, pregnant women. CDC's basic recommendation is that those who have lead pipes, lead-soldered pipes or unknown types of pipes should avoid drinking first drawn water in the day. This recommendation is in CDC's guidance document, Preventing Lead Poisoning in Children (October 1991) (I contacted CDC today to order multiple copies of this publication). CDC suggests that people collect water in the evening after it has been running (e.g., after the dishes are washed). It can be collected in a container and then used the next day; this avoids wasting water in the morning by letting it run.

In reference to recommendations given in the letter to the editor in the 1/9/92 New England J. of Medicine and other articles on this subject, Dr. Matte had the following comments:

- Regarding the time period recommended to flush the tap water:
  Dr. Matte stated that they know very little about how much lead is in bottled water and EPA does not have a standard for lead in bottled water. Thus, we can not assume that bottled water is lead-free. He stated that anyone wishing to use bottled water should have it tested for lead or contact the manufacturer for information on lead content before using it for an infant.

- Regarding avoiding boiled water for formula due to lead concentration:
  Dr. Matte stated that he has reservations about the conclusion that boiling of water should be discouraged due to lead concentrating. He stated that lead would concentrate in the water only in proportion to the volume of water reduced by boiling; water would have to be boiled for an extended period in order to reduce the water volume significantly and the water would have to have a high lead level initially.

Dr. Matte 1/21/92

- Regarding avoiding use of hot tap water to prepare formula Dr. Matte stated that he agreed that hot tap water should not be used to prepare formula because lead is more soluble at higher temperatures.

Donna Blum
Nutritionist
Nutrition Services and Education Branch
Nutrition and Technical Services Division

Exhibit 2

INFANT FORMULA COUNCIL IFC Suite 300-C • 5775 Peachtree-Dunwoody Road • Atlanta, Georgia 30342 • (404) 252-3663

STAND-BY STATEMENT OF THE INFANT FORMULA COUNCIL

RE: Potential for lead ingestion from water used to prepare infant formula

As a precaution against the possible leaching of lead from metal water pipes, the Council recommends the following steps be taken when using tap water in preparing infant formula powder or concentrate:

1) Allow cold tap water to run for a short period of time (about two minutes) before collecting for formula preparation;

2) Avoid using hot tap water for formula preparation; and

3) Sterilise the water to ensure microbiological safety by bringing it to a rolling boil. Avoid prolonged boiling or reboiling; these practices will cause further water evaporation and concentration of any lead present.

Until the infant's physician advises otherwise, powder and concentrate forms of infant formula should be mixed with sterilised water. Many physicians advise sterilising water is unnecessary for formula preparation when municipal water supplies are used.

If parents are concerned about the lead level in water used to prepare infant formula, they should discuss this issue with their doctor. The doctor might recommend using distilled bottled water to mix with infant formula powder or concentrate, or recommend ready-to-feed infant formula which does not require mixing with water.

-30-

Contact: Mardi Mountford
or
Russell Lemieux
(404) 252-3663

January 8 [illegible]

American Academy of Pediatrics

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Elk Grove Village, IL 60009-0927
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Committee on Nutrition

Chairman
Ronald E. Kleinman, M.D.
Combined Program in Pediatric Gastroenterology & Nutrition
Massachusetts General Hospital
Boston, MA 02114
617-726-2930

Exhibit 3

2 March 1992

Mr. Raymond Koteras, M.H.A.
American Academy of Pediatrics
P.O. Box 927
141 Northwest Pt. Blvd.
Elk Grove Village, IL 60009-0927

Dear Ray:

I am writing in response to the questions posed by the USDA with regard to the relationship between high-iron formulas and infant salmonellosis on Guam and also with regard to the recommendations of the Infant Formula Council on preparation of powdered formulas to reduce the possibility of contamination by lead contained in municipal water supplies.

The paper by Haddock et al. (Amer J Pub Health, Aug. 1991, 81:8:997-1000) is the first to conclude that there is a relationship between increased risk of salmonella infection in infants who consume a formula fortified with iron at greater than 10 mg/L. There have been no other reports in the United States or elsewhere in the world that have data to support this relationship; therefore, I believe that this study provides us with preliminary information which must be confirmed. The study does not provide any data to show how much iron can be put into the formula before the risk of salmonellosis is increased, nor does it balance the risks and complications of iron deficiency against the risk of acquiring salmonella. Therefore, for all these reasons I do not recommend any changes in our recommendations which promote the use of high-iron formulas for all formula-fed infants, including those enrolled in the WIC program. I understand that the CDC is currently planning a study of infant salmonella infections in the United States, and therefore I expect that over the next several years more data will emerge, which may then support need for change in policy.

With regard to the recommendations for preparation of powdered formulas, I believe that we can support the recommendations of the Infant Formula Council. The only change that I would make is to qualify the recommendation about boiling the water before it is added to the pow-

dered formula. Since municipal water supplies in the United States are safe and not contaminated by bacteria, most pediatricians do not recommend boiling the water before it is added to the formula. This recommendation (to boil the water) appears on the cans of powdered formula to protect the companies as much as to protect the infants; therefore, I would change the recommendation of the Infant Formula Council to read, "If water is to be boiled, it should be done by bringing the water to a rolling boil...."

I hope that I have adequately answered these questions, Ray. I would be glad to amplify on this some more if necessary. Thanks for passing this along. With best regards,

Sincerely,

Ronald E. Kleinman, M.D.

REK/pbl