VENA

VALUE ENHANCED NUTRITION ASSESSMENT IN WIC

The First Step In Quality Nutrition Services

WIC MAKES A DIFFERENCE

U.S. Department of Agriculture
Food and Nutrition Service

VENA

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Food and Nutrition Service (FNS)/National WIC Association (NWA) Value Enhanced Nutrition Assessment (VENA) Workgroup

From the moment of its inception, VENA has been a collaborative effort. FNS is grateful to all of the VENA workgroup members who contributed their time and talent to the development of the VENA Guidance. Their unflagging commitment to the VENA initiative and the WIC Program is inspiring - because of them, WIC does make a difference.

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April 2006

USDA Food & Nutrition Service

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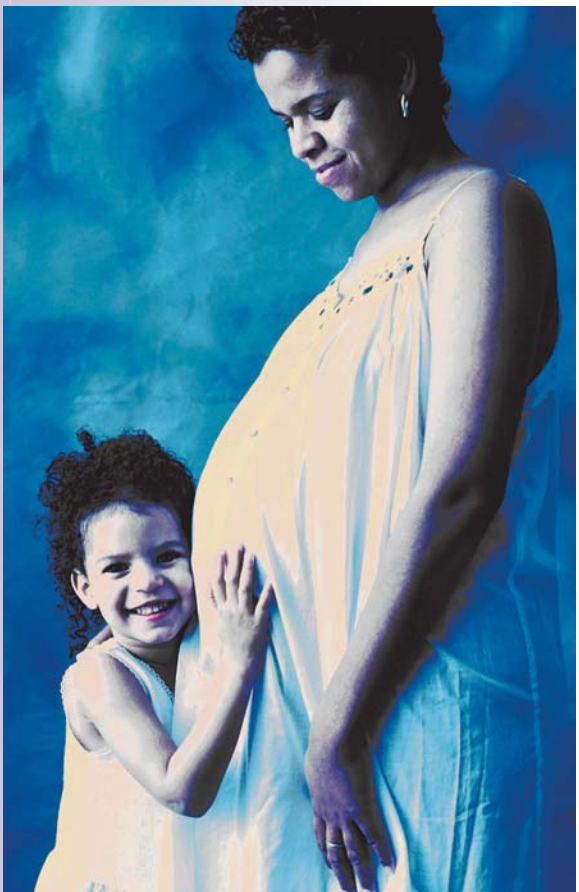
Executive Summary

What is VENA?
VENA is a new initiative, developed jointly by the Food and Nutrition Service (FNS) and the National WIC Association (NWA), to improve nutrition services in the WIC Program by establishing standards for the assessment process used to determine WIC eligibility *and* to personalize nutrition education, referrals, and food package tailoring. VENA is part of the larger process known as Revitalizing Quality Nutrition Services (RQNS) in WIC.

Why is VENA Necessary?
VENA responds to recommendations made in a 2002 Institute of Medicine (IOM) report, *Dietary Assessment in the WIC Program*[1]. In its report, the IOM recommended that all women and children ages 2 to 5 years who meet the eligibility requirements of income, category, and residency status should also be presumed to meet the requirement of nutrition risk through the category of dietary risk based on *failure to meet Dietary Guidelines.*

[1] Institute of Medicine; Committee on Dietary Risk Assessment in the WIC Program. Dietary risk assessment in the WIC program. Washington (DC): National Academy Press; 2002.

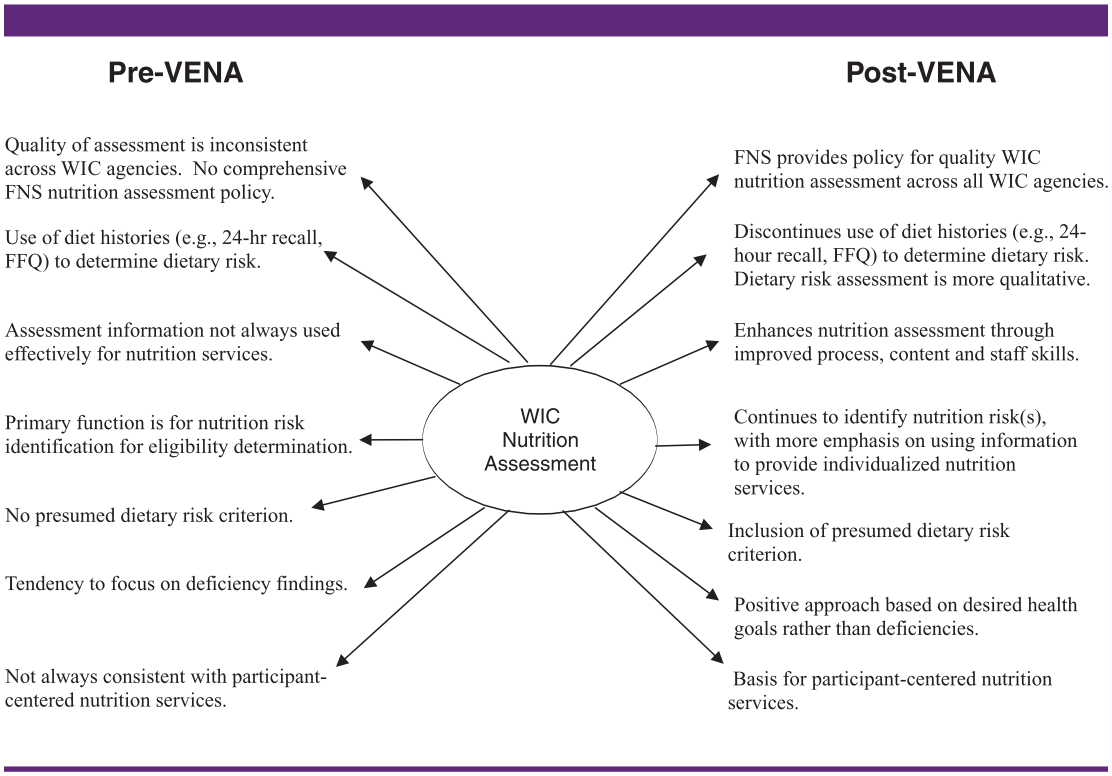


The IOM made clear in its recommendation that the intent was **not** to affect the current use of other nutrition risk criteria for eligibility determination. That is, information should continue to be collected for the identification of potentially serious nutrition risk factors, such as growth issues, iron deficiency, or predisposing medical conditions related to nutrition. Such information is required for the priority placement of participants, and to provide the necessary referrals and individualize other nutrition services.

As a result of the IOM report findings and recommendation for a presumed dietary risk criterion, the FNS identified the need to develop comprehensive nutrition assessment guidance. VENA not only serves to enhance the nutrition services of the WIC Program, but also to ensure the integrity of the WIC Program as a premier public health nutrition program.

How will VENA Change Current Assessment Procedures?

The *WIC Nutrition Services Standards* (NSS)[2] provide a framework of nutrition assessment components to guide State agencies in establishing policy and practices. The VENA Policy and Guidance builds on the NSS and defines in more detail, the process and content of a quality WIC nutrition assessment upon which nutrition education, food package selection and referrals will be based. In addition, VENA identifies the essential staff competencies necessary to conduct an assessment. The diagram below highlights and summarizes the changes anticipated with the implementation of VENA.



What are the Anticipated Results of VENA?

The anticipated results of VENA are summarized below:

State agencies will:

- Enhance the nutrition assessment process.
- Empower staff by improving their nutrition assessment skills.
- Enjoy more satisfied staff and participants.

[2] U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: WIC Nutrition Services Standards, October 2001. Available from: http.www.fns.usda.gov/wic/benefitsandservices/nutritionservicesstds.HTM

WIC staff members will:

- Use their limited time to collect relevant nutrition assessment information.
- Use critical thinking skills to link assessment information to a participant's individual needs and concerns.
- Plan a personalized nutrition intervention.
- Engage the participant in dialogue and goal setting.
- Weave nutrition and diet as the common thread throughout the assessment process.

WIC participants will:

- Experience a positive encounter.
- Receive information and services related to their individual needs and concerns.
- Feel involved in goal setting to improve their own health.

When will VENA be Implemented?

Implementation of VENA will be a gradual process determined by each State agency's current staffing and nutrition assessment processes. Initially, State agencies will conduct a self-evaluation of their current nutrition assessment practices to determine areas of strengths and potential areas for enhancement. A summary of the self-evaluation findings will be submitted to the FNS by December 15, 2006. The FNS will provide further guidance on the self-evaluation in a separate communiqué. Subsequently, State agencies will submit a plan for the implementation of VENA in August 2007 with their Fiscal Year 2008 State Plan submissions. The FNS expects that all State agencies will begin the use of their *value enhanced* nutrition assessment processes by Fiscal Year 2010.

Introduction

To maximize the effectiveness of the WIC Program, the nutrition services provided must reflect current scientific knowledge and contemporary public health issues. Recognizing this need, the Food and Nutrition Service (FNS) developed the process of Revitalizing Quality Nutrition Services (RQNS), with the goal of continually improving program services. RQNS initiatives include:

- The WIC nutrition risk criteria policy[1] to ensure that all criteria are science-based; and
- The *WIC Nutrition Services Standards* (NSS)[2] designed to improve the quality and delivery of WIC services.

Value Enhanced Nutrition Assessment (VENA) is the latest initiative under the umbrella of RQNS. VENA builds on the information provided in the WIC nutrition risk policy and the NSS. It defines FNS policy for performing a quality WIC nutrition assessment. This policy reinforces the importance of nutrition assessment in determining eligibility *and* providing other nutrition services that are relevant to the participant's needs. A WIC nutrition assessment is defined below.

A **WIC nutrition assessment** is the process of obtaining and synthesizing relevant and accurate information in order to:

- Assess an applicant's nutrition status and risk;
- Design appropriate nutrition education and counseling;
- Tailor the food package to address nutrition needs; and
- Make appropriate referrals.[3]

The VENA policy encompasses all aspects of a WIC nutrition assessment, which is an essential component of the WIC nutrition services process. A quality WIC nutrition assessment requires a systematic approach or standardized process of collecting nutrition assessment information to assure that all applicants are assessed in a consistent and equitable manner. However, the nutrition services provided to each participant will be *personalized*, based on need and interest identified through the assessment. The WIC nutrition services process is based on the American Dietetic Association (ADA) nutrition care process[4], but modified to better fit the scope and public health orientation of the WIC Program.

[1] U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: WIC Policy Memorandum 98-9, Revision 8: Nutrition Risk Criteria, March 2005. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Office.

[2] U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: WIC Nutrition Services Standards, October 2001. Available from: http.www.fns.usda.gov/wic/benefitsandservices/nutritionservicesstds.HTM

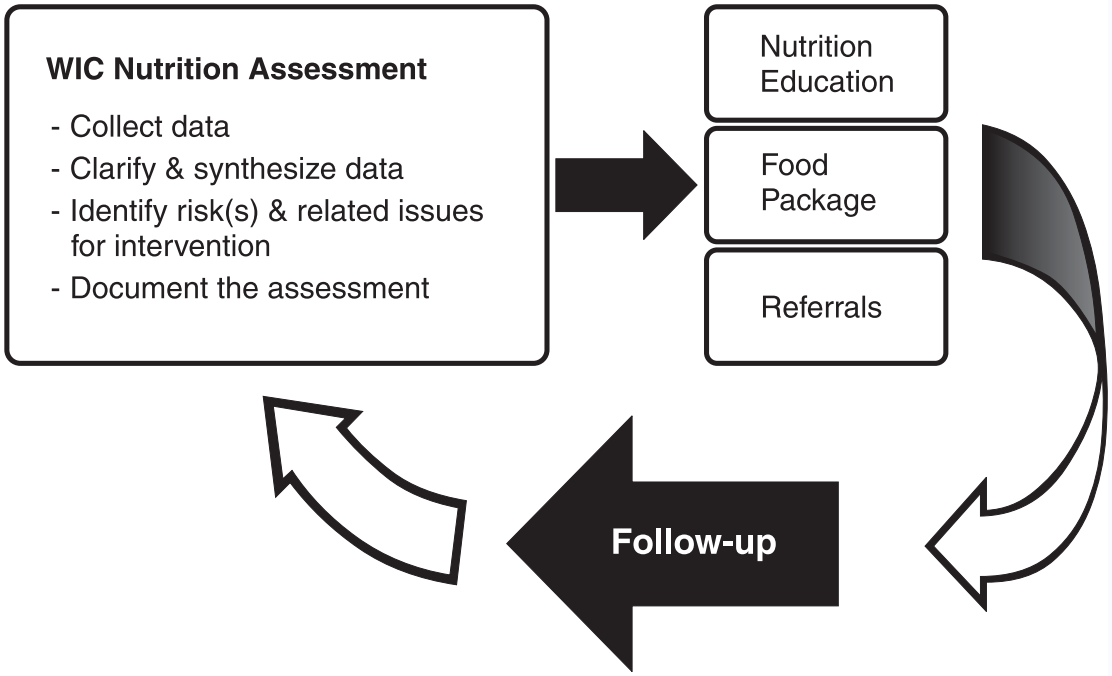
[3] Adapted from WIC Program Regulations; 7 Code of Federal Regulations; Part 246; Section 246.7(e). Available from: http.www.fns.usda.gov/wic/lawsandregulations/default.htm

[4] Lacey K, Pritchett E. Nutrition care process and Model: ADA adopts road map to quality care and outcomes management. J AM Diet Assoc. 2003; 103:10061-1072.

Standardized Process versus Standardized Care
"A standardized process refers to a consistent structure and framework used to provide nutrition care, whereas standardized care infers that all patients/clients receive the same care. This process supports and promotes individualized care, not standardized care." (ADA August 2003)

The following diagram illustrates how nutrition assessment fits into the WIC nutrition services process.

WIC Nutrition Services Process



VENA is the first step in quality nutrition services. That is, in order to provide an appropriate and personalized nutrition intervention (i.e., nutrition education, food package tailoring, and referrals), it is necessary to first conduct a nutrition assessment. Follow-up is also an important part of the nutrition services process; it allows WIC staff to monitor progress, reinforce the nutrition education message, and elicit feedback from the participant. In addition, follow-up "closes the loop" and allows for the continuity of care from initial certification visits to subsequent nutrition education and certification visits.

The information necessary for a complete WIC nutrition assessment includes anthropometric, biochemical, clinical, dietary, environmental,

and family data as well as other information (see Appendix A, *Relevant WIC Nutrition Assessment Information Tables*, for more details) that impacts nutritional status. Once relevant information is collected, it must be clarified and synthesized. Two useful methods to accomplish this are: 1) the skillful use of questions (see Appendix B, *Assessment Questions and Questionnaires,* for more details), and 2) the application of critical thinking (see *Process of a Value Enhanced WIC Nutrition Assessment* section). These methods help to ensure that the information collected is accurate, which is important for the correct identification of nutrition risk(s). In addition, the use of critical thinking facilitates a holistic view of the applicant and the interrelationship between and among risk conditions, which are necessary to plan an appropriate intervention.

All State agencies have the responsibility to develop and provide policies, procedures, and training to ensure that quality nutrition assessments are completed by all local agencies. The VENA Guidance is designed to assist State agencies by:

- Defining WIC nutrition assessment and its process.
- Explaining the implications of the Institute of Medicine (IOM) report *Dietary Risk Assessment in the WIC Program* on the WIC nutrition assessment process.
- Identifying staff competencies related to a WIC nutrition assessment.
- Describing how to implement VENA.

The appendices provide additional, more detailed information to assist State agencies by:

- Providing tables of relevant WIC nutrition assessment information.
- Outlining a model (*Health Outcome-Based WIC Nutrition Assessment) to* re-direct the assessment process away from deficiency findings to one based on the prevention of health problems and the applicant's needs.
- Including guidelines to develop valid questions and questionnaires for nutrition assessment and clarifying the appropriate use of closed-ended vs. open-ended questions.
- Listing extensive resources and references covering all aspect of nutrition assessment.

In summary, VENA is FNS Policy and Guidance that State agencies will use to enhance nutrition assessment protocols that serve to identify nutrition risks and guide WIC participant-centered services.

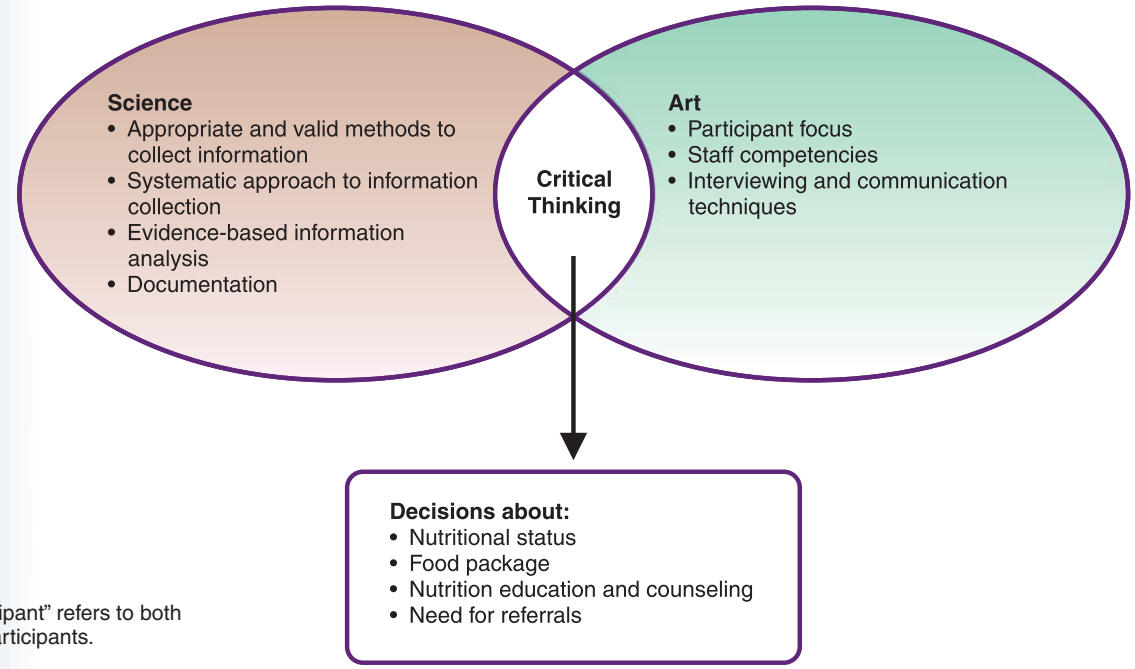
Process of a Value Enhanced WIC Nutrition Assessment

The purpose of this chapter is to review the aspects of the nutrition assessment process that are necessary to provide a *value enhanced WIC nutrition assessment* for every participant. There are two fundamental precepts for this chapter:

1) The WIC nutrition assessment is the foundation from which all subsequent nutrition services in WIC are designed; and

2) A WIC nutrition assessment is the process of obtaining and synthesizing relevant and accurate information about a participant[1] in order to develop the most appropriate WIC intervention.

A quality WIC nutrition assessment contains elements of both art and science, and requires the use of a systematic approach to collect, evaluate, and make use of the information that is elicited from the participant. It must be grounded in science to ensure accuracy and consistency in nutrition risk identification, but should also be tailored to the unique needs of each participant. Skills (also called competencies) in communication and rapport building, critical thinking, and assessment techniques are essential for WIC staff to be able to perform a nutrition assessment that can be used for meaningful and relevant nutrition education, counseling, and other nutrition-related services.



[1] The term "participant" refers to both applicants and participants.

Ideally, nutrition assessment consists of identifying each nutrition risk or condition pertinent to the participant through careful, systematic data collection and questioning. The primary goals of the WIC nutrition assessment are 1) to identify and document the participant's risk(s) and needs in a prioritized manner so they can be addressed through the appropriate nutrition services; and 2) to facilitate the continuity of care throughout subsequent WIC visits, so that the participant's progress can be maintained and built upon.

In establishing an interactive, participatory approach to nutrition assessment, State agencies should consider:

- Environment;
- Engagement; and
- Endpoint.

The *environment,* both physical and psychological, can influence the relationship between the participant and WIC staff. A warm, friendly environment communicates that participants are welcome. Feeling welcome can help build a sense of trust and foster good rapport with the participant who is asked to provide personal information. Collecting quality information requires that staff members have good communication skills in order to ask the right questions at the right time and in the right format.

Engagement is the active involvement of the participant in the assessment process through dialogue, information exchange, listening, and feedback. Participants should understand the purpose, steps, and expectations of the nutrition assessment, and should feel free to express comments or concerns at any time. The *value enhanced* WIC nutrition assessment process, whether paper-based or a computer-assisted interview, should emphasize face-to-face interaction to build rapport, encourage probing to clarify information, and allow feedback to flow smoothly between staff and participant.

The *endpoint* of the value enhanced WIC nutrition assessment is the identification of risk factors and a plan for intervention. Risk factors may be considered as the springboard to formulate an intervention plan, rather than the conclusion of the discussion. But planning the most effective WIC intervention *for* a participant must include interaction *with* the participant. A participatory approach to assessment also makes use, where appropriate, of previously-collected information to assess progress in subsequent certifications.

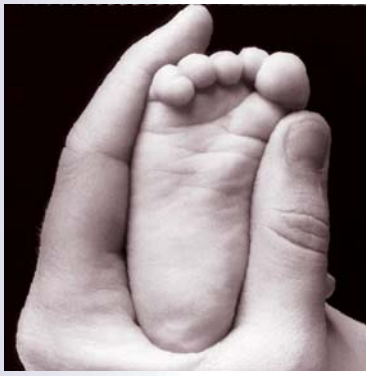
Steps in the Process of WIC Nutrition Assessment

A *value enhanced* WIC nutrition assessment is accomplished by systematically completing a series of five steps:

1. Collect the relevant information;
2. Clarify and synthesize the information that has been collected;
3. Identify the pertinent and appropriate risk(s) and other related issues;
4. Document the assessment; and
5. Follow up on previous assessments, as appropriate.

NOTE: Not only are these steps sequential, they are also cyclical in nature, so that Step #5, Follow-up, naturally overlaps with Step #1, Collecting the relevant information, in that follow-up activities generally involve information collection as their starting points.

Now to examine each of these steps in greater detail:



1. Collect the relevant information.

As indicated above, collecting information relevant to a complete and effective WIC nutrition assessment must be done in an organized, thorough, and consistent manner. This helps to ensure that relevant information is gathered efficiently, and that data are not missed, while allowing for reasoning and flexible thinking in the evaluation of the information collected (Step #2).

No single measurement can indicate a participant's nutritional status or ability to improve health. In fact, the VENA initiative emerged from the finding of the 2002 IOM report that "traditional" tools generally accepted for use in establishing dietary risk (food frequency questionnaires and 24-hour dietary recalls) were not appropriate for individual eligibility determinations in the WIC setting. This finding did not mean, however, that local WIC agency staff should not collect assessment information (to include diet information) for each WIC participant. In addition, it does not mean that the assessment process should stop once one risk has been identified. The assessment must be comprehensive in order to obtain a clear picture of the issues and variables that impact the participant's nutritional and health status.

With this in mind, the following relevant and accurate information should be obtained and synthesized during each WIC nutrition assessment. The information elements listed below represent an outline of the data to be collected. Appendix A includes a table that lists for each WIC participant category more comprehensive, detailed information to guide the type and content of questions that should be asked during the information-collection step of the VENA process. The table addresses:

- *Anthropometric data*
- *Biochemical data*
- *Clinical data*
- *Dietary information*
- *Environmental and family information*
- *Other adjunct health information and technical requirements*

Appropriate and valid methods to collect information

When selecting methods (self-administered questionnaires, use of automated systems, etc.) to collect relevant information, the WIC State agency should consider, in addition to the risk criteria and FNS-established cut-off levels (such as hemoglobin/hematocrit levels), such factors as the participant who is being assessed, the practice setting(s), the requirements of the State or local management information/automated system, and the need for accuracy and reliability in risk determination. Possible sources for such methodologies include, but are not limited to:

- Government agencies, such as the Department of Health and Human Services' (DHHS) Centers for Disease Control and Prevention (CDC) and Maternal and Child Health Bureau (MCHB);
- Organizations, such as the American Dietetic Association (ADA) and the American Academy of Pediatrics (AAP);
- Professionals, recognized as experts in disciplines such as nutrition, medicine, or nursing; and
- Methodologies, devised for specific equipment, such as hemoglobin-testing machines.

Use of tools to collect information

State agencies may choose to develop their own instruments for collecting relevant information, or may elect to adapt the instrument(s) developed by another State agency for their own use. Whichever option a State agency elects, some of the questions to be considered for this step in the process should include:

- What are the issues and needs of the participant?
- What risk criteria are used, and how should they be identified?

- What information needs to be collected?
- How might the information to be collected differ for a new certification, a subsequent certification, or a mid-certification interview? (For example, the medical history information section at a subsequent certification could be abbreviated to capture only new information since the last certification.)
- What method(s) should be used to obtain the information – oral, written, other, and/or some combination of these methods?
- What types of questions should be asked – open-ended, closed-ended (yes/no), or a combination of the two?
- What information can or should be captured in an automated system?
- How will the information-collection instrument(s) be tested to determine validity?
- How will State/local agency WIC staff be trained and monitored to ensure consistent use of the information-collection instrument(s)?

Additional guidance can also be found in the *WIC Nutrition Services Standards* (issued by the FNS in 2001), and the *Dietary Risk Assessment in WIC* Section and Appendix B, *Assessment Questions and Questionnaires,* to this Guidance.

Systematic approach to information collection

Finally, a *systematic approach* to the collection of relevant information means obtaining the information in an organized and consistent way. One example of such an approach is using a written procedure that details a sequence of steps to collect height and weight measurements for each participant. A systematic approach ensures that participants are assessed equitably and accurately. Each State agency should determine the systematic approach that is most suitable for its needs. While there is no "best" approach for a WIC nutrition assessment, three examples are:

1. The traditional "ABCD" (Anthropometric, Biochemical, Clinical, Dietary data) approach used most frequently throughout the larger nutrition profession;
2. A modified ABCD approach, organized by WIC participant category (see Appendix A, *Relevant WIC Nutrition Assessment Information Tables*); and
3. A health outcome-based approach with a public health orientation, organized around desired health outcomes (see Appendix C, *Health Outcome-Based WIC Nutrition Assessment*).

Health Outcome-Based WIC Nutrition Assessment

The health outcome-based WIC nutrition assessment is offered as an example of a positive approach to assessment where a desirable health outcome serves as a focal point for collecting relevant information, rather than focusing on deficiencies. Using a positive approach to assessment in which the participant, parent or guardian gains a greater appreciation of how to attain good health and recognizes her own need(s) and/or an infant's or child's needs for health improvement can lead to more effective WIC interventions. It also provides an organized, systematic way to perform an assessment.

2. Clarify and synthesize the information that has been collected.

Once the relevant information has been collected, the next step in the process of the WIC nutrition assessment is to be sure that the information is indeed relevant, and that any ambiguous or incomplete information is clarified so that it can be used to assist the participant most effectively. *Critical thinking* is essential to the successful completion of a value enhanced WIC nutrition assessment; the individual responsible for gathering the relevant information must be trained in critical thinking in order to complete the assessment process, i.e., to make the correct nutrition risk determination(s) and provide the appropriate nutrition education, counseling, and referrals for each WIC participant.

Critical thinking is the disciplined process of organizing and synthesizing information to evaluate and prioritize it appropriately. It is more than problem-solving. The process of critical thinking involves integrating facts, informed opinions, active listening, observations, questioning, and autonomous thinking in order to reach an informed and unbiased conclusion. In the value enhanced WIC nutrition assessment, it enables staff to identify and extract pertinent information and data from all sources, distinguish accurate and relevant information, know when to seek additional information, and make decisions about the participant's nutrition risk conditions and counseling/intervention plan. Critical thinking necessitates the collection of *all* information *prior* to deciding upon the best course of action.

Management Information Systems (MIS) can play an important role in the assessment process. They can be used to: store the assessment information; automatically assign risk factors; improve the accuracy of risk assignment (particularly for risks with numeric cut-offs); and perform calculations (e.g., BMI) that save time. However, the use of MIS should never be considered as a replacement for critical thinking skills and professional judgment; nor should it replace dialogue and feedback between staff and participant during the WIC nutrition assessment.

Skills in critical thinking can be developed through training, guidance, and practice. The knowledge and skills needed for critical thinking are described in detail in Appendix D, *Essential Staff Competency Tables for WIC Nutrition Assessment*. This appendix looks at the specific elements of critical thinking as they apply to the information that has been collected from the WIC participant.

3. Identify the pertinent and appropriate risk(s) and other related issues.

Once the relevant information has been collected and clarified, it must be evaluated against the cutoff values established in the most recent version of WIC Policy Memorandum 98-9. The cutoff values for each risk criterion are evidence-based. The source of information used to identify a WIC participant's risk factor(s) should be documented in the participant's casefile or record.

Referral information can also be very useful in the WIC nutrition assessment process. However, there may be instances when such information is ambiguous or incomplete. Some issues, such as inaccurate or missing height/weight measurements can often be resolved at the local WIC agency or clinic. Others may require WIC staff to consult with the referring health care professional for clarification. Any changes to referral information should also be documented in the participant's casefile or record.

In addition, other related issues (e.g., cultural preferences, environmental factors) – that are not included in the list of allowed nutrition risk criteria – should be identified. This type of information is crucial when planning personalized nutrition interventions that will improve the health status and influence the behaviors of a participant.

Each participant must be informed, in a constructive and sensitive manner, of the risk factor(s) – barriers to positive health outcomes

– that have been identified. While this is mandated by WIC Program regulations, it is also necessary if participants are to improve their health status. However, if participants feel that they (or their children) are being judged by the assignment of risk factors, they may not be receptive to the planned intervention.[2]

4. Document the assessment.

Documentation of the relevant information collected during a WIC nutrition assessment and of the risk factor(s) assigned as the result of such an assessment, in addition to being required by the WIC Program regulations, serves other valuable purposes. Documentation is reviewed during management evaluations or other program monitoring procedures, in order to evaluate the quality of WIC services provided. It also furnishes evidence of how effective the services are to a WIC participant.

Careful, thorough documentation should also be done to facilitate communication with other WIC staff, which allows for continuity of care and helps to streamline workflow. Good quality documentation allows the WIC staff to start discussions at subsequent appointments with the participant after only a minimal review of the previous nutrition assessment(s).

Questions to consider in determining policies for documentation include:

- What information should be documented?
- Where should the information be documented – in a paper record or in an automated system?
- What standards should be set for ensuring that records can be easily and efficiently read by other staff members or by other local WIC agency staff when records are transferred between agencies?
- How can confidentiality be assured?
- What format is best for the WIC setting? Narrative charting, problem-oriented charting, focus charting, and charting by exception are examples of formats used in dietetics practice.
- How might the documentation set the stage for educational contacts that facilitate behavior change?
- Should care plans be required for all participants or only for those who are designated as high-risk participants?

[2] Beyond Nutrition Counseling, Reframing the Battle Against Obesity, Discussion Guide, Version 1.01, September 2002.

As with the elements that must be considered in Step #1, collecting relevant information, the State agency has to decide on the elements of documentation that best serve its particular needs and its WIC participants. The FNS provides basic guidelines for the information that must be documented as part of the WIC certification process, both in regulation and in the annual State Plan Guidance document. However, documentation is more than a Federal requirement. It provides the framework of information that WIC staff can use to establish credibility with a WIC participant and allows for continuity from visit to visit.

5. Follow up on previous assessments, as appropriate.

Once an initial WIC assessment is completed, the conclusions drawn from the process are used to determine nutrition risk and guide the personalized nutrition services provided. Encouraging the participant to identify a nutrition education goal during the initial contact, and following up on the goal is particularly valuable in facilitating behavior change[3]. Every time a participant returns, WIC staff should follow up on progress made by the participant: Did the participant reach a goal that was set at the previous counseling session? What barriers were encountered, if any? How did s/he deal with these barriers? Questions such as these close the loop and help to identify a starting point for the next discussion. Without adequate follow-up, opportunities will be limited for refining and realigning goals that ultimately contribute to a healthy outcome. In addition, participants appreciate the continuity of care that is provided when WIC staff members recognize and remember specific aspects of a previous encounter.

As illustrated in the diagram on page 8, the WIC nutrition services process is cyclical rather than linear. Once the initial WIC certification visit has been completed, follow-up becomes the transitional step between visits. An integral component of effective follow-up is the collection of relevant information, thus providing the starting point of the *value enhanced WIC nutrition assessment* at subsequent encounters between the participant and WIC staff.

[3] Contento IR, Randell JS, Basch CE. Review and analysis of evaluation measures used in nutrition education intervention research. J Nutr Educ Behav 2002; 34:2-25.

Dietary Risk Assessment in WIC

Background

For over a decade, the FNS has utilized the expertise of the Institute of Medicine (IOM) to provide science-based information to guide program policy decisions. The IOM, at the request of the USDA, has produced two reports related to dietary risk assessment:

- *WIC Nutrition Risk Criteria: A Scientific Assessment* [1]
- *Dietary Risk Assessment in the WIC Program*[2]

The report, *WIC Nutrition Risk Criteria: A Scientific Assessment,* was a review of the scientific basis for nutrition risk criteria used to determine WIC Program eligibility. The IOM Committee acknowledged the importance of dietary assessment as part of the WIC benefits package. It reviewed dietary risk criteria in use at the time of the study such as *inadequate diet*, and explored the use of failure to meet *Dietary Guidelines* as an indicator of nutritional risk. The Committee recommended discontinuation of *inadequate diet,* citing flawed assessment methodology. The report did recommend using *failure to meet Dietary Guidelines*, but indicated research would be needed to develop and validate assessment instruments and establish cutoff points. For children, the Committee felt that applicable criteria would be captured in *failure to meet Dietary Guidelines*. For infants, the report recommended the use of *inappropriate infant feeding practices*, stating that risks from such practices were "well documented" and methods to identify them were acceptable.

To address the unresolved issues related to dietary risk, the USDA, with input from the Risk Identification and Selection Collaborative (RISC), an FNS and National WIC Association (NWA) workgroup, commissioned the IOM to convene an expert committee. The charge to the IOM Committee was to propose a framework to assess dietary risk of WIC applicants based on failure to meet the *Dietary Guidelines* and to recommend specific parameters for its definition as a risk criterion, *failure to meet the Dietary Guidelines.* The resulting report, *Dietary Risk Assessment in the WIC Program*, did not produce the framework. Instead, it offered five findings and a single recommendation based on the findings.

[1] Institute of Medicine; Committee on Scientific Evaluation of WIC Nutrition Risk Criteria. WIC nutrition risk criteria: A scientific assessment. Washington (DC): National Academy Press; 1996.
[2] Institute of Medicine; Committee on Dietary Risk Assessment in the WIC Program. Dietary risk assessment in the WIC program. Washington (DC): National Academy Press; 2002.

Finding 1.
"A dietary risk criterion that uses the WIC applicant's usual intake of the five basic Pyramid food groups as the indicator and the recommended numbers of servings based on energy needs as the cut-off points is consistent with *failure to meet Dietary Guidelines*."

Finding 2.
"Nearly all U.S. women and children usually consume fewer than the recommended number of servings specified by the Food Guide Pyramid and, therefore, would be at dietary risk based on the criterion *failure to meet Dietary Guidelines*."

Finding 3.
"Even research-quality dietary assessment methods are not sufficiently accurate or precise to distinguish an individual's eligibility status using criteria based on the Food Guide Pyramid or on nutrient intake."

Finding 4.
"Physical activity assessment methods are not sufficiently accurate or reliable to distinguish individuals who are ineligible from those who are eligible for WIC services based on the physical activity component of the *Dietary Guidelines.*"

Finding 5.
"Behavioral indicators have weak relationships with dietary or physical activity outcomes of interest. As a result, they hold no promise of distinguishing individuals who are ineligible for WIC from those who are eligible in the category of dietary risk."

Recommendation.
"Presume that all women and children ages 2 to 5 years who meet the eligibility requirements of income, category and residency status also meet the requirement of nutrition risk through the category of dietary risk based on *failure to meet Dietary Guidelines*, where *failure to meet Dietary Guidelines* is defined as consuming fewer than the recommended number of servings from one or more of the five basic food groups (grains, fruits, vegetables, milk products and meats or beans) based on an individual's estimated energy needs."

The IOM report made clear that the intent was ***not*** to affect the current use of other nutrition risk criteria, such as growth issues, iron deficiency, or predisposing medical conditions related to nutrition. Such information is necessary for the priority placement of participants and to individualize nutrition services.

As a result of the IOM Dietary Assessment report, the FNS identified the need to develop comprehensive nutrition assessment guidance to ensure the integrity of the process nationwide and to revise and consolidate WIC dietary risk criteria to include a presumptive criterion for women and children ages 2 to 5 years. These needs have been addressed in the VENA Policy and Guidance and in WIC Policy Memorandum 98-9, Revision 8.

Dietary Assessment is Essential to a WIC Nutrition Assessment

Although the IOM Dietary Assessment report states that traditional dietary assessment methods (such as a 24-hour recall or food frequency questionnaire) are inappropriate for detecting nutritional deficiencies in an individual, it does not recommend elimination of all inquiry about dietary and lifestyle practices. The IOM WIC Nutrition Risk Criteria report affirms the need for dietary assessment, stating that it "focuses attention on food and diet as central to health." Dietary assessment is required to:

- Screen applicants for inappropriate nutrition practices;
- Determine specific concerns of the participant or caregiver related to eating/feeding practices;
- Ascertain participant acceptability and use of WIC foods;
- Obtain information that might explain other identified risk criteria;
- Aid in the critical thinking process; and
- Allow a tailored intervention, including anticipatory guidance for each participant.

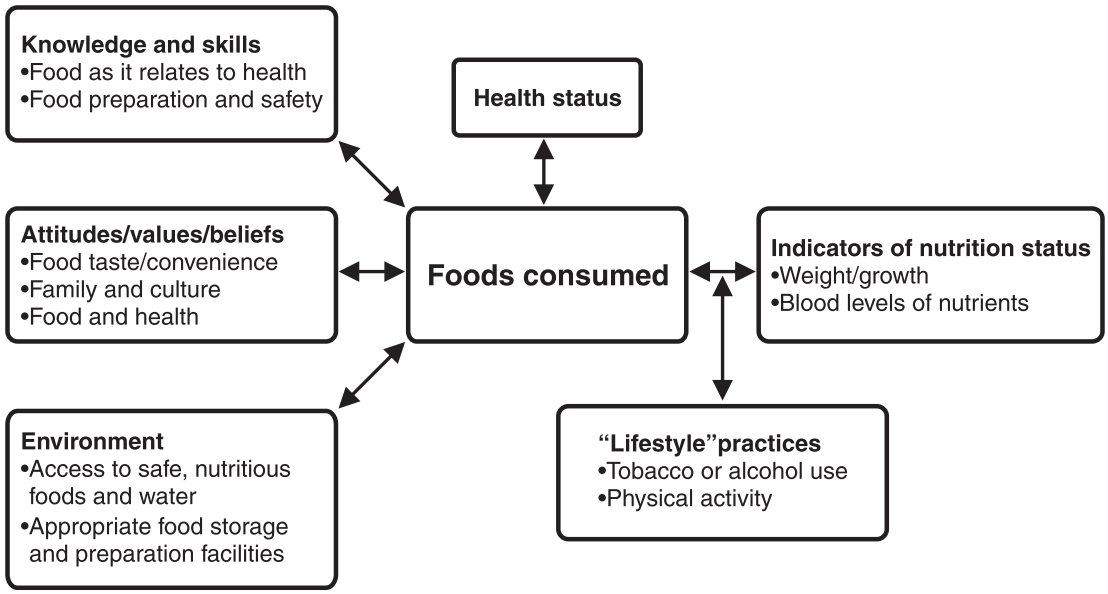
The WIC Program's approach to dietary assessment will be qualitative, not quantitative. WIC personnel may ask about appetite, favorite foods, and cultural food preferences[3] rather than quantify ounces or servings. Such questions will foster positive communication and can serve as a "springboard" for further discussion.

Food choices can have short- and long-term effects on health status. These effects may be seen during the WIC assessment as other nutritional status indicators, such as altered body weight,

[3] For more information about useful dietary assessment questions refer to: Graves DE, Suitor CW. Celebrating diversity: Approaching families through their food. Revised ed. Arlington (VA): National Center for Education in Maternal and Child Health; 1998.

growth pattern, or hemoglobin level. When such conditions are identified, it is logical to look for clues related to foods consumed. For example, an inappropriate infant feeding practice like putting cereal in the bottle could explain an infant's rapid weight gain.

Variables, such as knowledge, attitudes, beliefs, and family and community environment affect food consumption. "Lifestyle" practices, such as alcohol or tobacco use, or lack of routine physical activity, can also affect food choices and nutritional risk indicators. The relationship of these variables to foods consumed and nutritional status indicators that might be identified in the WIC assessment are shown below.



Appendix A, *Relevant WIC Nutrition Assessment Information Tables*, describes the specific information to collect that can identify the variables related to food consumption. Although the elements of information collected within a State agency will be uniform, it is important to personalize the encounter with the participant. WIC staff may explore one or more variables in greater depth, depending on the circumstances of the participant. For example, access to foods or food safety may be emphasized for a homeless participant, while cultural issues may be explored with a recent immigrant.

Presumed and Predisposing Dietary Risk Criteria

In addition to the consolidated risk criteria that identify inappropriate nutrition practices for each WIC participant category, Revision 8 of WIC Policy Memorandum 98-9[4] contained two new allowed dietary risk criteria:

- *Failure to Meet Dietary Guidelines for Americans* (a presumed risk criterion)

- *Dietary Risk Associated with Complementary Feeding Practices* (a predisposing risk criterion)

Failure to meet Dietary Guidelines for Americans (Risk #401) is a presumed dietary risk criterion for women and children ages 2 to 5 years. This criterion is based on the recommendation of the IOM Dietary Assessment report. **This risk criterion may be assigned only to individuals for whom a complete WIC nutrition assessment, including an assessment for Inappropriate Nutrition Practices (#425 for children or #427 for women), has been performed and for whom no other risk(s) are identified.**

Dietary Risk Associated with Complementary Feeding Practices (Risk #428) is a predisposing risk criterion for infants and children 4 through 23 months of age. This criterion is based on a RISC literature review that documents risk to nutritional status associated with complementary feeding. **This criterion may be assigned only to individuals for whom a complete WIC nutrition assessment, including assessment for Inappropriate Nutrition Practices (#411 for infants or #425 for children), has been performed.**

Special Considerations for Infants and Children Less than 2 Years of Age

Infants (birth-12 months) and children less than 2 years of age are extremely vulnerable to the effects of inadequate or inappropriate nutrition. Many factors affect the type, amount, and quality of foods they are offered and consume. While the IOM Dietary Assessment report did not address dietary assessment in this age group, concerns related to the validity of traditional assessment tools may still apply. Despite this concern, it is important to collect dietary information in more detail than for older children (over 2 years of age) and women. Most young infants may consume only breast milk or formula, and older infants, a limited number of complementary foods. Toddlers (1 – 2 years) are likely to be

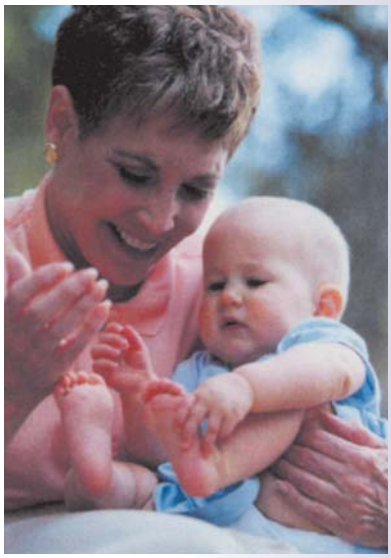
[4] WIC Policy Memorandum 98-9, Revision 8, Nutrition Risk Criteria, March 24, 2005

transitioning to family foods, but, still consume a limited variety of foods. The type of information that might be collected for an infant or toddler includes:

- Frequency, amount, and type of feedings offered
- Complementary foods offered
- Use of supplements
- Allergies or intolerances
- Food preferences or aversions

WIC Policy Memorandum 98-9, specifically risk criteria #411 and #425, and Appendix A, *Relevant WIC Nutrition Assessment Tables*, provide additional detail about the type of dietary information to be collected.

Assessment Instruments



Because of the unique clientele, staffing pattern and other characteristics of each State agency, no single dietary assessment instrument would be valid for all participants. State agencies are responsible for determining what dietary information to collect and the types of questions to use. The first step is for each State agency to determine which risk criteria will be used. Next, Appendix A, *Relevant WIC Nutrition Assessment Information Tables*, should be reviewed for information to collect for each risk criterion. The column "*Suggestions for Further Assessment*" may be especially helpful for information related to risk criteria, such as cultural or economic contributors to a child's growth pattern. The third step is to compile questions that need to be asked to obtain the information. Once the basic questions are determined, Appendix B, *Assessment Questions and Questionnaires*, may be helpful in refining, formatting, and validating them.

The process of assessing dietary and lifestyle practices should be viewed as ongoing. As the science of nutrition risk assessment, information technology, and the needs and demographics of participants change, so must assessment methodologies and instruments.

Essential Staff Competencies for WIC Nutrition Assessment

Hiring and training qualified staff is essential to ensure quality nutrition services. State agencies may implement VENA with well-trained staff, whether paraprofessional or professional. Emphasis should be placed on developing the essential knowledge base and work skills necessary to provide effective and efficient nutrition services. Training, followed by periodic staff evaluation and continuing education activities, assures that WIC personnel maintain and refine their skills and have opportunities to develop new ones.

Competency Areas for WIC Nutrition Assessment

Competencies are statements of desired learning outcomes for knowledge, skills, and behavior (also referred to as cognitive, psychomotor, and affective domains). When learners demonstrate a "competency," they are demonstrating their ability to do something (i.e., they are showing the outcome of the learning process).

In nutrition assessment, competencies address a variety of knowledge and skill areas. Competencies are also specific to the environment where the learner works. Developing or selecting appropriate competencies should be based on factors such as job responsibilities and the learner's educational preparation and experience. For example, a registered dietitian providing nutrition counseling to high-risk WIC participants will have different training and learning needs compared to a paraprofessional who certifies applicants. In developing staff competencies, it is important to consider individuals' inherent talents and abilities, as well as learned skills.

Because the tasks involved in a WIC nutrition assessment are fairly standard among WIC Programs, the knowledge and skills required to carry out those tasks can be identified. The six competency areas for WIC nutrition assessment include the following:

1) **Principles of life-cycle nutrition** - Understands normal nutrition issues for pregnancy, lactation, the postpartum period, infancy, and early childhood.
2) **Nutrition assessment process** - Understands the WIC nutrition assessment process including risk assignment and documentation.
3) **Anthropometric and hematological data collection techniques** - Understands the importance of using appropriate measurement techniques to collect anthropometric and hematological data.
4) **Communication** - Knows how to develop rapport and foster open communication with participants and caretakers.
5) **Multicultural awareness -** Understands how sociocultural issues (race, ethnicity, religion, group affiliation, socioeconomic status and world view) affect nutrition and health practices and nutrition-related health problems.
6) **Critical thinking -** Knows how to synthesize and analyze data to draw appropriate conclusions.

More specific information about the knowledge required and performance expected for each competency is provided in Appendix D, *Essential Staff Competency Tables for WIC Nutrition Assessment*.

Suggestions to Help Foster and Maintain Nutrition Assessment Competencies

- Maintain a library of current reference texts.
- Develop a list of recommended reading for all new WIC personnel involved in nutrition assessment.
- Circulate journals, newsletters, abstracts, and other documents reporting on nutrition assessment topics.
- Conduct regular in-service training to review standardized measurement techniques and procedures.
- Identify individual training needs and seek training and conference events addressing those needs.
- Provide opportunities to attend local, state, and national nutrition training events and conferences focusing on maternal and child nutrition issues.
- Use informal training opportunities such as staff meetings and in-services to discuss participant case studies and reinforce nutrition assessment skills.
- Create reading circles to review and discuss emerging issues in nutrition science and nutrition assessment.
- Help WIC staff become stronger critical thinkers:
  - — Develop exercises that require staff to use questioning to gather additional information about a participant's condition, nutrition practices, or beliefs. For example, if a breastfeeding woman participant requests formula for her infant, encourage staff to ask questions that identify what is going on with breastfeeding (e.g., fear that she does not have enough milk), or if there has been a change in her life circumstances (e.g.,returning to work or school, experiencing lack of support for breastfeeding).
  - — Use case studies that integrate relevant and superfluous information.
  - — Practice synthesizing facts, analyzing arguments, and drawing conclusions.

Building Competencies through WIC Training

Training approaches that focus on the outcome rather than the process of learning are often referred to as competency-based training. This type of training emphasizes application of knowledge rather than just the gaining of knowledge. Learning outcomes are clearly defined, and each learner's performance is evaluated by whether or not they can demonstrate the outcomes. While the process is still important, it is planned and implemented with the learning outcome in mind.

Because many competency-based approaches incorporate independent learning or directed study components, learners progress at their own rates. Training activities are carefully planned to accommodate differences in individual learning styles and to ensure that learners acquire the skills, understanding, and attitudes needed to function in their specific work roles. Because conditions and requirements for performing most work roles are constantly changing, it is important that competencies be continuously reviewed and updated. It is also recognized that State agencies may develop different and unique training programs based on staffing patterns and service delivery models.

Identifying Training Needs

Staff training needs can be identified in several ways. Current training programs for new staff can be compared with the essential staff competencies and examples of performance expectations to determine gaps or areas for enhancement.

Clinic observation and monitoring visits are an excellent opportunity to evaluate individual staff competence with nutrition assessment tasks and procedures. State agency policies and procedures may first need to be revised to ensure that local WIC personnel understand the performance expectations. State agencies may want to enhance their clinic review forms to ensure that nutrition assessment skills are addressed adequately.

Staff surveys or questionnaires can also be helpful in identifying training needs, particularly when the survey questions are focused on specific skill sets or knowledge content.

Planning Training to Build Competencies[1]

Many training programs are built around behavioral objectives. Although behavioral objectives and competencies have several similarities, there are important differences. The performance context for behavioral objectives is the education (or learning) environment as opposed to competencies where the performance context is the practice (or work) environment. Nutrition professionals and paraprofessionals must be able to do more than "list" or "describe" factual information. Competencies integrate the cognitive, psychomotor, and affective domains, resulting in higher-level cognitive skills and moving towards critical thinking skills.

Training generally begins with teaching facts and skills using a didactic method with tests and evaluating knowledge acquisition using tests and demonstrations of skills learned. Once the

[1] Chambers EW, Gilmore CJ, O'Sullivan Maillet J, Mitchell BE.: Another look at competency-based education in dietetics. J Amer Dietet Assoc 1996; 96(6):614-617.

knowledge foundation has been laid, trainees can learn to synthesize facts through seminars and other problem-based learning methods where performance is evaluated by projects and simulation activities. As training continues, opportunities for independent learning and performance in the real work setting are incorporated until the trainee is proficient with job-related tasks.

Training techniques must be matched to desired learning outcomes in order to evaluate the performance of trainees. The table below lists the most effective techniques to result in knowledge acquisition and skill development. Given a choice between two techniques, the best choice is the one involving the learner in the most active participation.

Matching Training Techniques to Desired Learning Outcome[2]

Type of Outcome	Most Appropriate Techniques
Knowledge (generalizations, internalization of information)	Lecture, symposium, seminar or other classroom-based situation, video, debate, dialogue, interview, recording, book-based discussion, reading, and computer-assisted learning modules.
Skills (incorporation of new ways of performing through practice)	Role playing, games, participative exercises, nonverbal hands-on exercises, skill practice exercises, drills, and coaching.
Attitudes (adoption of new feelings through experiencing greater success with them than with old)	Experience-sharing discussion, group-centered discussion, role playing, case method, critical incident process, games, participative cases, and rewarding appropriate behavior.
Values (the adoption and priority arrangement of beliefs)	Lecture, debate, dialogue, video, symposium or seminar, dramatization, guided discussion, experience-sharing discussion, role playing, critical incident process, and games.

[2] Knowles MS.: The Modern Practice of Adult Education: From Pedagogy to Andragogy. Association Press, Chicago, IL., 1980.

Evaluating Performance

To assure performance objectives are achieved, learning outcomes should be evaluated as an integral part of initial and on-going training efforts. Periodic staff evaluation and continuing education activities assure that WIC personnel maintain and refine their skills and have opportunities to develop new ones.

Different kinds of performance call for different kinds of evaluation strategies. For example, performance evaluation of:

- *Knowledge* requires demonstration in some way of what individuals know or what they can recall. Written tests developed by the instructor or by previous trainees can be used to evaluate knowledge acquisition.

- *Understanding* requires individuals to demonstrate their ability to size up situations, see patterns, develop categories, apply knowledge, analyze problems, and identify potential solutions. Simulation exercises such as role plays and case studies where trainees act out their understanding and insight in handling "live" problems are an effective method to evaluate understanding.

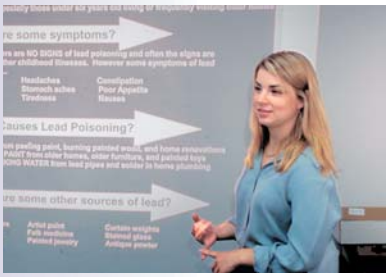
- *Skills* requires individuals to demonstrate specific tasks and have their performances rated in some way. Observation checklists are particularly useful for evaluating technical skills such as obtaining heights and weights.

- *Attitudes and values* is much more difficult and less precise. Role playing, reverse role playing, and decision making exercises are suggested strategies.

Summary

One of the most important strategies for assuring quality nutrition assessment in WIC is through the development of key competencies for all personnel who perform these duties. Identification of individual and program-wide staff training needs is a first step to help design training programs that build the desired competencies. Training programs for WIC assessment should focus on skill building and the application of knowledge, as well as acquisition of knowledge, and match desired learning outcomes to training techniques. To assure performance objectives are achieved and maintained, learning outcomes should be evaluated as an integral part of initial and on-going training efforts. Periodic staff evaluation and continuing education activities ensure that WIC personnel maintain and refine their skills and have opportunities to develop new ones.

How to Implement Value Enhanced Nutrition Assessment



VENA is a process and an approach that allows for continual improvement in conducting WIC nutrition assessments. The implementation of VENA will be a gradual process determined by each State agency's current nutrition assessment practices and staffing. The previous chapters outlined the process of a WIC nutrition assessment, and described the characteristics and competencies necessary to conduct a value enhanced nutrition assessment in WIC. This section will identify the steps involved in VENA implementation.

Steps in the VENA Implementation Process

Key steps involved in the VENA implementation process will be to:

1. Become familiar with the principles of VENA via the policy, guidance and training;
2. Conduct a self-evaluation of current nutrition assessment practices and summarize findings; and
3. Develop a VENA Implementation Plan.

1. Become familiar with the principles of VENA via Policy, Guidance and Training.

Upon receipt of the VENA Policy and Guidance, the State agency should thoroughly review the document, share it with appropriate staff, discuss and submit questions and concerns to their FNS Regional Office contact(s). FNS Regional Offices will provide opportunities to address State agency questions and concerns and technical assistance to ensure that all State agencies will be VENA compliant by Fiscal Year (FY) 2010.

FNS recognizes the need and importance of staff training for VENA implementation. To assist State agencies with training local agency staff, FNS has contracted with the Rochester Institute of Technology to develop a curriculum for 3 modules: 1) Building Rapport; 2) Critical Thinking; and 3) Health Outcome-Based Nutrition Assessment. Regional training in a "Train-the-Trainer"

format will occur in the latter part of FY 2006. Each State agency will be expected to send staff to the Regional VENA Competency Training. FNS Regional Offices will inform their respective States agencies of the training schedule when such information is confirmed.

2. Conduct a self-evaluation of current nutrition assessment practices.

Each State agency will conduct a self-evaluation of current nutrition assessment policies, procedures and processes, the first step in the development of its implementation plan. The FNS will provide State agencies with a *VENA Implementation Guide* (a separate document) to include more specifics about the self-evaluation process and the implementation plan. Summary findings of the self-evaluation shall be submitted to FNS Regional Offices on or before **December 15, 2006.**

The *purpose* of the self-evaluation is to establish a baseline of *current* nutrition assessment practices - in the context of a *value enhanced* nutrition assessment.

The expected *outcome* of the self-evaluation is a summary of baseline nutrition assessment practices to include identification of strengths and potential areas for improvement in the five priority areas (see below).

The self-evaluation will be *used* as the basis from which 1) the State agency will develop its VENA Implementation Plan; 2) the Regional Office will evaluate the appropriateness of the State agency's VENA Implementation Plan; and 3) the Regional Office will evaluate progress towards achieving VENA during monitoring evaluations, State Plan reviews, etc.

Five priority areas of the self-evaluation

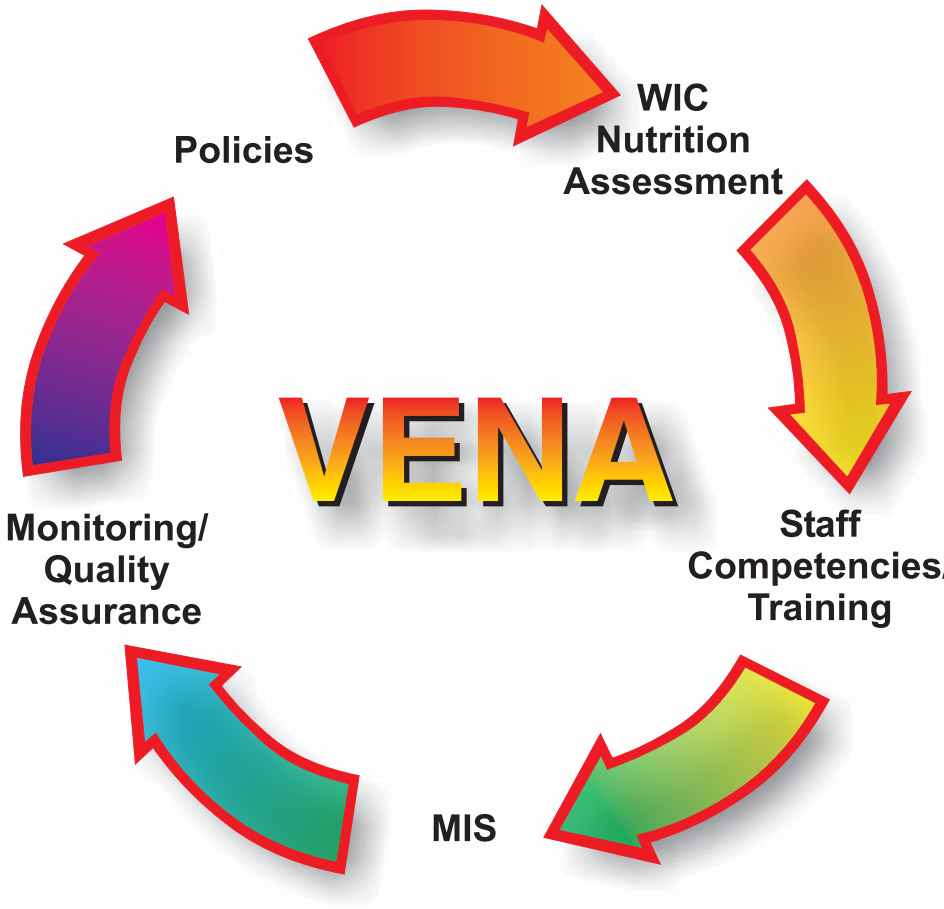
Five priority areas have been identified to help focus a State agency's self-evaluation. The five priority areas are:

- **Policies**
- **WIC nutrition assessment**
- **Staff competencies and training**
- **Management Information System (MIS) needs**
- **Monitoring/Quality Assurance**

Evaluation of these five priority areas as they relate to the various technical pieces presented in the VENA Guidance is essential for

the State agency to establish a baseline of practices and identify strengths and areas for improvement.

The graphic below illustrates there is no start or endpoint to VENA, but each priority area plays a significant and cumulative role in its successful implementation. It is important to understand that VENA is based on a State agency's self-evaluation and subsequent VENA Implementation Plan. VENA implementation is expected to be a gradual shift in WIC nutrition assessment processes allowing for modifications and frequent re-evaluation.



The self-evaluation process

A State agency may choose to begin its self-evaluation with a broad look at operations, and subsequently narrow the focus down to specific components of the assessment process and the competencies needed to carry them out. Alternatively, it can start with specifics and consider how they contribute to overall

operations. Whichever method is chosen, the self-evaluation must cover the five priority areas.

With regards to the staff competencies/training priority area, a State agency may want to wait until its staff attends the Regional Train-the Trainer session before completing this section of the self-evaluation. The other focus areas of the self-evaluation may be started prior to the Regional trainings.

Local agency component of the self-evaluation

The FNS expects that State agencies will incorporate a local agency component into the self-evaluation process. It is crucial to the success of VENA for the State agency to solicit local agency input in order to translate VENA principles into local agency operations and staff practices. Many State agencies have local agency task forces, committees or other established mechanisms to facilitate local agency input. In addition, there are other ways – surveys, observational visits, etc. – to facilitate this. State agencies may choose the manner or means to collect local agency input; the important thing is to incorporate it into the self-evaluation process.

Management Information Systems (MIS) and VENA

Many States are currently in the process of developing or have recently developed MIS to capture and store data related to WIC operations. It is important to note that a sophisticated data system is not a necessity for implementing VENA within a State agency. The State agency should consider the current framework it has in place as the implementation plan is developed, and bear in mind that a data system's main function is to collect and house information in an organized and efficient manner. Increased automation is not the targeted end-point for successful implementation of VENA. Rather, the goal should be to find the balance between a well-designed and highly functional management information system and a quality nutrition assessment performed by well-trained staff. The MIS should serve as an adjunct to enhancing the WIC assessment process.

While a highly automated system may not contribute directly to enhancing the assessment process, the quantity and quality of information captured as well as functionality in organizing and reporting data may play a role in the successful outcomes related to the assessment process. For example, States agencies may want to consider building their system to provide reports that will identify the extent of food package tailoring being done, or track the level of improvement

or change in a participant's subsequent risk assignments, or even track changes in behaviors. It may prove efficient to have a system that auto-assigns nutrition risks that involve calculations or that have distinct cut-off points. Not only will it save staff time, it could help improve the accuracy of risk assignments or potentially improve data quality.

All these factors need to be given consideration during the planning and development of a data system that will serve the needs of both the end users and program administrators. It is highly recommended that State agencies take steps to ensure that local agency WIC staff members, as well as State-level nutritionists, are an active part of the team that is involved in the development, planning, implementation and ongoing oversight of any data system. It will be particularly important in order to facilitate the successful implementation of VENA.

3. Develop a VENA Implementation Plan.

As previously addressed, results of each individual State agency's self-evaluation will serve as the foundation for its VENA Implementation Plan, which is due to the FNS on or before **August 15, 2007** with the FY 2008 State Plans. The State agency's identified strengths and resources, as well as identified challenges and areas for improvement, will result in the development of a unique VENA Implementation Plan. The purpose of the VENA Implementation Plan is to establish action steps and timeframes for completing the actions, to ensure that State agencies have implemented VENA by **October 1, 2009** (FY 2010). The FNS does not expect that every gap identified during the self-evaluation will be addressed immediately; rather, the plan should prioritize the findings, as short- and long-term goals and related action steps.

The FNS acknowledges the many differences among State and local agencies in all aspects of the WIC nutrition assessment process — clinic flow, documentation systems and tools, staffing structures and resources, training programs, MIS design and/or implementation timelines, and other aspects. In evaluating the VENA implementation plans, FNS Regional Offices will consider these differences, and will make every effort to meet State agencies where they are along the continuum. Each State agency's plan will be examined according to identified resources and needs and how well it defines goals and delineates action steps toward improvement. **Progress and success will be measured against the State agency's individual plan, not in comparison to other State agencies.**

Projected VENA Timeline:

Early 2006

- Final VENA Policy and Guidance issued.
- VENA Implementation Guidance issued (to include a self-evaluation guide).

July-September 2006

- Regional (for State agency attendance) VENA Competency Training (rapport building, critical thinking, and health outcome-based assessment).

On or Before December 15, 2006

- WIC State agencies submit findings from their self-evaluations of existing nutrition assessment protocols and identify potential areas for enhancement, to FNS Regional Offices.

March 2007

- Fiscal Year (FY) 2008 State Plan Guidance Issued with instructions for State agencies to include a VENA implementation plan and amendments as necessary to implement Policy Memorandum 98-9: WIC Nutrition Risk Criteria; Revision 8, in their State Plan submissions.

On or Before August 15, 2007

- WIC State agencies submit FY 2008 State Plans to include:
  1. VENA implementation plan.
  2. Amendment(s) as necessary to implement WIC Policy Memorandum, 98-9, Revision 8.

Fiscal Year 2008 – 2009

- WIC State agencies revise nutrition assessment policy and procedures, provide necessary staff training, etc., (as described in their FNS approved plans) to implement VENA.

Fiscal Year 2010 (October 1, 2009)

- VENA implemented in all WIC State agencies.

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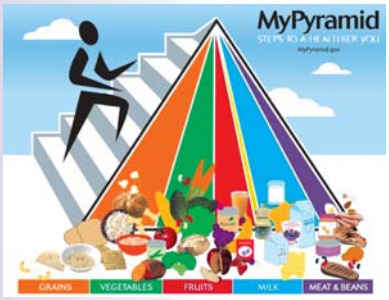
Relevant WIC Nutrition Assessment Information Tables



The relevant WIC nutrition assessment information tables identify information to be collected during a comprehensive WIC nutrition assessment in order to:

1. Identify WIC nutrition risk criteria;
2. Meet existing Program regulations, such as immunization and lead screening status; and
3. Address issues that affect the overall health of the participant, such as access to health care, physical activity, and food security.

This listing of information ensures the identification of all allowable nutrition risk criteria as of Revision 8 of the WIC Policy Memorandum 98-9[1], as well as the collection of necessary information to guide the nutrition services provided by WIC staff. State agencies MUST have a policy in place for collecting relevant nutrition assessment information for all nutrition risk criteria used in their State agency.

There are five individual tables - one per each participant category. For ease of use, the tables are organized by the different components of a comprehensive nutrition assessment such as anthropometric, biochemical, clinical, dietary, environment and family (the "ABCDs"). Within these assessment categories, the information is broken out by health, nutrition, fitness, and lifestyle parameters that are captured by specific or a group of WIC nutrition risk criteria and/or other contributing risk factors that affect the overall achievement of a positive health outcome for the WIC participants.

Next to the relevant information to be assessed ("*What to Assess*" = health, nutrition, fitness and lifestyle parameters) and specific data items to be collected ("*What to Collect*"), that measure or define these parameters, are risk criteria assignment directions complete with troubleshooting information and suggestions for further assessment. Each row of the table presents a logical order to follow (e.g., collect information; determine if risk (or condition) exits, and collect additional information in case the risk does exist). A sample portion of a table is illustrated below with a description of each column of the relevant nutrition assessment tables.

[1] U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division, WIC Policy memorandum 98-9, Revision 8. Alexandria, VA (projected issuance date: January 2005).

Sample Portion of A Relevant Nutrition Assessment Information Table

What to Assess (Relevant Information)	What to Collect (Specific Data Items)	What to Do	
		Assign Risk:	**Suggestions for Further Assessment***
Describes the type of information to collect (e.g., growth pattern, current medical conditions, nutrition practices, etc.).	Lists the specific nutrition data elements or information to collect (e.g., current height and weight, blood iron level, etc.).	Lists relevant (Federal) risk code. N/A will appear if there is no risk code associated with the information.	Lists additional assessment information to obtain if a risk or condition is identified. This is an opportunity to apply critical thinking skills to the assessment process to clarify, interpret, and synthesize the collected information; to arrive at conclusions and make linkages to other risks or conditions; and to better identify the participant's needs.

It is important to keep the following in mind when reviewing the tables:

- The most recent revision to FNS WIC Policy Memorandum, Nutrition Risk Criteria 98-9, should be used as a companion document. The WIC Policy Memorandum 98-9 defines each criterion (risk code) listed in the tables and must be used to determine if the risk should be assigned. The codes used for nutrition risk criteria are the Federal nutrition risk codes.
- The tables are not ready-to-use assessment tools or forms, but rather a comprehensive list of relevant nutrition assessment information, from which a State agency can compare to its current protocols and revise as necessary.
- There is no implied order or priority for the collection of relevant nutrition assessment information, i.e., the State agency may organize the order of information collection.
- The 500 series of risk criteria (Regression/Transfer/ Presumptive Eligibility) included in WIC Policy Memorandum 98-9 are not included in the tables due to the administrative nature of these criteria. However, these criteria should be assigned as appropriate.

- A suggested intervention (or nutrition education message) is not included in the table. The scope and focus of VENA is the assessment process as outlined in earlier sections of this document.
- The suggested probing items listed in the column "*Suggestions for Further Assessment"* are dependent on State agency protocols, staffing and resources. The same holds true for referrals and therefore no referral information is included in the tables.
- The tables do not indicate the necessity of medical documentation vs. self report for a particular risk criterion, since this will vary by State; such documentation is a State agency option.
- The nutrition risks, *Failure to meet Dietary Guidelines for Americans* (risk code 401) and (risk code 428) can only be assigned after a COMPLETE assessment to include an assessment for inappropriate nutrition practices (risks 411, 425 and 427).
- No specific recommendations are included to address the nutrition assessment of low-risk and high-risk participants. WIC State agencies may develop protocols for triage procedures for risk identification according to the State's need for or benefit from such procedures.
- References on how to effectively engage the participant in the nutrition assessment process to facilitate collection of the relevant nutrition assessment information are included in the Appendix E, *Resources*.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

ANTHROPOMETRIC

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	Suggestions for Further Assessment*
Pregravid Weight Status	Pregravid weight and height. If pregravid weight and/or height are unknown, use first trimester weight and height to assess BMI.	101 Underweight 111 Overweight	
Maternal Weight Gain Pattern	Current height for BMI calculation. Current weight for BMI calculation. Current weeks gestation. Past weights and dates of measurement, if available. Number of fetuses. If unable to get an accurate weight or height, consider using alternative measurement techniques. (See Appendix E.)	131 Low maternal weight gain 132 Maternal weight loss during pregnancy 133 High maternal weight gain	Assess possible contributors to weight gain (e.g., knowledge and attitudes regarding weight gain, prenatal care health care, provider's weight gain recommendations, physical activity level, appetite, energy intake and frequency of meals and snacks, pica, medical condition or recent illness, stress, depression, history of disordered eating or chronic dieting, severe dental caries, smoking or other substance use or abuse, and domestic abuse).

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

BIOCHEMICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Hemoglobin or Hematocrit	Blood hemoglobin or hematocrit level. Weeks gestation or trimester. Smoking status (if State policy is to adjust for smoking practices).	201 Low hematocrit/ low hemoglobin	Assess factors that may affect hemoglobin/hematocrit levels (e.g., medical condition or recent illnesses/ infections, appetite, pica, diet, factors that might inhibit dietary iron absorption, and lead poisoning). Assess whether it is likely to be a nutritional or physiological anemia.
Blood Lead Levels	Lead testing in past 12 months. Blood lead level.	211 Elevated blood lead levels	Ask about potential sources of lead exposure (e.g., age of housing, recent renovation, pica, occupational exposure, lead-glazed containers used for food preparation or storage). Assess food sources of calcium and iron and regular meals and snacks.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

CLINICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Current Pregnancy-Related Conditions	Severe nausea and vomiting resulting in dehydration and acidosis.	301 Hyperemesis gavidarum	Assess coping strategies (dietary and other practices) that have been helpful or effective. Assess attitude towards dietary supplementation.
	Gestational diabetes.	302 Gestational diabetes	Assess special diet and medications prescribed to manage or treat condition. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Interval between pregnancies: • Delivery date of last pregnancy. • Date of conception OR last menstrual period for this pregnancy.	332 Closely spaced pregnancies	Assess support system at home (e.g. assistance with obtaining adequate intake, help with children).
	High parity and young age: • Maternal age. • Date of conception OR last menstrual period for this pregnancy. • Number of previous pregnancies of at least 20 weeks duration regardless of birth outcome.	333 High parity at young age	Assess support system at home (e.g., assistance with obtaining adequate intake).
	Number of fetuses.	335 Multifetal gestation	
	Fetal growth restriction.	336 Fetal growth restriction	Ask about possible contributors to fetal growth (e.g., pre-pregnancy weight, birth interval, smoking, energy intake). Assess health care provider's instructions about diet and weight gain.
	Breastfeeding woman.	338 Pregnant women currently breastfeeding	Assess health care provider's awareness of her continued breastfeeding.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Past Pregnancy-Related Conditions	History of gestational diabetes.	303 History of gestational diabetes	Assess potential risk factors for this pregnancy (e.g., weight gain pattern, access to prenatal care, BMI, maternal age, birth weight over 9 pounds/ unexplained death/congenital malformation in a previous infant, recurrent infections).
	Baby born ≥ 3 weeks early.	311 History of preterm delivery	Assess potential risk factors for this pregnancy (e.g., weight gain pattern, smoking status, and other substance use patterns, access to prenatal care, poor nutrition, and recent untreated illnesses/infections such as periodontal disease).
	Birth weights: • ≤5½ pounds.	312 History of low birth weight	Assess potential risk factors for this pregnancy (e.g., weight gain pattern, smoking status, other substance use patterns, access to prenatal care, prior preterm delivery or SGA, medical conditions, maternal age <20).
	• ≥ 9 pounds.	337 History of birth of large for gestational age infant	Assess potential risk factors for this pregnancy (e.g., advanced maternal age, medical conditions such as diabetes/gestational diabetes, previous macrosomic infant/pregnancy loss).
	Pregnancy losses: Number of spontaneous abortions before 20 weeks gestation. Any history of fetal death. Any history of neonatal death.	321 History of spontaneous abortion, fetal or neonatal loss	Assess potential risk factors for this pregnancy (e.g., smoking status, other substance use patterns, parity, risk of preterm delivery and low birth weight, obesity-related pregnancy disorders).
	Baby born with neural tube defect, cleft lip, or cleft palate.	339 History of birth with nutrition-related congenital or birth defects	Ask about health care provider's recommendations for folic acid supplementation and preformed Vitamin A supplement use for this pregnancy.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Age at Conception	Maternal age. Date of conception OR date of last menstrual period (LMP).	331 Pregnancy at young age	Assess age of menarche OR gynecological age to assess whether she is likely to still be growing. Assess attitude towards weight gain. Assess support system at home (e.g., assistance with obtaining adequate intake).
Use of Alcohol	Any alcohol consumption.	372 Alcohol and illegal drug use	Assess her understanding of the potential dangers to herself and her fetus. Assess awareness of available help and readiness to access /accept it.
Use of Illegal Drugs	Any illegal drug use.	372 Alcohol and illegal drug use	Assess her understanding of the potential dangers to herself and her fetus. Assess client's attitude toward drug treatment.
Use of Tobacco	Any daily smoking of tobacco products (cigarettes, pipes, or cigars).	371 Maternal smoking	Assess her understanding of the potential dangers to herself and her fetus. Assess client's attitude towards smoke cessation. Assess oral health practices.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Medical Conditions	Nutrition-related medical condition or illness.	341-349 351-356 358 360-362 Nutrition-related risk conditions	Ask about special diet, nutritional supplements, and medications prescribed to manage or treat condition. Assess current and potential impact on nutritional intake and nutritional needs (increased need for specific nutrients, special diet low in essential nutrients). Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Prescription medications with nutrition implications.	357 Drug-nutrient interactions	Assess ability to meet increased/altered nutrient needs or cope with other nutrition implications of medications.
	Over-the-counter medications with nutrition implications.	357 Drug-nutrient interactions	Assess understanding of nutrient and drug interactions and strategize to minimize them.
	Major surgery, trauma, or burns in past 2 months.	359 Recent major surgery, trauma, burns	Ask about special diet and prescribed medications. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Major surgery, trauma, or burns >2 months ago with continued need for nutritional support.	359 Recent major surgery, trauma, burns	Obtain documentation of need for continued nutritional support. Ask about special diet and prescribed medications, assess and document impact on nutritional needs and diet intake. Assess level of access to follow-up medical care.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

DIETARY

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Ability to Meet Dietary Guidelines for Americans	**Absence of any risk** Note: A complete assessment including risk 427 must be completed prior to assigning risk 401.	401 Failure to meet Dietary Guidelines for Americans	Assess need for anticipatory guidance.
Nutrition Practices	Use of dietary supplements: • Excessive or inappropriate. • Iron supplement.	427.1 Consuming dietary supplements with potentially harmful consequences 427.4 Inadequate vitamin/mineral supplementation	Assess potential for toxicity or harm to mother or fetus. Assess factors that might inhibit iron absorption. Assess acceptability and tolerance of iron supplement (e.g., constipation, nausea, vertigo, gastric discomfort).
	• Prenatal Multivitamin with adequate folic acid.	N/A	Assess barriers to obtaining appropriate supplementation (e.g., health belief, religious or cultural practices, finances). Assess attitude towards dietary supplementation.
	Usual meal pattern. Consumption of a diet very low in calories and/or essential nutrients.	427.2 Consuming a diet very low in calories and/or essential nutrients; or impaired caloric intake or absorption of essential nutrients following bariatric surgery	Assess factors that might affect meal pattern (e.g., appetite, pregnancy discomforts, medical conditions and illnesses, culture, religion, knowledge and attitudes about eating practices consistent with good health outcomes, knowledge and skills about meal planning and food preparation).
	Craving for or eating nonfood substances (pica).	427.3 Compulsively ingesting non-food items	Assess potential for toxicity or harm to mother or fetus. Assess impact on nutrient and calorie intake.
	Intake of potentially contaminated foods.	427.5 Inappropriate nutrition practices for women	Assess knowledge of safe food handling. Assess access to safe water and refrigeration.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

DIETARY (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	Suggestions for Further Assessment*
Breastfeeding Knowledge, Support, and Potential Contra-indications	Beliefs and knowledge about breastfeeding. Support network for breastfeeding. Potential contradindications to breastfeeding	N/A	Assess interest for more information/ participation in breastfeeding peer counseling and other breastfeeding support resources. Assess for contraindications to breastfeeding (e.g., HIV infection).

*Further assessment and referral is based on agency protocol.

ENVIRONMENTAL AND FAMILY FACTORS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	Suggestions for Further Assessment*
Environmental and Family Factors	Primary nighttime residence (homelessness).	801 Homelessness	Assess food preparation and food storage equipment. Assess level of access to safe and adequate water.
	Migrant status.	802 Migrancy	Assess food preparation and food storage equipment.
	Physical assault in past 6 months.	901 Recipient of abuse	Assess primary residence (shelter for victims of domestic violence) and food preparation and food storage equipment.
	Ability to make appropriate feeding decisions and/or prepare food.	902 Woman, or infant/child of primary caregiver with limited ability to make feeding decisions and/or prepare food	Assess her support system for feeding decisions and food preparation.
	Foster care status.	903 Foster care	Ask about teenager's adaptation to current foster care.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Pregnant Woman

OTHER ADJUNCT HEALTH ISSUES AND TECHNICAL REQUIREMENTS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	Suggestions for Further Assessment*
Prenatal Care	Medical home. Weeks of gestation when prenatal care began. Scheduling of prenatal visits.	334 Lack of adequate prenatal care	Assess barriers to obtaining care (e.g., beliefs, finances, alien status, lack of insurance, childcare, transportation, unwanted pregnancy, lack of social support).
Oral Health	Dental problems that impair ability to eat food in adequate quantity or quality. Pregnancy gingivitis.	381 Dental problems	Ask about dental status and treatment already in progress. Assess access to dental care. Ask about oral health practices.
Oral Health Care	Dental home. Last visit.	N/A	Assess barriers to obtaining care (e.g., beliefs, finances, alien status, lack of insurance, childcare, and transportation).
Food Security	Availability of safe and nutritious foods.	N/A	Assess community availability, participation in food assistance programs, and equipment for food preparation and storage. Assess availability of adequate and safe water.
Physical Activity	Perceived physical activity level or abilities.	N/A	Ask about physical activity recommendations from health care provider. Ask about knowledge/attitude and barriers to physical activity (e.g., safety concerns, time constraints, access to facilities, self-motivation/management skills).

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

ANTHROPOMETRIC

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	Suggestions for Further Assessment*
Weight Status	Current height for BMI calculation. Current weight for BMI calculation. If <6 months postpartum, pregravid weight and height or BMI. If pregravid weight and height or BMI are not available, probe if useful for assessment or counseling purposes. If unable to get an accurate weight or height, consider using alternative measurement techniques. (See Appendix E.)	101 Underweight 111 Overweight	Assess contributors to low or high BMI (e.g., weight control/loss diet, dieting history; smoking; physical activity; body image maternal age, and depression). Ask about physical activity recommendations from health care provider. Ask about knowledge/attitude and barriers to physical activity (e.g., safety concerns, time constraints, access to facilities, self-motivation/management skills).
Weight Gain with Most Recent Pregnancy	Total gestational weight gain. If total weight gain is not available, probe if useful for assessment or counseling purposes.	133 High maternal weight gain	Assess postpartum weight retention.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

BIOCHEMICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	Suggestions for Further Assessment*
Hemoglobin or Hematocrit	Blood hemoglobin or hematocrit level. Smoking status (if State policy is to adjust for smoking practices).	201 Low hematocrit/ low hemoglobin	Assess factors that may affect hemoglobin/hematocrit levels (e.g., medical condition or recent illnesses/ infections, appetite, pica, diet, factors that might inhibit dietary iron absorption, lead poisoning, prolonged or excessive menstrual bleeding, or blood loss with delivery). Assess whether it is likely to be a nutritional or physiological anemia.
Blood Lead Levels	Lead testing in past 12 months. Blood lead level.	211 Elevated blood lead levels	Ask about potential sources of lead exposure (e.g., age of housing, recent renovation, pica, occupational exposure, lead-glazed containers used for food preparation or storage). Assess food sources of calcium and iron and regular meals and snacks.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

CLINICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Pregnancy-Related Conditions **with Most Recent Pregnancy**	History of gestational diabetes.	303 History of gestational diabetes	Assess current blood sugar level and access to follow-up care.
	Baby born ≥ 3 weeks early.	311 History of preterm delivery	Assess for contributing factors.
	Birth weights: • ≤ 5½ pounds • ≥ 9 pounds	312 History of low birth weight 337 History of birth of large for gestational age infant	Assess for contributing factors such as: body image, smoking, drugs, alcohol (low birth weight) and gestational diabetes mellitus (GDM), family with history of GDM (high birth weight).
	Multiple birth: Fetal or neonatal death with one or more infants still living.	321 History of spontaneous abortion, fetal or neonatal loss	Assess level of access to support services or support group related to the grieving process.
	Interval between pregnancies: • Date of conception OR last menstrual period for this most recent pregnancy. • Delivery date of previous pregnancy.	332 Closely spaced pregnancies	Assess support system at home (e.g. assistance with obtaining adequate intake, help with children).
	High parity and young age: • Maternal age. • Date of conception OR last menstrual period for last pregnancy. • Number of previous pregnancies of at least 20 weeks duration regardless of birth outcome.	333 High parity at young age	Assess support system at home (e.g., assistance with obtaining adequate intake).
	Number of fetuses.	335 Multifetal gestation	

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Pregnancy-Related Conditions **with Most Recent Pregnancy** (continued)	Baby born with neural tube defect, cleft lip, or cleft palate.	339 History of birth with nutrition-related congenital or birth defects	Ask about health care provider's recommendations and participant's follow-through for folic acid supplementation and preformed Vitamin A supplement use for this pregnancy. Assess knowledge of access to special medical services available to infant.
Age at Conception	Maternal age. Date of conception OR date of last menstrual period (LMP).	331 Pregnancy at young age	Assess age of menarche OR gynecological age to assess whether she is likely to still be growing. Assess support system at home (e.g., assistance with obtaining adequate intake).
Medical Conditions	Nutrition-related medical condition or illness.	341-349 351-356 358 360-362 Nutrition-related risk conditions.	Ask about special diet, nutritional supplements, and medications prescribed to manage or treat condition. Assess current and potential impact on nutritional intake, nutritional needs (increased need for specific nutrients, special diet low in essential nutrients), and breastfeeding. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Prescription medications with nutrition implications.	357 Drug-nutrient interactions	Assess ability to meet increased/altered nutrition implications of medications. nutrient needs or cope with other
	Over-the-counter medications with nutrition implications.	357 Drug-nutrient interactions	Assess understanding of nutrient and drug interactions and strategize to minimize them.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Medical Conditions (continued)	Major surgery, trauma, or burns in past 2 months.	359 Recent major surgery, trauma, burns	Ask about special diet and prescribed medications. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Major surgery, trauma, or burns >2 months ago with continued need for nutritional support.	359 Recent major surgery, trauma, burns	Obtain documentation of need for continued nutritional support. Ask about special diet and prescribed medications, assess, and document impact on nutritional needs and diet intake. Assess level of access to follow-up medical care.
Use of Alcohol	Alcohol consumption: * Routine current use >= 2 drinks per day * Binge drinking * Heavy drinking	372 Alcohol and illegal drug use	Assess her understanding of the potential dangers to herself and her fetus. Assess awareness of available help and readiness to access /accept it.
Use of Illegal Drugs	Any illegal drug use.	372 Alcohol and illegal drug use	Assess her understanding of the potential dangers to herself and her fetus. Assess client's attitude toward drug treatment.
Use of Tobacco	Any daily smoking of tobacco products (cigarettes, pipes, or cigars).	371 Maternal smoking	Assess her understanding of the potential dangers to herself and her fetus. Assess client's attitude towards smoke cessation. Assess oral health practices.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Infant and Maternal Factors Affecting Breastfeeding	Mother's complications or potential complications of breastfeeding.	602 Breastfeeding complications (Women)	Assess effectiveness of mother's management strategies. Assess mother's medical providers' recommendations. Assess support system (e.g., family, partner and peer support; work site issues; influence of mass media). Assess need for referral to IBCLC.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

DIETARY

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Ability to Meet Dietary Guidelines for Americans	**Absence of any risk.** Note: A complete assessment including risk 427 must be completed prior to assigning risk 401.	401 Failure to meet Dietary Guidelines for Americans	Assess need for anticipatory guidance.
Nutrition Practices	Use of dietary supplements:· • Excessive or inappropriate. • Folic acid intake from supplements or fortified foods.	427.1 Consuming dietary supplements with potentially harmful consequences 427.4 Inadequate vitamin/mineral supplementation	Assess potential for toxicity or harm to mother or infant. Assess barriers to obtaining appropriate supplementation (e.g., health belief, religious or cultural practices, finances). Assess attitude towards dietary supplementation.
	Usual meal pattern. Consumption of a diet very low in calories and/or essential nutrients.	427.2 Consuming a diet very low in calories and/or essential nutrients; or impaired caloric intake or absorption of essential nutrients following bariatric surgery	Assess factors that might affect meal pattern (e.g., appetite, pregnancy discomforts, medical conditions and illnesses, culture, religion, knowledge and attitudes about eating practices consistent with good health outcomes, knowledge and skills about meal planning and food preparation).
	Craving for or eating nonfood substances (pica).	427.3 Compulsively ingesting non-food items	Assess potential for toxicity or harm to mother or fetus. Assess impact on nutrient and calorie intake.
Infant and Maternal Factors Affecting Breastfeeding	Breastfed infant's nutritional risk.	601 Breastfeeding mother of infant at nutritional risk	Assess effectiveness of mother's management strategies. Assess mother's medical providers' recommendations.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

ENVIRONMENTAL AND FAMILY FACTORS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Environmental and Family Factors	Primary nighttime residence (homelessness).	801 Homelessness	Assess food preparation and food storage equipment. Assess level of access to safe and adequate water.
	Migrant status.	802 Migrancy	Assess food preparation and food storage equipment.
	Physical assault in past 6 months.	901 Recipient of abuse	Assess primary residence (shelter for victims of domestic violence) and food preparation and food storage equipment.
	Ability to make appropriate feeding decisions and/or prepare food.	902 Woman, or infant/child of primary caregiver with limited ability to make feeding decisions and/or prepare food	Assess her support system for feeding decisions and food preparation.
	Foster care status.	903 Foster care	Ask about teenager's adaptation to current foster care.
	Sources of breastfeeding support.	N/A	Assess interest for more information/ participation in breastfeeding peer counseling and other breastfeeding support resources.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Breastfeeding Woman

OTHER ADJUNCT HEALTH ISSUES AND TECHNICAL REQUIREMENTS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	Suggestions for Further Assessment*
Oral Health	Dental problems that impair ability to eat food in adequate quantity or quality.	381 Dental problems	Ask about dental status and treatment already in progress. Assess access to dental care. Ask about oral health practices.
Oral Health Care	Dental home. Last visit.	N/A	Assess barriers to obtaining care (e.g., beliefs, finances, alien status, lack of insurance, childcare, and transportation).
Postpartum Health Care	Medical home. Scheduling of postpartum visit. Need for follow-up.	N/A	Assess barriers to obtaining care (e.g., beliefs, finances, alien status, lack of insurance, childcare, transportation, lack of social support).
Food Security	Availability of safe and nutritious foods.	N/A	Assess community availability, participation in food assistance programs, and equipment for food preparation and storage. Assess availability of adequate and safe water.
Physical Activity	Perceived physical activity evel or abilities.	N/A	Ask about physical activity recommendations from health care provider. Ask about knowledge/attitude and barriers to physical activity (e.g., safety concerns, time constraints, access to facilities, self-motivation/management skills).

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Non-Breastfeeding Postpartum Woman

ANTHROPOMETRIC

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Weight Status	Current height for BMI calculation. Current weight for BMI calculation. If <6 months postpartum, pregravid weight and height or BMI. If pregravid weight and height or BMI are not available, probe if useful for assessment or counseling purposes. If unable to get an accurate weight or height, consider using alternative measurement techniques. (See Appendix E.)	101 Underweight 111 Overweight	Assess contributors to low or high BMI (e.g., weight control/loss diet, dieting history; smoking; physical activity; body image maternal age, and depression). Ask about physical activity recommendations from health care provider. Ask about knowledge/attitude and barriers to physical activity (e.g., safety concerns, time constraints, access to facilities, self-motivation/management skills).
Weight Gain with Most Recent Pregnancy	Total gestational weight gain. If total weight gain is not available, probe if useful for assessment or counseling purposes.	133 High maternal weight gain	Assess postpartum weight retention.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Non-Breastfeeding Postpartum Woman

BIOCHEMICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Hemoglobin or Hematocrit	Blood hemoglobin or hematocrit level. Smoking status (if State policy is to adjust for smoking practices).	201 Low hematocrit/ low hemoglobin	Assess factors that may affect hemoglobin/hematocrit levels (e.g., medical condition or recent illnesses/ infections, appetite, pica, diet, factors that might inhibit dietary iron absorption, lead poisoning, prolonged or excessive menstrual bleeding, or blood loss with delivery). Assess whether it is likely to be a nutritional or physiological anemia.
Blood Lead Levels	Lead testing in past 12 months. Blood lead level.	211 Elevated blood lead levels	Ask about potential sources of lead exposure (e.g., age of housing, recent renovation, pica, occupational exposure, lead-glazed containers used for food preparation or storage). Assess food sources of calcium and iron and regular meals and snacks.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Non-Breastfeeding Postpartum Woman

CLINICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Pregnancy-Related Conditions **with Most Recent Pregnancy**	History of gestational diabetes.	303 History of gestational diabetes	Assess current blood sugar level and access to follow-up care.
	Baby born ≥ 3 weeks early.	311 History of preterm delivery	Assess for contributing factors.
	Birth weights: • ≤ 5½ pounds • ≥ 9 pounds	312 History of low birth weight 337 History of birth of large for gestational age infant	Assess for contributing factors such as: body image, smoking, drugs, alcohol (low birth weight) and gestational diabetes mellitus (GDM), family with history of GDM (high birth weight).
	Multiple birth: Fetal or neonatal death with one or more infants still living.	321 History of spontaneous abortion, fetal or neonatal loss	Assess level of access to support services or support group related to the grieving process.
	Interval between pregnancies: • Date of conception OR last menstrual period for this most recent pregnancy. • Delivery date of previous pregnancy.	332 Closely spaced pregnancies	Assess support system at home (e.g. assistance with obtaining adequate intake, help with children).
	High parity and young age: • Maternal age. • Date of conception OR last menstrual period for last pregnancy. • Number of previous pregnancies of at least 20 weeks duration regardless of birth outcome.	333 High parity at young age	Assess support system at home (e.g., assistance with obtaining adequate intake).
	Number of fetuses.	335 Multifetal gestation	

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for Non-Breastfeeding Postpartum Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Pregnancy-Related Conditions **with Most Recent Pregnancy** (continued)	Baby born with neural tube defect, cleft lip, or cleft palate.	339 History of birth with nutrition-related congenital or birth defects	Ask about health care provider's recommendations and participant's follow-through for folic acid supplementation and preformed Vitamin A supplement use for this pregnancy. Assess knowledge of access to special medical services available to infant.
Age at Conception	Maternal age. Date of conception OR date of last menstrual period (LMP).	331 Pregnancy at young age	Assess age of menarche OR gynecological age to assess whether she is likely to still be growing. Assess support system at home (e.g., assistance with obtaining adequate intake).
Medical Conditions	Nutrition-related medical condition or illness.	341-349 351-356 358 360-362 Nutrition-related risk conditions.	Ask about special diet, nutritional supplements, and medications prescribed to manage or treat condition. Assess current and potential impact on nutritional intake, nutritional needs (increased need for specific nutrients, special diet low in essential nutrients), and breastfeeding. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Prescription medications with nutrition implications.	357 Drug-nutrient interactions	Assess ability to meet increased/altered nutrition implications of medications. nutrient needs or cope with other
	Over-the-counter medications with nutrition implications.	357 Drug-nutrient interactions	Assess understanding of nutrient and drug interactions and strategize to minimize them.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Non-Breastfeeding Postpartum Woman

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Medical Conditions (continued)	Major surgery, trauma, or burns in past 2 months.	359 Recent major surgery, trauma, burns	Ask about special diet and prescribed medications. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Major surgery, trauma, or burns >2 months ago with continued need for nutritional support.	359 Recent major surgery, trauma, burns	Obtain documentation of need for continued nutritional support. Ask about special diet and prescribed medications, assess, and document impact on nutritional needs and diet intake. Assess level of access to follow-up medical care.
Use of Alcohol	Alcohol consumption: • Routine current use >= 2 drinks per day • Binge drinking • Heavy drinking	372 Alcohol and illegal drug use	Assess her understanding of the potential dangers to herself and her fetus. Assess awareness of available help and readiness to access /accept it.
Use of Illegal Drugs	Any illegal drug use.	372 Alcohol and illegal drug use	Assess her understanding of the potential dangers to herself and her fetus. Assess client's attitude toward drug treatment.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Non-Breastfeeding Postpartum Woman

DIETARY

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment** *
Ability to Meet Dietary Guidelines for Americans	**Absence of any risk.** Note: A complete assessment including risk 427 must be completed prior to assigning risk 401.	401 Failure to meet Dietary Guidelines for Americans	Assess need for anticipatory guidance.
Nutrition Practices	Use of dietary supplements:· • Excessive or inappropriate. • Folic acid intake from supplements or fortified foods.	427.1 Consuming dietary supplements with potentially harmful consequences 427.4 Inadequate vitamin/mineral supplementation	Assess potential for toxicity or harm to mother or infant. Assess barriers to obtaining appropriate supplementation (e.g., health belief, religious or cultural practices, finances). Assess attitude towards dietary supplementation.
	Usual meal pattern. Consumption of a diet very low in calories and/or essential nutrients.	427.2 Consuming a diet very low in calories and/or essential nutrients; or impaired caloric intake or absorption of essential nutrients following bariatric surgery	Assess factors that might affect meal pattern (e.g., appetite, pregnancy discomforts, medical conditions and illnesses, culture, religion, knowledge and attitudes about eating practices consistent with good health outcomes, knowledge and skills about meal planning and food preparation).
	Craving for or eating nonfood substances (pica).	427.3 Compulsively ingesting non-food items	Assess potential for toxicity or harm to mother or fetus. Assess impact on nutrient and calorie intake.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Non-Breastfeeding Postpartum Woman

ENVIRONMENTAL AND FAMILY FACTORS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Environmental and Family Factors	Primary nighttime residence (homelessness).	801 Homelessness	Assess food preparation and food storage equipment. Assess level of access to safe and adequate water.
	Migrant status.	802 Migrancy	Assess food preparation and food storage equipment.
	Physical assault in past 6 months.	901 Recipient of abuse	Assess primary residence (shelter for victims of domestic violence) and food preparation and food storage equipment.
	Ability to make appropriate feeding decisions and/or prepare food.	902 Woman, or infant/child of primary caregiver with limited ability to make feeding decisions and/or prepare food	Assess her support system for feeding decisions and food preparation.
	Foster care status.	903 Foster care	Ask about teenager's adaptation to current foster care.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Non-Breastfeeding Postpartum Woman

OTHER ADJUNCT HEALTH ISSUES AND TECHNICAL REQUIREMENTS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	Suggestions for Further Assessment*
Oral Health	Dental problems that impair ability to eat food in adequate quantity or quality.	381 Dental problems	Ask about dental status and treatment already in progress. Assess access to dental care. Ask about oral health practices.
Oral Health Care	Dental home. Last visit.	N/A	Assess barriers to obtaining care (e.g., beliefs, finances, alien status, lack of insurance, childcare, and transportation).
Postpartum Health Care	Medical home. Scheduling of postpartum visit. Need for follow-up.	N/A	Assess barriers to obtaining care (e.g., beliefs, finances, alien status, lack of insurance, childcare, transportation, lack of social support).
Food Security	Availability of safe and nutritious foods.	N/A	Assess community availability, participation in food assistance programs, and equipment for food preparation and storage. Assess availability of adequate and safe water.
Physical Activity	Perceived physical activity evel or abilities.	N/A	Ask about physical activity recommendations from health care provider. Ask about knowledge/attitude and barriers to physical activity (e.g., safety concerns, time constraints, access to facilities, self-motivation/management skills).

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

ANTHROPOMETRIC

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Growth Pattern	Current age. Current weight. Current length. Gestational age at birth. If unable to get an accurate weight or length, consider using alternative measurement techniques. (See Appendix E.)	103 Underweight or at risk of becoming underweight 121 Short stature or atrisk of short stature	Plot the infant's growth parameters on appropriate growth charts and assess infant's growth status. Determine possible contributors (e.g., nutritional, medical, developmental or social factors) that may affect growth. Assess if referrals to health care providers are necessitated.
	Biological mother's BMI at conception or in first trimester. Biological mother's current BMI OR, if pregnant or has had baby within past 6 months, pregravid BMI, Biological father's current BMI.	114 At risk of becoming overweight	Assess caregiver(s)' knowledge and attitudes regarding development of good eating habits, satiety cues, and nutrition.
	Infants <1 month of age: weight loss after birth and age when back to birth weight. Previous weight measurements.	135 Inadequate growth	Assess health, nutrition, cultural and economic factors that may be related to growth pattern (e.g., medical condition or recent illness, developmental delay, feeding problems/inappropriate practices, and possible abuse or neglect).
Birth Weight/ Gestational Age at Birth	Birth weight. Gestational age at birth. Diagnosis of small for gestational age.	141 Low birth weight 142 Prematurity 151 Small for gestational age 153 Large for gestational age	Assess caregiver's knowledge of feeding needs and ability to follow feeding instructions. Assess infant's need for special formula or human milk fortifier.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

BIOCHEMICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Hemoglobin or Hematocrit	Blood hemoglobin or hematocrit level.	201 Low hematocrit/ low hemoglobin	Assess factors that may affect hemoglobin/hematocrit levels (e.g., medical condition or recent illnesses/ infections, appetite, diet, factors that might inhibit dietary iron absorption, and lead poisoning). Assess whether it is likely to be a nutritional or physiological anemia.
Blood Lead Levels	Lead testing in past 12 months. Blood lead level.	211 Elevated blood lead levels	Ask about potential sources of lead exposure (e.g., age of housing, recent renovation, pica, occupational exposure, lead-glazed containers used for food preparation or storage). Assess food sources of calcium and iron and regular meals and snacks.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

CLINICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Medical Conditions	Failure to thrive.	134 Failure to thrive	Ask about factors that may impact or contribute to failure to thrive (e.g. birth status, illnesses, developmental delay, medications, feeding practices). Assess potential for abuse, neglect, or a poor psychosocial environment.
	Nutrition-related medical condition or illness.	152 341-356 360, 362, 382 Nutrition-related risk conditions	Ask about special diet and medications prescribed to manage or treat condition. Assess current and potential impact on nutritional intake, nutritional needs (increased need for specific nutrients, special diet low in essential nutrients), and breastfeeding. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Prescription medications with nutrition implications.	357 Drug-nutrient interactions	Assess understanding of nutrient and drug interactions and strategize to minimize them.
	Over-the-counter medications with nutrition implications.	357 Drug-nutrient interactions	Assess understanding of nutrient and drug interactions and strategize to minimize them.
	Major surgery, trauma, or burns in past 2 months.	359 Recent major surgery, trauma, burns	Ask about special diet and prescribed medications prescribed to manager or treat condition. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Medical Conditions (continued)	Major surgery, trauma, or burns >2 months ago with continued need for nutritional support.	359 Recent major surgery, trauma, burns	Obtain documentation of need for continued nutritional support. Ask about special diet and prescribed medications, assess, and document impact on nutritional needs and diet intake. Assess level of access to follow-up medical care.
	Infant's mother participated in WIC during pregnancy.	701 Infants up to 6 months old of WIC mother or of a woman who would have been eligible during pregnancy	
	Infant's mother has medical records that document nutritional risk during pregnancy.	701 Infants up to 6 months old of WIC mother or of a woman who would have been eligible during pregnancy	
	Infant's mother has been diagnosed with mental retardation.	703 Infant born of woman with mental retardation or alcohol or drug abuse during most recent pregnancy	Assess mother's ability to mix formula appropriately and follow feeding recommendations from her baby's health care provider.
	Infant's mother used alcohol or illegal drugs during most recent pregnancy.	703 Infant born of woman with mental retardation or alcohol or drug abuse during most recent pregnancy	

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

DIETARY

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Nutrition Practices	Use of dietary supplements: • Excessive or inappropriate. • Fluoride intake (age of infant and fluoride content of drinking water supply). • Vitamin D.	411.10 Feeding dietary supplements with potentially harmful consequences 411.11 Routinely not providing dietary supplements …when an infant's diet cannot meet nutrient requirements	Assess potential for toxicity or harm to the child. Assess barriers to obtaining appropriate supplementation e.g. health beliefs, religious or cultural practices, finances).
Primary Nutrient Source	Primary milk source.	411.1 Routinely using a substitute(s) for breastmilk or …formula as primary nutrient source during 1st year of life	Assess caregiver's cultural, economic or medical reasons if breast milk or milk other than formula is provided.
	How infant formula is mixed.	411.6 Routinely feeding inappropriately diluted formula	Assess whether the caregiver has the equipment necessary to prepare formula. Assess whether the caregiver understands the manufacturer's direction or specific prescription.
	Preparation, handling, and storage methods of expressed breast milk (EBM) or formula.	411.9 Routinely using inappropriate sanitation in preparation, handling, and storage of expressed breastmilk or formula	Assess the barriers to safe handling practices.
Complementary foods.	Age when first offered. Current consumption.	411.3 Routinely offering complementary foods or other substances that are inappropriate in type or timing	Determine why the caregiver has chosen a specific feeding practice. Determine whether caretaker can read labels on baby food jars.
	Use of foods potentially contaminated with harmful pathogens.	411.5 Feeding foods to an infant that could be contaminated with harmful microorganisms or toxins	Assess cultural and economic reasons for food choices. Assess food security.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

DIETARY (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Feeding Pattern	Number of feedings of breast milk of exclusively breastfed infant.	411.7 Routinely limiting the frequency of nursing for the exclusively breastfed infant when breast milk is the sole source of nutrients	Assess mother's beliefs and attitudes toward infant feeding schedules.
	Usual meal pattern. Consumption of a diet very low in calories and/or essential nutrients.	411.8 Routinely feeding a diet very low in calories and/or essential nutrients	Assess cultural, medical, family, religious, or other factors affecting usual meal pattern.
Use of Nursing Bottles and Cups	Status of weaning from bottle. Bottle and cup feeding practices	411.2 Routinely using nursing bottles or cups improperly	Assess developmental skills related to feeding. Assess cultural, medical, family and other influences on feeding practices.
Routine Feeding Practices	Feeding practices related to developmental stage/needs: • Response to hunger and satiety cues. • Use of foods associated with choking. • Self-feeding skills. • Food textures.	411.4 Routinely using feeding practices that disregard the developmental needs or stage of the infant	Assess developmental skills related to feeding. Assess caregiver's knowledge of appropriate feeding management skills (e.g., forcing an infant to eat certain type/amount of foods/beverages). Assess the availability of developmentally appropriate foods and utensils. Assess family dynamics that affect feeding (e.g., number of caregivers, daily schedules, other environmental factors). Assess the potential for choking. Assess caregiver's need for anticipatory guidance.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

DIETARY (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Ability to Transition to Complementary Feeding after 4 Months	**Absence of any other risk.** NOTE: A complete assessment including risk 411 must be completed prior to assigning risk 428.	428 Dietary risk associated with complementary feeding practices	Assess caregiver's need for anticipatory guidance.
Infant and Maternal Factors Affecting Breastfeeding	Infant's complications or potential complications of breastfeeding. Mother's nutrition risk.	603 Breastfeeding complications 702 Breastfeeding infant of women at nutritional risk	Assess if signs of jaundice, infrequent stools, suck or latching problems are present.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

ENVIRONMENTAL AND FAMILY FACTORS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Environmental and Family Factors	Primary nighttime residence (homelessness).	801 Homelessness	Assess food preparation and food storage equipment. Assess level of access to safe and adequate water.
	Migrant status.	802 Migrancy	Assess food preparation and food storage equipment.
	Abuse or neglect in past 6 months.	901 Recipient of abuse	If infant now lives in a shelter for victims of domestic violence, ask about food preparation and food storage equipment.
	Primary caregiver's ability to make appropriate feeding decisions and/or prepare food.	902 Woman, or infant/child of primary caregiver with limited ability to make feeding decisions and/or prepare food	Assess caregiver's support system for feeding decisions and food preparation.
	Foster care status.	903 Foster care	Ask about infant's adaptation to current foster care.
	Exposure to environmental tobacco smoke.	N/A	Assess caregiver's understanding of the potential health risks.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for an Infant

OTHER ADJUNCT HEALTH ISSUES AND TECHNICAL REQUIREMENTS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	Suggestions for Further Assessment*
Oral Health	Presence of early childhood caries or smooth surface decay of teeth.	381 Dental problems	Assess possible dietary causes of caries (e.g. such as putting child to bed with bottle and/or use of juice and sugared drinks in bottle). Assess access to dental care. Ask about dental treatment already in progress. Assess for appropriate oral health practices (e.g. wiping infant's gums with damp cloth after meals) Assess caregiver's knowledge of relationship between oral health and overall health.
Well Childcare: Immunization Status Blood Lead Screen Oral Health Care	Medical home. Scheduling of visits. Immunization record. Screening schedule for older infants. Dental home for older infants. Last visit.	N/A	Determine barriers to obtaining care (e.g., beliefs, finances, alien status, lack of insurance, and transportation). Determine barriers to obtaining immunizations and lead screening (e.g., beliefs, finances, alien status, lack of insurance, and transportation). Assess barriers to obtaining oral health care and screenings (e.g., beliefs, finances, alien status, lack of insurance, childcare, and transportation).
Food Security	Availability of safe and nutritious foods.	N/A	Assess community availability, participation in food assistance programs, and equipment for food preparation and storage. Assess availability of adequate and safe water.
Physical activity	Parental attitude and knowledge about infant's need for activity.	N/A	Ask about infant's opportunities for unrestricted movement.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

ANTHROPOMETRIC

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Growth Pattern	Current age. Current weight. Current length. Gestational age at birth. If unable to get an accurate weight or length, consider using alternative measurement techniques. (See Appendix E.)	103 Underweight or at risk of becoming underweight 121 Short stature or atrisk of short stature 113 Overweight(> 2yrs of age) 114 (> 2yrs of age)At risk of becoming overweight	Determine possible contributors (e.g., nutritional, medical, developmental or social factors that may affect growth).
	Biological mother's current BMI OR if pregnant or has had baby within past 6 months, pregravid BMI. Biological father's current BMI.	114 At risk of becoming overweight	Assess caregiver(s)' knowledge and attitudes regarding development of good eating habits, satiety cues and nutrition.
	2 weights taken at least 3 months apart OR 2 weights taken at least 6 months (+ or - 2 weeks) apart.	135 Inadequate growth	Assess health, nutrition, cultural and economic contributors to growth pattern (e.g., medical condition or recent illness, developmental delay, feeding problems/inappropriate practices, and possible abuse or neglect.)
Birth Weight/ Gestational age at birth (children < 24 months calories, of age)	Birth weight. Gestational age at birth. Diagnosis of small for gestational age.	141 Low birth weight 142 Prematurity 151 Small for gestational age	Assess caregiver's knowledge of feeding needs and ability to follow feeding instructions. Assess child's need for additional special formula, or human milk fortifier.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

BIOCHEMICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Hemoglobin or Hematocrit	Blood hemoglobin or hematocrit level.	201 Low hematocrit/ low hemoglobin	Assess factors that may affect hemoglobin/hematocrit levels (e.g., medical condition or recent illnesses/ infections, appetite, diet, factors that might inhibit dietary iron absorption, and lead poisoning). Assess whether it is likely to be a nutritional or physiological anemia.
Blood Lead Levels	Lead testing in past 12 months. Blood lead level.	211 Elevated blood lead levels	Ask about potential sources of lead exposure (e.g., age of housing, recent renovation, pica, occupational exposure, lead-glazed containers used for food preparation or storage). Assess food sources of calcium and iron and regular meals and snacks.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

CLINICAL

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Medical Conditions	Failure to thrive.	134 Failure to thrive	Ask about factors that may impact or contribute to failure to thrive (e.g. birth status, illnesses, developmental delay, medications, feeding practices). Assess potential for abuse, neglect, or a poor psychological environment.
	Nutrition-related medical condition or illness.	341-349 351-356 360-362 382 Nutrition-related risk conditions	Ask about special diet and medications prescribed to manage or treat condition. Assess current and potential impact on nutritional intake, nutritional needs (increased need for specific nutrients, special diet low in essential nutrients), and breastfeeding. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.
	Prescription medications with nutrition implications.	357 Drug-nutrient interactions	Assess understanding of nutrient and drug interactions and strategize to minimize them.
	Over-the-counter medications with nutrition implications.	357 Drug-nutrient interactions	Assess understanding of nutrient and drug interactions and strategize to minimize them.
	Major surgery, trauma, or burns in past 2 months.	359 Recent major surgery, trauma, burns	Ask about special diet and prescribed medications. Assess understanding of and compliance with treatment plan. Assess level of access to follow-up medical care.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

CLINICAL (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Medical Conditions (continued)	Major surgery, trauma, or burns >2 months ago with continued need for nutritional support.	359 Recent major surgery, trauma, burns	Obtain documentation of need for continued nutritional support. Ask about special diet and prescribed medications, assess, and document impact on nutritional needs and diet intake. Assess level of access to follow-up medical care.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

DIETARY

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Nutrition Practices	Primary milk source.	425.1 Routinely feeding inappropriate beverages as the primary milk source.	Assess caregiver's cultural, economic, or medical reasons for providing inappropriate beverages as primary milk source.
	Intake of sugar-containing beverages.	425.2 Routinely feeding a child any sugar-containing fluids	Assess for beverages common to a particular culture and/or region.
	Age and status of weaning from bottle. Bottle and cup feeding practices. Pacifier practices.	425.3 Routinely using nursing bottles, cups, or pacifiers improperly	Assess developmental skills related to feeding. Assess cultural, medical, and other influences on these feeding practices.
	Feeding practices related to developmental stage/needs: • Response to hunger and satiety cues. • Use of foods associated with choking. • Self-feeding skills. • Food textures.	425.4 Routinely using feeding practices that disregard the developmental needs or stage of the child	Assess caregiver's knowledge of appropriate beverages feeding management skills (e.g., forcing a child to eat certain type/amount of foods/ beverages). Assess the availability of developmentally appropriate foods and utensils. Assess family dynamics that affect feeding (e.g., number of caregivers, daily schedules, and other environmental factors).Assess the potential for choking. Assess caregiver's need for anticipatory guidance.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

DIETARY (continued)

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign risk	**Suggestions for Further Assessment***
Nutrition Practices (continued)	Intake of potentially contaminated foods.	425.5 Feeding foods to child that could be contaminated with harmful microorganisms	Assess knowledge of safe food handling. Assess access to safe water and refrigeration.
	Usual meal pattern. Consumption of a diet very low in calories and/or essential nutrients.	425.6 Routinely feeding a diet very low in calories and/or essential nutrients	Assess for cultural, medical, family, religious, and other reasons affecting usual meal pattern.
	Use of dietary supplements: • Excessive or inappropriate. • Fluoride intake (age and fluoride content of drinking water supply.)	425.7 Feeding dietary supplements with potentially harmful consequences 425.8 Routinely not providing dietary supplements … when an infant's diet cannot meet nutrient requirements	Assess potential for toxicity or harm to the child. Assess barriers to obtaining appropriate supplementation (e.g. health beliefs, religious or cultural practices, finances).
	Eating nonfood substances (pica).	425.9 Routine ingestion of nonfood items	Assess potential for toxicity or harm to child.
Ability to Transition to Complementary Feeding (Child 12 to 23 Months of Age)	**Absence of any other risk.** NOTE: A complete assessment including risk 425 must be completed prior to assigning risk 428.	428 Dietary risk associated with complementary feeding practices	Assess caregiver's need for anticipatory guidance.
Ability to Meet Dietary Guidelines for Americans (Children > 24 Months of Age)	**Absence of any other risk.** NOTE: A complete assessment including risk 425 must be completed prior to assigning risk 401.	401 Ability to meet Dietary Guidelines for Americans	

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

ENVIRONMENTAL AND FAMILY FACTORS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	**Suggestions for Further Assessment***
Environmental and Family Factors	Primary nighttime residence (homelessness).	801 Homelessness	Assess food preparation and food storage equipment. Assess level of access to safe and adequate water.
	Migrant status.	802 Migrancy	Assess food preparation and food storage equipment.
	Abuse or neglect in past 6 months.	901 Recipient of abuse	If child now lives in a shelter for victims of domestic violence, ask about food preparation and food storage equipment.
	Primary caregiver's ability to make appropriate feeding decisions and/or prepare food.	902 Woman, or infant/child of primary caregiver with limited ability to make feeding decisions and/or prepare food	Assess caregiver's support system for feeding decisions and food preparation.
	Foster care status.	903 Foster care	Ask about child's adaptation to current foster care.
	Exposure to environmental tobacco smoke.	N/A	Assess caregiver's understanding of the potential health risks.

*Further assessment and referral is based on agency protocol.

Relevant WIC Nutrition Assessment Information for a Child (1 Year to 5 Years of Age)

OTHER ADJUNCT HEALTH ISSUES AND TECHNICAL REQUIREMENTS

What to Assess (Relevant Information)	What to Collect	What to Do	
		Assign Risk	Suggestions for Further Assessment*
Oral Health	Presence of early childhood caries or smooth surface decay of teeth. Dental problems that impair ability to eat food in adequate quantity and quality.	381 Dental problems	Assess possible dietary causes of caries (e.g. such as putting child to bed with bottle and/or use of juice and sugared drinks in bottle). Assess access to dental care. Ask about dental treatment already in progress. Assess for appropriate oral health practices (e.g. when teeth appear, start using a soft children's toothbrush twice a day). Assess caregiver's knowledge of relationship between oral health and overall health.
Food Security	Availability of safe and nutritious foods.	N/A	Assess community availability, participation in food assistance programs, and equipment for food preparation and storage. Assess availability of adequate and safe water.
Physical Activity	Parental attitude and knowledge about child's need for activity.	N/A	Assess barriers to physical activity (e.g., safety concerns, time constraints, lack of knowledge about physical activity needs of young children, hours of TV/video watched per day).

*Further assessment and referral is based on agency protocol.

Assessment Questions and Questionnaires

Questions play an important and specific role in a WIC nutrition assessment. An effective WIC staff uses questions to obtain information that clarifies the participant's needs in order to personalize services. The type of question will be determined by how it will be used, who will be answering, and what information is needed. The following identifies the steps involved in developing questions and questionnaires for nutrition assessment.

(Note: There is very little information available specifically on development of questions or questionnaires for nutrition assessment.[1, 2] The following has been adapted from survey development literature.)

1. Preliminary Decisions[3, 4]

State agencies must make preliminary decisions about the assessment process before beginning to design questions or assessment instruments.

What is the goal?
Will the question be used for:

- Risk determination?
- Surveillance?
- Springboard to conversation?
- Knowledge or attitude determination?
- Motivation determination?
- Aid to critical thinking?

Who will complete the questionnaire?

- Applicant
- Clerical staff
- Professional staff
- Mixed

What format will be used?

- Paper
- Computer screen
- Oral
- Mixed

Written questionnaires are generally used for risk determination or surveillance and may also help to determine attitude, knowledge, and motivation. Oral questions can be used as "springboards" to conversation and can segue into in-depth conversations. Oral questions can also be used by WIC staff as a tool to enhance the assessment through critical thinking by probing for additional information.

Most WIC nutrition assessments include written questionnaires to collect basic information, oral "springboard" questions to encourage conversation, and oral questions to promote critical thinking.

2. Develop Questions and Responses for Use in a Written Questionnaire[3, 4, 5]

The careful crafting of questions is crucial in the development of a questionnaire that will produce meaningful and relevant information that can be used to assess the applicant's needs and

1. Lyne PA, Prowse MA. Methodological issues in the development and use of instruments to assess patient nutritional status or the level of risk of nutritional compromise. Journal of Advanced Nursing, 1999, 30 (4), 835-842.

2. Caulfield, LE Methodological Challenges in Performing Targeting: Assessing Dietary Risk for WIC Participation and Education J. Nutr. 135:879-881, 2005.

3. Salant P, Dillman D. How To Conduct Your Own Survey. New York: John Wiley nd Sons; 1994.

4. Taylor-Powell E. Questionnaire Design: Asking Questions With A Purpose. University of Wisconsin-Cooperative Extension. May 1998. http://cecommerce.uwex.edu

5. General Accounting Office. Using Structured Interviewing Techniques. http://www.gao.gov/policy/10_1_5.pdf

nutrition status. Poorly designed questions lead to misinformation and ambiguous results. Attention to the following points is the first step to developing a quality nutrition assessment instrument.

- **Choose appropriate questions.**[4, 6]

6. Narins P. Guidelines For Creating Better Questions [monograph on the Internet]. SPSS Inc. 1999. http://www.ryerson.ca/

Type of Question		Response	Example	Advantage	Disadvantage
Open-ended		Applicants answer in their own words.	"How do you mix your baby's formula?" "What have you heard about breastfeeding?"	Good to determine attitudes, opinions, frustrations, concerns(allows more participant involvement). Applicant can't "fill in" the survey with all the same answers.	Not always reproducible or consistent. Can be time consuming for applicant. Requires time to analyze the results. Some applicants may be resistant to providing information. Difficult to compare the meanings of responses.
Closed - ended	Closed-ended with Dichotomous Answers	Applicant chooses from predeter-mined answers.	"Does your baby use a cup?"" "Is your child up-to-date on his/her immunization?"	Provides specific answers. Good for WIC certification, surveillance, and computer analysis. Simple, takes less time. Good response rate.	Predetermined answers may not fit the applicant's situation.
	Closed-ended with Ordered Choices.	The applicant is asked to think about where they fit within a range.	Breastfeeding is good. Strongly agree Agree Don't know Disagree Strongly disagree	Tend to be quite specific, easy to code/analyze.	
	Close Ended With Un-ordered Choices	The applicant evaluates each choice and selects the one that best reflects his/her situation.	"Choose the formula your baby drinks from the list below."	Good when knowledge of the subject allows useful answer choices.	Elicits only a specific piece of information. Too few categories can force applicant to choose imprecisely.
Partially Closed-Ended		Answer choices are provided with an option to add responses.	What is your first language? EnglishSpanish Vietnamese Other_____	Response not predefined. Can generate new information.	

- **Focus the question according to its goal. Avoid problematic questions.**[7, 8]

Question	Problem	Example	Improvement
Double-Barreled	More than one subject is covered but only one answer is expected.	Do you eat fresh fruits and vegetables daily?	In a typical day do you eat: fresh fruits _____ vegetables _____
Biased	Wording leads the applicant to a specific answer.	Given the poor quality and high fat and sodium content of junk food, how often do you include them in your diet?	How often do you drink sodas?
Loaded	Present only one side of an issue.	Have you used Echinacea during your pregnancy?	Some herbal products are commonly used during pregnancy. Do you use any herbal supplements?
Time and Distance Related	Applicants have difficulty with percentages.	What percent of your day is spent on physical activity?	How much time do you spend daily on the following activities?

- **Focus the responses.**[7, 8]

Response	Problem	Example	Improvement
Neutral Bias	Most people will choose neutral if given a choice.	If given a scale based on 1-5 most people will choose 3.	Use a scale based on even numbers.
Overlap	Responses are not mutually exclusive.	How many servings of vegetables do you eat in a typical day? a. 1 or less b. 1-3 c. 3 or more	How many servings of vegetables do you eat in a typical day? a. 1 or less b. 2-4 c. 5 or more

7. Survey Design Considerations. http://www.websurveyor.com

8. Choi BCK, Pak AWP. A Catalog of Biases in Questionnaires. Prev Chronic Dis 2005 http: www.cdc.gov/pcd/issues/2005/jan/04_0050.htm

- **Choose words carefully.**[9, 10, 11]

  Choose words carefully. Select a reading level appropriate to the literacy level of the WIC participants when developing the questions. Avoid ambiguity, technical jargon, confusing or vague words and those with double meanings. Words like "occasionally," "regularly," and "often" mean different things to different people. Be as specific as possible.

  Many words that are used in WIC on a daily basis are not familiar to the general population. Consider using the simplest possible words that will convey the concept. Be aware of words that are used differently in different cultures and languages. This is especially important when translating into other languages. For instance, the words "**ahora**" and "**ahorita**" have different meanings for some Spanish-speaking individuals. In Mexico, "**ahora**" means "a little bit later." In other places like Puerto Rico, "**ahora**" means immediately or right now. On the other hand, "**ahorita**" in Puerto Rico means a little bit later, whereas in Mexico "**ahorita**" means right now.

9. Words to Watch – Fact Sheet and How to Conduct Effective online surveys. Partnership for Clear Health Communications. http://www.AskMe3.org

10. Gowers EA. The Complete Plain Words. London: Penguin (Pelican) Books; 1954.

11. Day RA. How To Write and Publish a Scientific Paper. 5th Ed. Phoenix (AZ): Oryx Press; 1998.

Some examples of problem words and possible better phrasing include:

Problem word	Substitute
Intake	What you eat or drink
Nausea	Feeling sick to your stomach
Vomiting	Throwing up
Poultry	Chicken, turkey etc.
Food package	Food on your voucher
Excessive	Too much
Hemoglobin	Finger stick
WIC Referral	Information from your doctor
Recertify	See if you are still eligible
Postpartum	After the baby is born
Assist	Help
Consider	Think

Problem word	Substitute
Elucidate	Explain
Employ	Use
Initiate	Begin / Start
Major	Important / Main
Perform	Do
Quantify	Measure
Require	Want / Need
Reside	Live
State	Say
Sufficient	Enough
Terminate	End
Utilize	Use

3. Format the Questionnaire.[3, 6, 7]

The most meaningful results come when the goal and audience are narrowly defined. For instance, if the primary goal of a questionnaire is to determine risk, then avoid the "nice to know" but irrelevant questions. The longer and more complicated the questionnaire, the less reliable it will be. The design of assessment questions and instruments can be tedious but when done appropriately, miscommunication and poorly targeted nutrition services will be minimized.

Questionnaires should begin with a clear and brief statement about the purpose. The introduction should be easy-to-read and entice the applicant to give complete and honest responses. Formats differ based on whether it will be read and answered by the applicant or whether trained WIC staff read it to the applicant and then record the answers.

a. To design a written **questionnaire that will be completed by the participant[3]:**

- Avoid lines separating questions.
- Use a vertical flow for easy reading. (Place answer choices under the question vertically, not side by side).
- Put questions in dark/boldface and answers in lighter print type.
- Give brief instructions like "skip," "go to," "check" exactly where the information will be used. It is better to repeat instructions too often than not enough.
- Make sure at least one answer choice applies to each respondent.
- Use "skip" arrows for questions that do not apply to everyone. Avoid complicated and frequent skips.
- Use multiple-column format when 2 or more questions can be combined.
- Use ZERO when appropriate so that it is distinguishable and will not be confused with a blank or NO RESPONSE.
- Avoid splitting a question over 2 pages.
- Leave ample space for answers in open-ended questions. Do not provide lines for answers. They may inhibit complete comments.
- Be consistent throughout!

The questionnaire should be appealing and stimulate interest. Design the first questions carefully as they receive the most attention. The first 2-3 questions should be:

- close-ended
- simple
- not embarrassing
- interesting

Review subsequent questions to be sure they are:

- useful and purposeful
- reasonable
- respectful of the applicant's privacy

b. To design a **questionnaire that will be read by trained WIC staff and then given orally** make the design user-friendly.[3] Consider the following:

- Use different print styles to distinguish among questions that should be 1) read to all participants, 2) read only if relevant, or 3) not read at all.
- Place answer choices to the right side. (Note: This is different from the written, participant answered questionnaire.)
- Include responses that will not be read out loud but may be needed. Example: NO OPINION, DOES NOT APPLY, REFUSED.
- Use consistent, clear format for skip patterns.
- Avoid having to turn pages in the middle of a question.

4. Validate the Questions and Questionnaire[1, 3, 4]

The most important step in finalizing any questionnaire is to test it on a group of applicants and agency staff who reflect the cultural diversity of the population. In addition to observing patterns of errors, a focus group can be utilized to determine if the:

- Questions produce the necessary information.
- Words are appropriate for the reading level of the participants.
- Questions are clear and unambiguous.
- Questionnaire presents a positive impression that encourages a response.
- Skip patterns are followed correctly.
- Questions are biased.

Jain et al [12] recently used similar methods to validate a WIC Feeding Questionnaire and found widespread misunderstanding of many feeding and parenting questions by WIC applicants. Terms like "poor appetite," "making a child eat" and "punishing to eat more" were interpreted very differently than the designers intended. This study reinforces the importance of thoroughly validating questions and terms before use.

5. Format Examples

The following is an example with formatting explanations. Not all questions are provided, this is meant to provide an overview, it is not a ready-to-use sample questionnaire.

1-3. [*Questions should be close-ended, simple, interesting, not personal or embarrassing*].

4. **Check on the list below all the problems your baby had in the last month.**

☐ Constipation [*Vertical flow with bolded question*]
☐ Vomiting
☐ Diarrhea
☐ Colic
☐ Spitting up

5. Check all of the ways your baby is fed.

☐ Breast → **if you check this box, go to question 6**
☐ Bottle → **if you check this box, go to number 7**
☐ Cup
☐ Spoon [*Brief instructions where needed*]

6. Breastfed babies [Questions for breastfed infants should follow vertically]

7. Bottle-fed babies

How many times each week does your baby take a bottle to bed?
[*Use a zero to distinguish from blank or no response*]

☐ 0 times
☐ 1-3 times
☐ 4-7 times
☐ 8-10 times
☐ ALWAYS

12. Jain A, Sherman SN, Chamberlin LA, Whitaker RC. Mothers Misunderstand Questions On A Feeding Questionnaire. Appetite 2004; 42:249-254.

8. What medicines and supplements do you give your baby?
(Check the boxes in each column that apply)
[*Multiple column format combining two questions*]

	Prescribed By Your Doctor		Not Prescribed By Your Doctor	
Stomach/Digestion Medications	☐		☐	
Vitamin/Minerals	☐		☐	
Herbal Products	☐		☐	
Asthma Medications	☐		☐	
Flu/Cold Medications	☐		☐	
Other	☐	_____	☐	_____

[Avoid having to turn the page in the middle of a question]

DESIGN PROBLEMS

The following is a portion of a sample questionnaire with design problems (not all questions are illustrated in this example). The design problems are listed below.

Note: Answer question 7 only if you answered "yes" to 5d

1. Do you have constipation?	a. yes b. no
2. Check all of the problems your baby had in the last month.	a. Constipation b. Vomiting c. Diarrhea d. Colic e. Spitting up
3. Check each way your baby is fed Note: If you checked "b" go to number 9. If you checked "a" go to number 8 after you finish 6 and 7.	a. Breast b. Bottle c. Syringe-action nipple feeder d. Cup e. Spoon
4. How do you feel your baby is developing?	_____ _____

Problems With This Design:

- *Potentially embarrassing opening question*
- *Not a vertical flow*
- *Lines separate questions*
- *Instructions neither clear nor placed where needed*
- *Not enough response space for open-ended questions.*
- *Lines used in response space for open-ended question.*

Note: Computer based questionnaires[9, 13]

Web-based WIC nutrition assessment is still in its infancy. As expertise is developed, the information will be shared. This section, as it relates to question development, will be valid in any medium. The design of web-based screens will, however, vary. The web will allow drop-down responses that simplify the format and enhance visual attractiveness. Answers to questions asked initially can be retained, minimizing the number of responses needed from the applicant. Skip patterns and multi-language needs are simplified.

13. Guidelines on the Application of New Technology to Population Data Collection and Capture 3. Computer Assisted Personal Interviewing (CAPI). http://www.unescap.org/stat/pop-it/pop-guide/capture_ch03.pdf

6. Oral Questions[3]

a. "Springboard" questions can be used in conjunction with a written questionnaire to "spring board" into conversations. They can:

- Initiate dialog.
- Explore an issue in more depth.
- Transition from one issue to another or from one health determinant to another.
- Determine knowledge, motivation, concern or attitude.

They are generally but not always open-ended and are usually not written. They require that staff be trained in cultural competency, critical thinking, and rapport building in order to choose questions that are sensitive as well as enlightening.

Examples:

- Weight gain is a normal part of pregnancy. How do you feel about gaining weight?
- Parents often wonder if their child is eating right. Do you have questions about (name)'s eating?

b. Oral questions are used as an **aid to critical thinking**. In a WIC nutrition assessment, they are invaluable tools that will help staff to:

- Clarify issues.
- Improve precision.
- Assure accuracy and relevancy.
- Understand the problem in depth.
- Make sure the staff's understanding and decisions are logical and fair.

Case Study: A WIC mother reports her infant is experiencing problems she attributes to the infant's formula (i.e., diarrhea, constipation, or abdominal distress). What information is needed to assess a potential cause and decide on a course of action?

Critical thinking goal = to determine if the formula is the cause of the symptoms.

Questions can be used to:

Clarify the issues

a. How old is the infant?
b. What does the doctor think?
c. What other formulas have been tried?
d. Exactly what are the symptoms? Example: spitting up versus projectile vomiting, constipation versus infrequent stools, diarrhea versus frequent stools.

Improve **precision**

a. How is formula mixed?
b. How long after feeding do symptoms occur?
c. Do symptoms occur with every feeding?

Assure **accuracy**

a. Would you show me on the bottle how much water you add?
b. Can you show me on this chart what your baby's stools look like?

Be sure the information is **relevant**

Mom states that her older children could not tolerate this formula either. Is that information relevant?

Check that the problem has been examined in **depth**

a. Does the infant have other health problems?
b. Is the infant losing weight?
c. Are other family members ill?

Check that the information and conclusion are **logical**

Are the symptoms and requests consistent with scientific knowledge? Example: requests for lactose-free, milk-based formula for cow milk allergy *or* standard cow milk formula for lactose intolerance or for cow milk allergy.

Check for **fairness**

Have I looked at all the issues?

Health Outcome-Based WIC Nutrition Assessment

The *health outcome-based WIC nutrition assessment* is offered as an example of a positive approach to assessment where a desirable health outcome serves as a focal point to collect relevant information. Using a positive approach to assessment in which the participant, parent, or guardian gains a greater appreciation of how to attain good health and recognizes her own need(s) and/or an infant's or child's needs for health improvement can lead to more effective WIC interventions. It also provides an organized, systematic way to perform an assessment and is consistent with two national public health initiatives to improve the health and well-being of Americans:

- Healthy People 2010 Health Objectives, a comprehensive health promotion and disease prevention agenda;[1] and
- Bright Futures, a set of health supervision guidelines to "promote and improve the health, education, and well-being of infants, children, adolescents, families, and communities."[2]

The health outcome approach is adapted from the Healthy People 2010 (HP 2010) systematic approach to improving health. The HP 2010 approach consists of goals, objectives, health determinants, and health status. For the purpose of WIC nutrition assessment, the goal is a desired health outcome for each participant category. The health outcome is dependent upon health determinants — a set of factors influenced by individual behaviors, past and current health conditions, and the family and social environment — that increase the likelihood of reaching the desired health outcome. The health determinants reflect both HP 2010 objectives and Bright Futures health outcomes and are organized and titled accordingly.

Consider the health goal for a pregnant woman.

> *Desired health outcome:* Delivers a healthy, full-term infant while maintaining optimal health status.

[1] U.S. Department of Health and Human Services, Healthy People 2010: Understanding and Improving Health. 2nd ed. Washington, DC: U.S. Government Printing Office, November 2000.
[2] Green, M and Palfrey J, editors. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, 2nd edition, revised, page vi, 2002.

This desired health outcome is more likely to occur when the woman:

- Receives ongoing preventive health care including prenatal care;
- Achieves a recommended maternal weight gain;
- Remains free from nutrition or food-related illness, complications, or injury;
- Avoids alcohol, tobacco and illegal drugs;
- Consumes a variety of foods to meet energy and nutrient requirements; and
- Makes an informed decision to breastfeed her infant.

Each health determinant can be explored with the applicant by collecting and evaluating relevant information. For example, weight, height, pre-pregnancy weight, and week of gestation would be collected and evaluated to assess if the pregnant woman is achieving a recommended maternal weight gain.

During the exploration of each health determinant, risk factors may be identified and further probed to identify potential causes, such as knowledge, skills, attitudes and beliefs, cultural practices, family and social environment resources, and access to food and health care services.

Using health outcomes in WIC nutrition assessment is one systematic approach that can be adapted to State and local needs and may lead to a positive outcome for the participant. Health outcome-based WIC nutrition assessment allows staff to: [3]

- Emphasize strengths and healthy practices of the participant and family;
- Highlight accomplishments and/or developmental progress; and
- Reinforce the increasing competence of caregivers.

This positive context may help the participant, parent, or guardian develop a greater understanding of the purpose of the WIC nutrition assessment, recognize her role in achieving the desired health outcome, and empower her to decide how (or whether) to alter current behaviors.

[3] Adapted from Green, M and Palfrey, J, editors. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, 2nd edition, revised, 2002.

An outline for a health outcome-based WIC nutrition assessment has been developed for each participant category. Each outline lists:

- The desired health outcome (goal);
- A set of health determinants (in the boxes) that contribute to achieving the outcome;
- Information to be collected for each health determinant;
- The WIC nutrition risk criteria (as described in FNS Policy Memorandum 98-9[4]) associated with each health determinant; and
- Information **not** associated with WIC nutrition risk criteria, but considered necessary for individualizing nutrition services to meet the needs of each participant.

Note: For consistency, health determinants are listed in a similar order for all participant categories. This order does not imply any priority or importance. Each State agency establishes policies and procedures about nutrition assessment tasks, including how tasks are organized and when each is completed.

[4] U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: WIC Policy Memorandum 98-9, Revision 8. Alexandria, VA, March 2005

Health Outcome-Based WIC Nutrition Assessment for a Pregnant Woman

Desired health outcome: Delivers a healthy, full-term infant while maintaining optimal health status.

Receives ongoing preventive health care including prenatal care.

- Prenatal care (334)
- Oral health care

Achieves a recommended maternal weight gain.

- Pregravid weight status and maternal weight gain pattern (101, 111, 131, 132, 133)
- Physical activity

Remains free from nutrition or food-related illness, complications, or injury.

- Hemoglobin/hematocrit (201)
- Pregnancy-related conditions, past and current (301, 302, 303, 311, 312, 321, 332, 333, 335-339)
- Medical conditions (211, 341-349, 351-362)
- Age at conception (331)
- Oral health status (381)
- Nutrition practices (427.1, 427.3, 427.4, 427.5)
- Family and social environment (801, 802, 901, 902, 903)

Avoids alcohol, tobacco, and illegal drugs.

- Use of alcohol, tobacco, or illegal drugs (371, 372)

Consumes a variety of foods to meet energy and nutrient requirements.

- Nutrition practices (427.2)
- Ability to meet *Dietary Guidelines for Americans* (401)
- Food security

Makes an informed decision to breastfeed her infant.

- Breastfeeding knowledge, support and potential contraindications

Health Outcome-Based WIC Nutrition Assessment for a Breastfeeding Woman

Desired health outcome: Achieves optimal health during the childbearing years and reduces the risk of chronic diseases.

Receives ongoing preventive health care including early postpartum care.

- Postpartum health care
- Oral health care

Achieves desirable postpartum weight or BMI.

- Weight or BMI (101, 111)
- Weight gain with most recent pregnancy (133)
- Physical activity

Remains free from nutrition or food-related illness, complications, or injury.

- Hemoglobin/hematocrit (201)
- Pregnancy-related risk conditions with most recent pregnancy (303, 311, 312, 321, 332, 333, 335, 337, 339)
- Medical conditions (211, 341-349, 351-362)
- Age at conception (331)
- Oral health status (381)
- Nutrition practices (427.1, 427.3, 427.4)
- Family and social environment (801, 802, 901, 902, 903)

Avoids alcohol, tobacco, and illegal drugs.

- Use of alcohol, tobacco and illegal drugs (371, 372)

Consumes a variety of foods to meet energy and nutrient requirements.

- Nutrition practices (427.2)
- Ability to meet *Dietary Guidelines for Americans* (401)
- Food security

Breastfeeds her infant(s) successfully.

- Sources of breastfeeding support
- Infant and maternal factors affecting breastfeeding (601, 602)

Health Outcome-Based WIC Nutrition Assessment for a Non-Breastfeeding Postpartum Woman

Desired health outcome: Achieves optimal health during the childbearing years and reduces the risk of chronic diseases.

Receives ongoing preventive health care including early postpartum care.

- Postpartum health care
- Oral health care

Achieves desirable [postpartum] weight or BMI.

- Weight or BMI (101, 111)
- Weight gain with most recent pregnancy (133)
- Physical activity

Remains free from nutrition or food-related illness, complications, or injury.

- Hemoglobin/hematocrit (201)
- Pregnancy-related risk conditions with most recent pregnancy (303, 311, 312, 321, 332, 333, 335, 337, 339)
- Medical conditions (211, 341-349, 351-362)
- Age at conception (331)
- Oral health status (381)
- Nutrition practices (427.1, 427.3, 427.4)
- Family and social environment (801, 802, 901, 902, 903)

Avoids alcohol, tobacco, and illegal drugs.

- Use of alcohol and illegal drugs (372)
- Tobacco use

Consumes a variety of foods to meet energy and nutrient requirements.

- Nutrition practices (427.2)
- Ability to meet *Dietary Guidelines for Americans* (401)
- Food security

Health Outcome-Based WIC Nutrition Assessment for an Infant

Desired health outcome: Achieves optimal growth and development in a nurturing environment and develops a foundation for healthy eating practices.

Receives ongoing preventive health care including screenings and immunizations.

- Well child care (includes immunizations)

Achieves a normal growth pattern.

- Growth pattern (103, 114, 121, 135)
- Physical activity

Remains free from nutrition or food-related illness, complications, or injury.

- Hemoglobin/hematocrit (201)
- Medical conditions (134, 152, 211, 341-357, 359, 360, 362, 382, 701, 703)
- Birthweight/gestational age at birth (141, 142, 151, 153)
- Oral health status (381)
- Nutrition practices (411.5, 411.9, 411.10, 411.11)
- Family and social environment (801, 802, 901, 902, 903)
- Environmental tobacco smoke

Consumes breast milk and/or iron-fortified infant formula and other foods as developmentally appropriate to meet energy and nutrient requirements.

- Primary nutrient source (411.1, 411.6)
- Complementary foods (411.3)
- Feeding pattern (411.7, 411.8)
- Use of nursing bottles and cups (411.2)
- Ability to transition to complementary feeding after 4 months (428)
- Food security

Establishes a trusting relationship with parent(s) that contributes to positive feeding experiences.

- Routine feeding practices (411.4)
- Infant and maternal factors affecting breastfeeding (603, 702)

Health-Outcome Based WIC Nutrition Assessment for a Child 12-60 Months of Age

Desired health outcome: Achieves optimal growth and development in a nurturing environment and begins to acquire dietary and lifestyle habits associated with a lifetime of good health.

Receives ongoing preventive health care including screenings and immunizations.

- Well child care (includes blood lead screening and immunizations)
- Oral health care

Achieves a normal growth pattern.

- Growth pattern (103, 114, 121, 135; 113 only for children after 24 months)
- Physical activity

Remains free from nutrition or food-related illness, complications or injury.

- Hemoglobin/hematocrit (201)
- Medical conditions (134, 211, 341-349, 351-357, 359-362, 382)
- Birthweight and gestational age at birth for children 12-23 months old (141, 142, 151)
- Oral health status (381)
- Nutrition practices (425.5, 425.7, 425.8, 425.9)
- Family and social environment (801, 802, 901, 902, 903)
- Environmental tobacco smoke

Consumes a variety of foods to meet energy and nutrient requirements.

- Nutrition practices (425.1, 425.2, 425.6)
- Ability to meet *Dietary Guidelines for Americans* only for children after 24 months (401)
- Food security

Achieves developmental milestones including self-feeding.

- Nutrition practices (425.3, 425.4)
- Ability to transition to complementary feeding for children 12-23 months old (428)

Essential Staff Competency Tables for WIC Nutrition Assessment

In this Appendix, the competencies identified in the *Essential Staff Competencies for WIC Nutrition Assessment* section are translated into knowledge requirements and expected performance behaviors for WIC personnel completing nutrition assessment tasks and procedures.

The six competency areas for WIC nutrition assessment include:

1) Principles of life-cycle nutrition;
2) Nutrition assessment process;
3) Anthropometric and hematological data collection techniques;
4) Communication;
5) Multicultural awareness; and
6) Critical thinking.

Each competency area is presented in a separate table. The components of the tables and their definitions are listed below:

Competency statement	A particular skill or body of knowledge.
Knowledge required*	A specific topic or content area required to achieve the competency.
Performance expected*	Skills, actions, or behaviors related to a specific knowledge requirement.

*These **examples** provide a starting point for State agencies to use in planning or enhancing training activities to ensure staff competence in the area of nutrition assessment.

1. Principles of Life-Cycle Nutrition

Competency Statement: Understands normal nutrition issues for pregnancy, lactation, the postpartum period, infancy, and early childhood.

Knowledge Required	Performance Expected
Nutrition requirements and dietary recommendations for women, infants, child and children served by WIC.	Analyzes health and nutrition histories based on lifecycle stage.Evaluates the impact of the parent/ feeding dynamics on nutritional status, growth and development.
Federal nutrition policy guidance and its implications for women, infants and children served by WIC (e.g., Dietary Guidelines for Americans, MyPyramid).	Interprets and compares dietary practices of WIC participants to federal policy guidance. Differentiates between safe and inappropriate food and nutrition practices.
Relevant evidence-based recommendations published by the American Academy of Pediatrics, the American Dietetic Association, the American College of Obstetrics and Gynecology, and the International Lactation Consultant Association.	Analyzes and compares dietary practices to evidence-based recommendations. Assesses potential barriers to breastfeeding. Recognizes health and lifestyle contraindications to breastfeeding.
The basic physiology of lactation and evidence-based techniques for lactation management.	Applies knowledge of physiology in the assessment of breastfeeding problems. Completes breastfeeding assessments at critical points in the early postpartum period according to State agency policies. Analyzes breastfeeding problems using evidence-based information as the standard. Evaluates the impact of early formula supplementation and mother/ infant separation on milk supply and the mother's breastfeeding intention.

2. Nutrition Assessment Process

Competency Statement: Understands the WIC nutrition assessment process including risk assignment and documentation.

Knowledge Required	Performance Expected
Purpose of nutrition assessment in the WIC Program and how to collect information.	Uses nutrition assessment information to determine eligibility, tailor food packages, provide appropriate nutrition education, and make appropriate referrals. Provides individualized nutrition assessment for WIC applicants. Uses assessment techniques that consider the varied needs of age-specific populations. Obtains timely and relevant assessment data including anthropometric, biochemical, clinical, dietary, family and social environment information. Uses standardized data collection tools or procedures according to State agency policies.
WIC nutrition risk criteria.	Applies risk definitions correctly and uses appropriate cut-off values when assigning nutrition risks. Evaluates the need for documentation of diagnosis vs. self-report of medical conditions according to State agency policies.
Importance of documenting nutrition assessment results.	Completes tools and forms for documenting nutrition risk according to State agency policies. Maintains appropriate documentation of contacts with participants according to State agency policies. Uses accepted documentation form for nutrition care plans according to State agency policies.

3. Anthropometric and Hematological Data Collection Techniques

Competency Statement: Understands the importance of using appropriate measurement techniques to collect anthropometric and hematological data.

Knowledge Required	Performance Expected
Relevance of anthropometric data to health and nutrition status.	Demonstrates appropriate anthropometric measurement techniques. Reads, records, and plots measurements accurately. Interprets growth data and prenatal weight gain correctly.
Relationship of hematological parameters to health and nutrition status.	Demonstrates appropriate techniques for performing a hemoglobin or hematocrit assessment according to State agency policies. Evaluates blood work results according to State agency policy (e.g., adjusts for smoking and elevation, etc.).

4. Communication

Competency Statement: Knows how to develop rapport and foster open communication with participants and caretakers.

Knowledge Required	Performance Expected
The principles of effective communication for collecting nutrition assessment information.	Uses appropriate techniques to establish a relationship and begin a conversation. Practices active listening and observation skills. Collects information without interrupting or correcting the applicant. Checks for understanding by paraphrasing or reflecting what was heard. Compares client's verbal responses to non-verbal behaviors to assess client's attitude and feelings. Uses an effective balance of open-ended and closed-ended questions. Completes nutrition assessment tasks before providing nutrition counseling. Selects self-administered data collection tools that are appropriate for the target population (i.e., language, reading level, length, format) according to State agency policy. Assesses real and perceived barriers to breastfeeding.
USDA and State agency policies about participant confidentiality.	Obtains release of information according to State agency policy before sharing any participant data. Protects participants' confidentiality in conversations with coworkers and other participants.

5. Multicultural Awareness

***Competency Statement*:** Understands how sociocultural issues (race, ethnicity, religion, group affiliation, socioeconomic status, and world view) affect nutrition and health practices and nutrition-related health problems.

Knowledge Required	Performance Expected
Cultural groups in the target population including their families and communities, values and beliefs, characteristics, and resources.	Respects different belief systems about issues such as bloodwork, immunizations, dietary supplements, alternative medicine, and traditional healers. Evaluates cultural practices for their potential to harm the client's health or nutritional status.
Cultural eating patterns and family traditions such as core foods, traditional celebrations, and fasting.	Includes core foods and recognizes their nutrient contributions in any assessment of eating patterns. Evaluates food selection and preparation within a cultural context.
Differences in communication styles between groups and how these differences may impact the assessment process.	Uses culturally appropriate communication styles to collect nutrition assessment information. Uses interpretation and/or translation services appropriately to collect nutrition assessment information from clients with limited English proficiency. Uses culturally appropriate strategies to assess breastfeeding practices and beliefs.

6. Critical Thinking

Competency Statement: Knows how to synthesize and analyze data to draw appropriate conclusions.

Knowledge Required	Performance Expected
Principles of critical thinking.	Collects all information before drawing conclusions and deciding upon the best course of action. Asks additional questions to clarify information or gather more details. Recognizes factors that contribute to the identified nutrition problem(s). Recognizes superfluous information and disregards it. Considers the applicant's point of view about nutrition and health priorities, needs and concerns. Identifies relationships between behaviors/practices and nutritional risk. Checks the accuracy of inconsistent or unusual measurements and referral data according to State agency policy. Identifies factors that influence the accuracy of anthropometric or biochemical measurements (e.g., uncooperative child, hydration status, faulty equipment) and documents them. Takes appropriate actions according to State agency policy (e.g., rechecks measurements, documents factors that interfere with measurements). Draws conclusions about nutritional status supported by objective data, observations, experience, and reasoning. Prioritizes nutrition problems to be addressed.

Resources

Nutrition Assessment Resources

WIC Works Resource System

The WIC Works Resource System is a website designed specifically for WIC staff and is an excellent resource for all aspects of the Program, including nutrition assessment. The WIC Works Resource System is available from: http://www.nal.usda.gov/wicworks. The website features:

- Staff training online learning modules (WIC Learning Online).
- Links to WIC topics and reports.
- State developed materials.
- Online discussion group.
- Databases of WIC materials and infant formulas.

Appendix E

Anthropometrics

General

CDC (Centers for Disease Control and Prevention). *2000 CDC Growth Charts.* [homepage on the Internet]. Hyattsville (MD): U.S. Department Of Health And Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Available from: http://www.cdc.gov/dnpa/growthcharts
Description: Gateway to the 2000 CDC individual growth charts as well as the corresponding WIC version in PDF format. Also provides links to background information, frequently asked questions, data tables, educational materials, computer programs, and reports on growth charts, etc.

CDC. *Overweight and Obesity: Defining Overweight and Obesity* [homepage on the Internet]. Available from: http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm
Description: Definition of overweight and obesity for adults, children and teens and guidelines for assessing health risks associated with overweight and obesity in adults.

CDC. Sherry B, Mei Z, Grummer-Strawn L, Dietz WH. *Evaluation of and recommendations for growth references for very low birth weight grams infants in the United States - [less than or equal to] 1500 grams.* Pediatrics. 2003 Apr;111(4 Pt 1):750-8. Abstract available from: http://pediatrics.aappublications.org/cgi/content/abstract/111/4/750
Description: Recommendations on which growth chart to use with VLBW infants – CDC growth charts vs. Infant Health and Development Program (IHDP) charts.

NCEMC (National Center for Education in Maternal and Child Health). Suitor, CW. *Maternal Weight Gain: A Report of an Expert Work Group.* Arlington, VA: National Center for Education in Maternal and Child Health, 1997. Available from: http://www.mchlibrary.info/pubs/PDFs/MtrnlWghtGain.pdf
Description: Determinants of maternal weight gain, maternal outcomes, and infant outcome and addresses other research related issues to maternal weight gain.

NHLBI (The National Heart, Lung, and Blood Institute). *The Practical Guide. Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.* Bethesda, MD: National Heart, Lung, and Blood Institutes; 2000. NIH Publication No. 00-4084. p. 8-13. Available from: http://www.nhlbi.nih.gov/guidelines/obesity/practgde.htm
Description: Tools to effectively manage overweight and obese adult patients.

NHLBI, Expert Panel on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. *Executive summary of the clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults.* Available from: http://www.nhlbi.nih.gov/guidelines/obesity/ob_xsum.htm
Description: Overview of information concerning patient assessment, evaluation, and treatment, including dietary therapy, physical activity, behavior therapy, pharmacological treatments, and surgical intervention.

WIC Works. Growth Charts for WIC aged children (2 – 5 years of age) [homepage on the Internet]. Beltsville (MD): WIC Works Resource System, WIC Topics A-Z, Growth Charts [updated 07/09/2004; cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/Learning_Center/WIC_growthcharts.html
Description: WIC-specific clinical growth charts that are viewable, printable, and reproducable.

Alternative/Special Needs Growth Charts

Achondroplasia

Horton WA, Rotter JI, Rimoin DL, Scott CI, Hall JG. *Standard growth curves for achondroplasia.* J Pediatr. 1978;93:435-8. Abstract available from: *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=690757*
Description: Standard curves to assess normal growth in individuals with achondroplasia, to aid in the determination of superimposed disorders, and to assess any growth accelerating therapy.

Brachmann-de Lange Syndrome

Kline AD, Barr M, Jackson LG. *Growth manifestations in the Brachmann-de Lange Syndrome.* Am J Med Genetics. 1993;47:1042-1049. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=7507292
Description: Developmental data on individuals with the Brachmann-de Lange syndrome.

Cornelia de Lange Syndrome

Cornelia de Lange Syndrome Foundation [homepage on the Internet]. Avon (CT): © CdLS-USA Foundation, Inc., 2004, [updated 2004 Aug 19, cited 2005 Sep 26]. Available from:
www.cdlsusa.org
Description: Official website of the Cd-LS USA Foundation that contains research, information and resources, as well as information about the foundation.

Down's syndrome

Cronk C, Crocker AC, Pueschel SM, et al. *Growth charts for children with Down syndrome: one month to 18 years of age.* Pediatrics. 1988; 81:102-10. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=2962062
Description: Centile charts for assessment of stature and weight for two age intervals, 1 to 36 months and 2 to 18 years reflecting expected deficient size and growth rate of home-reared children with Down syndrome, based on 4650 observations on 730 children.

Growth Charts for Children with Down Syndrome [homepage on the Internet], [updated *2000 Jan 19,* cited 2005 Sep 26]. Available from:
http://www.growthcharts.com/charts/DS/charts.htm
Description: Growth charts for children with Down syndrome, including interpretation instructions and methods for using the chart.

Myrelid A, Gustafsson J, Ollars B, Anneren G. *Growth charts for Down's syndrome from birth to 18 years of age.* Arch Dis Child. 2002 Aug;87(2):97-103.
Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12138052
Description: Growth charts for Down's syndrome from birth to 18 years of age.

Marfan Syndrome

Erkula G, Jones KB, Sponseller PD, Dietz HC, Pyeritz RE. *Growth and maturation in Marfan Syndrome.* Am J Med Genetics. 2002;109:100-114. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11977157&dopt=Abstract
Description: Growth charts for persons with Marfan syndrome.

Prader-Willi syndrome

Holm VA. *Growth charts for Prader-Willi syndrome*. In: Greenswag LR and Alexander RC, editors. Management of Prader-Willi Syndrome*,* 2nd ed. New York: Springer-Verlag; 1995. Appendix B.
Description: Growth charts for Prader-Willi syndrome

Prader-Willi Syndrome (3 years to adult) [homepage on the Internet]. Rubinstein-taybi.org (USA). ©2001 -[updated 2004 Aug 23*,* cited 2005 Sep 26]. Available from: www.pwsausa.org
Description: Organization of parents and others who are making a difference in the lives of those with Prader-Willi syndrome.

Rubinstein-Taybi Syndrome

Height and Weight charts for children with Rubinstein-Taybi Syndrome [homepage on the Internet]. Prader-Willi Syndrome Association (USA). © 1996-2001-[updated 2004 May 13*,* cited 2005 Sep 26]. Available from: http://www.rubinstein-taybi.org/html/medical.html
Description: Height and weight charts for children with Rubinstein-Taybi Syndrome.

Stevens CA, et al. *Growth in the Rubinstein-Taybi Syndrome.* Am J Med Genet. 1990;Supp 6:51-55. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=2118779
Description: Growth in the Rubenstein-Taybi Syndrome.

Turner Syndrome

Lyon AJ, Preece MA, Grant DB. *Growth curve for girls with Turner syndrome*. Arch Dis Child. 1985;60:932-5. Abstract available from:
http://abc.bmjournals.com/dgi/content/abstract/60/10/932?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&andorexactfulltext=and&searchid+1096908384368_2875&stored_search=&FIRSTINDEX=0&sortspec=relevance&volume=60&firstpage=932&resourcetype=1
Description: A growth chart for girls with Turner syndrome. Results indicate that while oestrogen treatment causes an initial acceleration of growth, it has no significant effect on adult height.

The Turner Syndrome Society [homepage on the Internet]. Houston (TX): Turner Syndrome Society of the United States. © Copyright 2003 [cited 2005 Sep 26]. Available from: www.turner-syndrome-us.org
Description: Official website of the Turner Syndrome Society.

Williams syndrome

Morris CA, Demsey SA, Leonard CO, Dilts C, Blackburn BL. *Natural history of Williams syndrome: physical characteristics.* J Pediatr. 1988;113:318-26. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=2456379
Description: Investigation of the history of the Williams syndrome, including medical complications, growth patterns, and problems in adulthood.

Williams Syndrome Growth Charts [homepage on the Internet]. Williams Syndrome Association. © 2003, 2004 -[updated 2004 May 13, cited 2005 Sep 26]. Available from:
http://www.williams-syndrome.org/fordoctors/growthcharts.html
Description: Official site of the Williams Syndrome Association, containing the latest information on Williams syndrome.

Staff Training

CDC. *2000 Centers for Disease Control and Prevention (CDC) Growth Chart Training Modules and Resources [homepage on the Internet]*. Atlanta (GA): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention [updated 2004 Jul 7, cited 2005 Sep 26]. Available from:
www.cdc.gov/nccdphp/dnpa/growthcharts/training.htm
&
http://128.248.232.56/cdcgrowthcharts/module1/text/mainintro.htm
Description: Self-directed, interactive training modules for health care professionals using the pediatric growth charts in clinical and public health settings to assess growth of infants, children, and adolescents.

CDC. Growth Chart Training Modules [homepage on the internet]. Atlanta (GA): United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition and Physical Activity. Services [updated 2002 Aug 29, cited 2005 Sep 26]. Available from:
http://www.cdc.gov/nccdphp/dnpa/growthcharts/training/modules/module1/text/mainmodules.htm
Description: Overview of the CDC growth charts, using the BMI-for-age growth charts, and overweight children and adolescents: recommendations to screen, assess, and manage, as well as maternal and child health-related modules.

CDC. NHANES III Anthropometric Procedures Video. Hyattsville (MD): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 1996 [out of print]. Available from:
http://www.cdc.gov/nchs/about/major/nhanes/avideo.htm
Description: Standardized anthropometric procedures used throughout NHANES III for the body measurement component of the survey.

Cogill B. *Anthropometric Indicators Measurement Guide.* Washington (D.C): Food and Nutrition Technical Assistance Project, Academy for Educational Development; 2003 Mar. Available from:
http://www.fantaproject.org/publications/anthropom.shtml
Description: Information on the anthropometric impact indicators and the annual monitoring indicators for maternal and child health/child survival and income-related activities.

Maternal and Child Health Bureau (MCHB). *Growth Charts Training Modules* [homepage on the Internet]. Rockville (MD): United States Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau [cited 2005 Sep 26]. Available from: http://depts.washington.edu/growth/
Description: Training on accurately weighing and measuring infants, children, and adolescents, and using the CDC growth charts for children with special health care needs.

National Heart Lung and Blood Institute (NHLBI). *Assessment and Management of Overweight and Obese Adult Patients*. Available from: http://obesitycme.nhlbi.nih.gov/
Description: Continuing education course developed by the National Heart, Lung, and Blood Institute and the North American Association for the Study of Obesity.

Biochemical

Anemia

CDC (Centers for Disease Control and Prevention). *Anemia and Iron Status United States* [homepage on the Internet]. Atlanta (GA): Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition and Physical Activity-[updated 2002 May 20, cited 2005 Sep 26]. Available from: http://www.cdc.gov/nccdphp/dnpa/anemiron.htm
Description: This is a CDC homepage on anemia and iron status in young children including a link to the Morbidity and Mortality Weekly Report on 'Recommendations to Prevent and Control Iron Deficiency in the United States' (MMWR 1998;47(No. RR-3)).

CDC. *Recommendations to Prevent and Control Iron Deficiency in the United States*, CDC Morbidity and Mortality Weekly Report (MMWR). 1998 Apr; 47(RR-3):1-36. Available from: http://www.cdc.gov/mmwr/preview/mmwrhtml/00051880.htm
Description: CDC recommendations emphasizing sound iron nutrition for infants and young children, screening for anemia among women of childbearing age, and the importance of low-dose iron supplementation for pregnant women.

Lead

AAP (American Academy of Pediatrics). Committee on Environmental Health. *Screening for Elevated Blood Lead Levels*. Pediatrics. 1998 Jun;101(6):1072-1078. Document available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics%3b101/6/1072
Description: AAP support of the CDC's new guidelines and recommendation for health professionals to continue to provide anticipatory guidance to parents in an effort to prevent lead exposure (primary prevention) and increase efforts to screen children at risk for lead exposure to find those with elevated blood lead levels (secondary prevention).

Baum C, Shannon M. *Lead in breast milk.* Pediatrics 1996 Jun;97(6 Pt 1):932.
Description: Topics such as environmental monitoring, analysis of lead, lead poisoning and its complications, maternal exposure to lead, and the chemistry of human milk.

CDC. *National Center for Environmental Health Lead Publications* [homepage on the Internet]. Centers for Disease Control and Prevention, National Center for Environmental Health, Childhood Lead Poisoning Prevention Branch-[updated 2004 Feb 5, cited 2005 Sep 26]. Available from: www.cdc.gov/nceh/lead/publications/pub_Reas.htm
Description: Online resources such as "Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention," "Screening Young Children For Lead Poisoning: Guidance For State And Local Public Health Officials," "Preventing Lead Poisoning In Young Children," etc.

CDC. *Health Topic: Lead* [homepage on the Internet]. Center for Disease Control and Prevention.-[updated 2004 Feb 26, cited 2005 Sep 26]. Available from: http://www.cdc.gov/lead/
Description: Topic area provides CDC's compiled information on lead basics, exposure prevention, scientific and medical materials, funding, education and training opportunities, recent lead news, and links to conferences/events and programs/campaigns.

EPA. *Fight Lead Poisoning with a Healthy Diet. EPA's Lead Awareness Program.* Available in bulk from:_ http://www.epa.gov/lead/leadpbed.htm
Description: Brochure discussing proper nutrition and lead poisoning prevention, and featuring fast, nutritious recipes.

Mi-Gyung Lee, PhD, Ock Kyoung Chun, PhD and Won O. Song, PhD, RD . *Determinants of the Blood Lead Level of US Women of Reproductive Age.* Journal of the American College of Nutrition. 2005,24(1):1-9.
Description: Study aiming to identify sociodemographic, lifestyle, and nutritional determinants for blood lead levels (BLLs) of women of reproductive age in the United States.

Schell L, Denham M, Startk A, Gomez M, Ravenscroft J, Parsons P, Aydermir A, Samelson R. *Maternal blood lead concentration, diet during pregnancy, and anthropometry predict neonatal blood lead in a socioeconomically disadvantaged population.* Env Health Persp. 2003, Feb;111(2):195-200.
Abstract available from:
http://ehp.niehs.nih.gov/docs/2003/5592/abstract.html?section=children
Description: Study determining influences of maternal anthropometric variables, iron, and vitamin D on neonatal lead levels in mother-infant pairs from lower socioeconomic circumstances.

Clinical/Health/Medical Nutrition

Allergies & Asthma

AAP [homepage on the Internet]. *Section on Allergy and Immunology* [about three pages]. Available from:
http://www.aap.org/sections/allergy/child.cfm
Description: Resources on asthma such as handouts on pediatric asthma for children and families.

ACAAI (American College of Allergy, Asthma and Immunology) [homepage on the Internet]. Arlington Heights (IL): American College of Allergy; ©1996-2002 [updated 2002 Nov 14, cited 2005 Sep 26]. Available from:
http://allergy.mcg.edu
Description: A-Z Asthma topics, A-Z Allergy topics, and Kids' Asthma Check: For Ages 1-8. Some information available in Spanish.

FDA. *U. S. Department of Health and Human Services, U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition* [homepage on the Internet]. Washington (DC); [updated 2004 Nov 04, cited 2005 Sep 26]. *Information about Food Allergens.* Available from:
http://vm.cfsan.fda.gov/~dms/wh-alrgy.html
Description: Food allergens and links to various food allergy-related publishings including a resource on food allergies.

Food Allergies in Children. Pediatrics; Suppl.; 2003 Jun; 111(6). Available from: http://pediatrics.aappublications.org/
Description: Research articles such as Nutritional Management of Pediatric Food Hypersensitivity (pp1645 – 1653) Food Allergen Avoidance in the Prevention of Food Allergy in Infants (pp1662 – 1671), Daily Coping Strategies for Patients and Their Families (pp1654 – 1661), etc.

NIAID (National Institute of Allergy and Infectious Diseases). NIAID, National Institutes of Health. Allergies [homepage on the Internet]. Bethesda (MD): *Office of Communications and Public Liaison, National Institute of Allergy and Infectious Diseases* [updated 2004 Feb, cited 2005 Sep 26]. Allergies. Available from:
http://www.niaid.nih.gov/publications/allergies.htm
Description: Links to fact sheets and brochures such as "Food Allergy: An Overview" (including information on how allergic reactions work, common food allergies, exercise-induced food allergy, allergies in infants and children, etc.) as well as news releases.

Depression, Eating Disorders, and Stress

Bell S, Lee C. *Perceived stress revisited: the Women's Health Australia project Young cohort*. Psychol Health and Med. 2003; 8(3): 343-353. Available from:
http://info.newcastle.edu.au/centre/wha/public/papers/2003/perceived.html
Descriptions: Results of testing of the Perceived Stress Questionnaire for Young Women (PSQYW) and its relationship with health and health behaviors such as relationship with partner/spouse, life domain of study, current smoking, and weekly alcohol bingeing, mental health, etc.

NIMH (National Institute of Mental Health Depression). *Depression.*
NIH Publication No. 00-3561. Printed 2000.
Available from:
http://www.nimh.nih.gov/publicat/depression.cfm
Description: Symptoms, causes, and treatments, with information on getting help and coping.

Eating Disorders: Facts About Eating Disorders and the Search for Solutions [homepage on the Internet]. Bethesda (MD): The National Institute of Mental Health (NIMH), National Institutes of Health (NIH), U.S. Department of Health and Human Services [updated 2004 Sep 30, cited 2005 Sep 26]. Available from:
http://www.nimh.nih.gov/publicat/eatingdisorders.cfm
Description: Symptoms, causes, and treatments, with information on getting help and coping.

Harvard Eating Disorders Center [homepage on the Internet]. Available from: http://www.hedc.org
Description: Expanding knowledge about eating disorders, their detection, treatment, and prevention - and promoting the healthy development of children, women, and all at risk.

Gastro-Intestinal Disorders

AAP. *Guidelines for Evaluation and Treatment of Gastroesophageal Reflux in Infants and Children.* AAP – Practice Guideline Endorsement; 2001. Available from: http://www.naspghan.org/sub/position_papers/GERD.pdf
Description: Clinical practice guideline for the management of pediatric Gastroesophageal reflux (GER) including information on vomiting and irritable infants, infant with feeding refusal, infant or child with asthma, etc.

Center for Disease Control and Prevention. *Managing Acute Gastroenteritis Among Children.* MMWR 2003; No.21, Vol. 52, No. RR-16 (AAP endorsed Practice Guideline). Available from: http://www.cdc.gov/mmwr/PDF/RR/RR5216.pdf
Description: Recommendations for assessing and managing children with acute diarrhea. Common clinical scenarios and traditional practices, especially regarding continued feeding and oral rehydration therapy, micronutrient supplements, and functional foods.

NASPGN (North American Society for Pediatric Gastroenterology and Nutrition). Baker S, Liptak G, Colletti R, Croffie J, DiLorenzo C, Ector W, Nurko S. *Constipation in Infants and Children: Evaluation and Treatment.* A Medical Position Statement of NASPGN. Available from: http://www.naspghan.org/PDF/constipation.pdf
Description: Assists providers of medical care in the evaluation and treatment of constipation in older infants and children and treatment of constipation for infants less than one year of age.

Infectious Diseases

HIV/AIDS Bureau (HAB). *Health Care and HIV: Nutritional Guide for Providers and Clients.* Rockville (MD): Health Resources and Services Administration (HRSA), HIV/AIDS Bureau, AIDS Education and Training Centers, National Resource Center; 2004. Available from: http://www.aidsetc.org/aidsetc?page=et-30-20-01
Description: Manual to assist health care providers and people with HIV in the effort to make good nutrition a part of health care. Practical tools and algorithms for providers, and patient handouts.

Overweight and Obesity

AAP (American Academy of Pediatrics). Committee on Nutrition, American Academy of Pediatrics. *Prevention of Pediatric Overweight and Obesity.* Policy Statement. Pediatrics. 2003;112 (2):424-430 Available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;112/2/424?fulltext=Prevention+of+Pediatric+Overweight&searchid=QID_NOT_SET
Description: Strategies for early identification of excessive weight gain by using body mass index, for dietary and physical activity interventions during health supervision encounters, and for advocacy and research.

Mullen MC, Shield J. *Childhood and Adolescent Overweight: The Health Professional's Guide to Identification, Treatment and Prevention.* Chicago, (IL): American Dietetic Association; 2004.
Description: In-depth and comprehensive coverage of issues surrounding the onset of childhood obesity, such as genetics, environmental, cultural and socioeconomic conditions.

Professional Organizations Homepages

American College of Obstetricians and Gynecologists [homepage on the Internet]. Washington (DC): ©2004. Available from: http://www.acog.org/
Description: Links to publications, membership, practice management and a resource center. Some information available in Spanish.

American Diabetes Association [homepage on the Internet]. Available from: http://www.diabetes.org/home.jsp
Description: Overview of diabetes, information on diabetes risk assessment, and diabetes research and prevention. Information is also available in Spanish.

American Dietetic Association [homepage on the Internet]. Chicago (IL): American Dietetic Association; ©2004. Available from: http://www.eatright.org/Public/
Description: Food and nutrition information, a link to the ADA Journal website, as well as links to position papers, research, and other nutrition resources.

American Pediatric Association [homepage on the Internet]. Elk Grove Village, IL. Available from: http://www.aap.org/
Description: Official website of the American Pediatric Association containing a bookstore and publications, a parenting center, as well as professional and other education resources.

American Public Health Association [homepage on the Internet]. Washington, DC. Available from: http://www.apha.org/
Description: Official website of the America Public Health Association containing a book store, a link to the APHA Journal website, and information about their public health career mart, continuing education opportunities and annual meeting.

Association of State and Territorial Public Health Nutrition Directors [homepage on the Internet]. Johnstown, PA. Available from: http://www.astphnd.org/
Description: Official website of the Association of State and Territorial Public Health Nutrition Directors that includes a newsletter and information about events, projects and annual meeting.

Society for Nutrition Education [homepage on the Internet]. Indianapolis, IN. Available from http://www.sne.org/
Description: Official website of the Society for Nutrition Education that includes a link to the SNE Journal, position and resolution statement and information about their annual conference and other resources.

Substance Abuse (Alcohol, Drugs and Tobacco)

Alcohol Alert: Screen for Alcohol Problems: An Update Bethesda. Bethesda (MD): The National Institute of Mental Health (NIMH), National Institutes of Health (NIH), U.S. Department of Health and Human, 2002 Apr. Available from: http://www.niaaa.nih.gov/publications/aa56.htm
Description: An update on screening for alcohol problems. It explains that clinicians play a key role in detecting alcohol problems and in initiating prevention or treatment efforts. It also discusses types of instruments, screening questionnaires, and biological markers.

CDC. *National Center on Birth Defects and Developmental Disabilities (NCBDDD), Centers for Disease Control and Prevention* [homepage on the Internet]. *Fetal Alcohol Syndrome* [about 2 pages]. Available from: http://www.cdc.gov/ncbddd/fas/default.htm
Description: Information on fetal alcohol syndrome addressing issues such as occurrence of FAS, preventing FAS, and characteristics of children with FAS. It includes links to the NCBDDD's FAS Guidelines for referral and diagnosis.

El Consumo de Alcohol Durante el Embarazo. Available from: http://www.nacersano.org/centro/9388_9936.asp
Description: Hazards and problems of drinking alcohol during pregnancy and breastfeeding and resources of where to get help to stop drinking.

March of Dimes Birth Defects Foundation [homepage on the Internet]. White Plains (NY): March of Dimes Birth Defects Foundation; ©2004 [updated 2002 Aug, cited 2005 Sep 26]. *Drinking Alcohol During Pregnancy.* Available from: http://www.modimes.org/professionals/681_1170.asp?link=alcohol
Description: Medical reference along with fact sheets on drinking alcohol during pregnancy.

Morse B, Gehshan S, Hutchins E. *Screening for Substance Abuse During Pregnancy: Improving Care, Improving Health*. Arlington (VA): National Center for Education in Maternal and Child Health; 1997. Available from: http://www.mchlibrary.info/pubs/PDFs/SubAbuse.pdf
Description: Substance abuse as a major problem during pregnancy. Screening tools as the most effective way to determine risk and their use.

***National Organization on Fetal Alcohol Syndrome* [homepage on the Internet]. Washington (DC): National Organization on Fetal Alcohol Syndrome; ©2001-2004. Available from:** http://www.nofas.org/main/index2.htm
Description: Development and implementation of innovative ideas in prevention, education, intervention, and advocacy of fetal alcohol syndrome.

IOM. Committee to Study Fetal Alcohol Syndrome, Division of Biobehavioral Sciences and Mental Disorders. Stratton K, Howe C, Battaglia F, eds. *Fetal Alcohol Syndrome: Diagnosis, Epidemiology, Prevention and Treatment.* Washington, DC: National Academy Press, 1996. Document available from: http://www.nap.edu/books/0309052920/html/
Description: Diagnosis, surveillance, prevention, and treatment of FAS and other possibly alcohol-related effects. Information on psychological and behavioral consequences of FAS at different ages, education efforts, and family support programs. Helpful to any practitioner involved in serving families and children, especially in high risk populations.

Dietary

Feeding of Infants and Toddlers

Briefel RR, Reidy K, Karwe V, Jankowski L, Hendricks K. *Toddlers' transition to table foods: Impact on nutrient intakes and food patterns.* J Am Diet Assoc. 2004 Jan;104(1 Suppl 1):s38-44.
Description: Differential changes in average intakes of nutrients and food groups among higher versus lower table food consumers during the transition from baby foods to table foods.

Butte N, Cobb K, Dwyer J, Graney L, Heird W, Rickard K. American Dietetic Association; Gerber Products Company. *The Start Healthy Feeding Guidelines for Infants and Toddlers.* J Am Diet Assoc. 2004;104(3):442-54.
Description: Focus on parents' and caregivers' major questions concerning complementary feeding. Conclusions of this article form the scientific foundation of the guidelines.

Carruth BR, Ziegler P, Gordon A, Hendricks K. *Developmental Milestones and Self-Feeding Behaviors in Infants and Toddlers.* J Am Diet Assoc. 2004;104:S51-S56. Available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db= pubmed&dopt=Abstract&list_uids=14702018
Description: Examination of motor skills as they relate to self-feeding and timing for encouragement to self-feeding without concern for jeopardizing energy and nutrient adequacy.

Carruth BR, Ziegler P, Gordon A, Hendricks K. *Prevalence of Picky Eaters among infants and toddlers and their caregivers' decisions about offering a new food.* J Am Diet Assoc. 2004;104:S57-S64. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14702019
Description: Prevalence of infants and toddlers who were considered picky eaters, predictors of picky eater status and its association with energy and nutrient intakes, food group use, and the number of times that caregivers offered a new food before accepting the child's dislike for those foods.

Cox DR, Skinner JD, Carruth BR, Moran J 3rd, Houck KS. *A Food Variety Index for Toddlers (VIT): development and application.* J Am Diet Assoc. 1997 Dec;97(12):1382-6; quiz 1387-8. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9404334&dopt=Abstract
Description: Variety index based on the Food Guide Pyramid that is specific to toddlers and is indicative of dietary adequacy.

Kleinman RE. *American Academy of Pediatrics recommendations for complementary feeding.* Pediatrics. 2000 Nov;106(5):1274.

Ponza M, Devaney B, Ziegler P, Reidy K, Squatrito C. *Nutrient intakes and food choices of infants and toddlers participating in WIC.* J Am Diet Assoc. 2004 Jan;104(1):s71-9. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14702021
Description: Information on nutrient intakes, foods consumption, and feeding patterns of infants and toddlers participating in the Special Supplemental Nutrition Program for Women, Infants, and Children.

United States Department of Agriculture, Food and Nutrition Service, Office of Analysis, Nutrition, and Evaluation. *Feeding Infants: A Guide for Use in the Child Nutrition Programs.* FNS-258. Alexandria (VA): 2002 Jul. Available from: http://www.fns.usda.gov/tn/Resources/feeding_infants.html
Description: Information on infant development, nutrition for infants, breastfeeding and formula feeding, preventing tooth decay, feeding solid foods, drinking from a cup, choking prevention, sanitary food preparation, and safe food handling. Commercially prepared and home-prepared baby food, and some of the infant meal pattern requirements.

Food Safety

FDA Food Information Line 1-888-SAFEFOOD

Food & Drug Interactions. U. S. Food and Drug Administration [homepage on the Internet]. Washington (DC): Food and Drug Administration (FDA) & National Consumers League-[hypertext updated 2000-JUN-02, cited 2005 Sep 26] Available from: http://vm.cfsan.fda.gov/~lrd/fdinter.html
Description: This lists and discusses all potential food and drug interactions. It also lists major health problems and the types of medications that are used to treat those health problems.

FightBac [homepage on the Internet]. Partnership for Food Safety Education. Available from: http://www.fightbac.org/main.cfm
Description: Food safety issues such as proper cooking temperatures, cross contamination, cleaning practices, and refrigeration guidelines.

National Food Safety Educator's Network monthly electronic newsletter (EdNet). United States Department of Agriculture, Food Safety Inspection Service. Available from: http://www.fsis.usda.gov/news_and_events/food_safety_educator/index.asp
Description: Periodic newsletter reporting on new food safety educational programs and materials, as well as emerging science concerning food safety risks.

Scheule B. *Food safety education: health professionals' knowledge and assessment of WIC client needs.* J Am Diet Assoc. 2004 May;104(5):799-803. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15127067
Description: Opportunities and challenges for food safety education in the WIC Program and the health professionals' knowledge and assessment of WIC client needs.

Thermy [homepage on the Internet]. United States Department of Agriculture, Food Safety Inspection Service, Food Safety Education. Available from: http://www.fsis.usda.gov/
or e-mail: mphotline.fsis@usda.gov
Description: Chart listing recommended internal temperatures for cooking at home.

General Nutrition

DHHS/USDA (DHHS/U.S. Department of Agriculture). 2004. *Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2005 to the Secretary of Health and Human Services and the Secretary of Agriculture.* [Updated 2004 Sep 28, cited 2005 Sep 26]. Available as 2005 Dietary Guidelines for Americans Advisory Committee Report: http://www.health.gov/dietaryguidelines/dga2005/report
Description: Recommendations of the 2005 Dietary Guidelines Advisory Committee (DGAC) to the Secretaries of the Department of Health and Human Services (HHS) and the Department of Agriculture (USDA).

Infant Formula

American Academy of Pediatrics: Committee on Nutrition. *Hypoallergenic Infant Formulas.* Policy Statement. Pediatrics 2000, 106 (2) 346-349. Available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;106/2/346?fulltext=Hypoallergenic+Infant+Formulas&searchid=QID_NOT_SET
Description: Issues of infant formula, specifically as it relates to protein hypersensitivity (protein allergy). Proper use of hypoallergenic formulas and infant formula labeling, specifically hypoallergenic-labeled formulas.

American Academy of Pediatrics: Committee on Nutrition. *Iron Fortification of Infant Formulas.* Pediatrics 1999;104(1):119-123. Available from: http://pediatrics.aappublications.org/cgi/content/full/105/6/1370
Description: Iron fortification of infant formulas to help prevent iron-deficiency anemia. Recommendations for primary intervention of iron deficiency anemia during the crucial second year of life by routine daily iron supplementations.

American Academy of Pediatrics: Committee on Nutrition. *Soy Protein-based Formulas: Recommendations for Use in Infant Feeding.* Policy Statement. Pediatrics 1998; 101 (1) 148-153. Document available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;101/1/148?fulltext=Soy+Proteinbased+Formulas%3A+Recommendations+for+Use+in+Infant+Feeding&searchid=QID_NOT_SET
Description: How the use of soy protein-based infant formulas has nearly doubled in the past decade. Important recommendations on the indications and appropriate use of soy-protein based formulas.

Fox MK, Pac S, Devaney B, Jankowski L. *Feeding infants and toddlers study: What foods are infants and toddlers eating?* J Am Diet Assoc. 2004 Jan;104(1):s22-30. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14702014&query_hl=2
Description: Description of the food consumption patterns of US infants and toddlers, 4 to 24 months of age.

Lifestyle for Women

ADA. *Nutrition and lifestyle for a healthy pregnancy outcome.* J Am Diet Assoc. 2002;102:1470-1490 (Expires December 2007). Available from: http://www.eatright.org/Public/NutritionInformation/92_adar1002b.cfm
Description: Key components of a health-promoting lifestyle during pregnancy that include appropriate weight gain; consumption of a variety of foods in accordance with the Food Guide Pyramid; appropriate and timely vitamin and mineral supplementation; avoidance of alcohol, tobacco, and other harmful substances; and safe foodhandling.

Ball K, Crawford D, Warren N. *How feasible are healthy eating and physical activity for young women?* Public Health Nutrition. 2004 May;7(3):433-441(9). Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15153274
Description: Feasibility of physical activity and healthy eating behaviors, and how these vary by socio-economic status, domestic characteristics and weight status.

CDC (Centers for Disease Control and Prevention). National Center for Chronic Disease Prevention and Health Promotion. *Behavioral Risk Factor Surveillance System Questionnaires.* Available from: http://www.cdc.gov/brfss/questionnaires/english.htm
Description: Questionnaires have three parts: 1) the core components such as questions on exercise, environmental factors, tobacco use, alcohol consumption, asthma, diabetes, oral health, immunization, etc. 2) optional modules, and 3) state-added questions.

Nutrient Requirements

AAP. American Academy of Pediatrics: Committee on Nutrition. *Calcium Requirements of Infants, Children, and Adolescents.* Policy Statement. Pediatrics 1999; 104 (5) 1152-1157. Available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;104/5/1152?fulltext=Calcium+Requirements+of+Infants+%2C+Children+%2C+Adolescents&searchid=QID_NOT_SET
Description: Recommendations on the nutritional needs of calcium of infants, children, and adolescents. Review of the physiology of calcium metabolism and data about the relationship between calcium intake and bone growth and metabolism.

Appendix B: Physical Signs Suggestive of Nutrient Deficiency. In: Clinical Nutrition: A Resource Book for Delivering Enteral and Parenteral Nutrition for Adults. Seattle (WA): University of Washington Medical Center; 1997. Available from: http://healthlinks.washington.edu/nutrition/section9.html#b
Description: A chart listing nutrient deficiencies, their symptoms and their location.

Gartner LM, Greer FR. Section on Breastfeeding and Committee on Nutrition. *Prevention of Rickets and Vitamin D Deficiency: New Guidelines for Vitamin D Intake.* Pediatrics. 2003;111(4):908-910. Available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;111/4/908
Description: Prevention of rickets and Vitamin D deficiency. It also provides recommended daily Vitamin D intake to prevent deficiency.

IOM. 2004d. Dietary Reference Intakes Tables - The Complete Set. Washington, DC: National Academies Press. [Updated 2005 May 3, cited 2005 Sep 26]. Available from: http://www.iom.edu/board.asp?id=3788
Description: Tables include elements, vitamins, macronutrients, and electrolytes and water.

Nutrition for Children

ADA. American Dietetic Association. *Dietary guidance for healthy children aged 2 to 11 years.* J Am Diet Assoc. 2004;104:660-677. Available from: http://www.eatright.org/Public/NutritionInformation/92_adap0199.cfm
Description: Review of what US children are eating and trends in food and nutrient intakes. Dietary recommendations and guidelines and the benefits of physical activity and the roles of parents and caregivers in influencing the development of healthy eating behaviors. Specific recommendations to improve the nutritional well-being of children for dietetics professionals, parents, and caregivers.

AAP (American Academy of Pediatrics). Committee on Nutrition. *The Use and Misuse of Fruit Juice in Pediatrics.* Pediatrics. 2001;107(5):1210-1213. Available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics%3b107/5/1210
Description: Benefits of juice as well as the potential detrimental effects.

WIC Works Educational Materials Database [database on the Internet]. Beltsville (MD): National Agricultural Library, WIC Works Resource. Childhood Feeding Disorders: Biobehavioral Assessment and Intervention; 1998. Available from:
http://peaches.nal.usda.gov/wicworks/wicform4b.asp?title=Childhood+Feeding+Disorders:+Biobehavioral+Assessment+and+Intervention
Description: Contains ordering, publishing, and catalog information about the book Childhood Feeding Disorders: Biobehavioral Assessment and Intervention.

Nutrition for Special Needs

ADA. *Providing nutrition services for infants, children, and adults with developmental disabilities and special health care needs.* J Am Diet Assoc. 2004;104(1):97-107. (in effect until December 31, 2008)
Available from:
http://www.eatright.org/Public/NutritionInformation/92_18463.cfm
Description: Nutrition problems such as growth alterations (e.g., failure to thrive, obesity, and growth retardation), metabolic disorders, poor feeding skills, medication-nutrient interactions, and partial or total dependence on enteral or parenteral nutrition.

Nutrition for Women

Brown JE, Carlson M. *Nutrition and Multifetal Pregnancy*. J Am Diet Assoc. 2000;100:343-348. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10719409
Description: Overview of the incidence of and risks associated with multifetal pregnancy and nutrition during multifetal gestation and guidelines for weight gain for twin and triplet pregnancies, dietary intake, and supplements.

Calfas KJ, Zabinski MF, Rupp J. *Practical nutrition assessment in primary care settings: a review*. *Am J Prev Med*. 2000;18(4):289-299. Abstract available at:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10788731&dopt=Abstract
Description: Review of 18 dietary measures to assess current dietary patterns for use in primary care that were brief and easy to administer, score, and interpret.

Chang MW, Nitzke S, Brown RL, Baumann LC, Oakley L. *Development and validation of a self-efficacy measure for fat intake behaviors of low-income women.* J Nutr Educ Behav. 2003 Nov-Dec; 35(6):302-7. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14642215
Description: How information obtained from a revised instrument can be used among low-income women to measure self-efficacy for eating low-fat diets. Development of more targeted and thus more effective education messages to help low-income women modify their fat-intake behaviors.

Story M, Stang J, eds. *Nutrition and the Pregnant Adolescent: A Practical Reference Guide.* Minneapolis (MN): Center for Leadership, Education, and Training in Maternal and Child Nutrition, University of Minnesota; 2000. Available from: http://www.epi.umn.edu/let/pubs/nmpa.shtm
Description: Resource for health professionals and educators on nutrition and adolescent pregnancy. The book focuses on clinical application of current knowledge on adolescent pregnancy.

Annual Maternal and Child Health Training Courses

Annual Intensive Course in Pediatric Nutrition. Iowa Memorial Union, University of Iowa; Iowa City, IA. For more information see: http://www.medicine.uiowa.edu/PediatricNutrition/
Description: Registration and course description information on the intensive course in pediatric nutrition. Also contains a printable course description and registration form.

Annual Maternal and Child Health Leadership Conference. University of Illinois-Chicago. For more information see: http://www.uic.edu/sph/mch/ce/mch_leadership/
Description: Provides a link to all the planning committee members, sponsors, and conference highlights, as well as information about continuing education units.

Annual National Maternal Nutrition Intensive Course. Centers for Public Health Education and Outreach, University of Minnesota. For more information see: http://www.publichealthplanet.org/mnic
Description: This continuing education program focuses on the improvement of maternal and infant health through the delivery of risk-appropriate high-quality nutrition services. This course is available to onsite attendees and select sessions are also available through online video streaming over the Internet.

Other Risks: Adjunct Health, Breastfeeding, Emerging Health Issues (Physical Activity/Food Security)

Breastfeeding

AAP (American Academy of Pediatrics). *A Woman's Guide to Breastfeeding.* Elk Grove Village (IL): American Academy of Pediatrics; 1998. Available from: http://www.aap.org/family/brstguid.htm
Description: Information on the following breastfeeding issues: why breastfeeding is so good for your baby and you, the first feeding, nursing after the first feeding, medications, illnesses, breastfeeding after you go back to work, weaning your baby from the breast, etc.

AAP. Committee on Drugs. *The Transfer of Drugs and Other Chemicals into Human Milk*. Pediatrics 2001;108(3):776-789. Abstract available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;108/3/776
Description: Supply of data, if known, concerning the excretion of drugs into human milk. Special review of nicotine, psychotropic drugs, and silicone implants.

AAP. Section on Breastfeeding. American Academy of Pediatrics. *Breastfeeding and the Use of Human Milk.* Policy Statement. Pediatrics 2005; 115 (2) 496-506 Available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;115/2/496?fulltext=Breastfeeding+Use+of+Human+Milk&searchid=QID_NOT_SET
Description: Summary of benefits of breastfeeding for the infant, the mother, and the community, and recommendations to guide health care professionals in assisting mothers in the initiation and maintenance of breastfeeding for healthy term infants and high-risk infants.

AAPF (American Academy of Family Physicians). *Breastfeeding (Position Paper).* Leawood (KS): American Academy of Family Physicians; 2004. Available from: http://www.aafp.org/x6633.xml
Description: Health effects, special issues (medication & substance; occupational exposure & pollutants), infectious diseases, maternal and infant illnesses, breast surgery, nursing beyond infancy, employment, breastfeeding multiples, diverse populations, etc.

ADA (American Dietetic Association). *Position of the American Dietetic Association: Breaking the barriers to breastfeeding.* J Am Diet Assoc. 2001;(10): 1215-1220. (Expires 2004). Available from: http://www.eatright.org/Public/NutritionInformation/92_8236.cfm
Description: Breastfeeding trends in the United States, barriers to extended breastfeeding, rationale: benefits of breastfeeding, clinical considerations, roles and responsibilities of dietetics professionals.

Cadwell K, Turner-Maffei C. *Case Studies in Breastfeeding: Problem-Solving Skills & Strategies.* Sudbury (MA): Jones and Bartlett; 2004.
Description: This book contains case studies that address some of the complex breastfeeding counseling issues such as assessment of problems, reconciling problems, family relationships, and connecting with women.

Ertem IO, Votto N, Leventhal JM. *The timing and predictors of the early termination of breastfeeding*. Pediatrics. 2001;107(3):543-548. Abstract available from: http://pediatrics.aappublications.org/cgi/content/abstract/107/3/543
Description: Determination of the prevalence and correlates of the early discontinuation of breastfeeding by mothers eligible for the Women, Infants, and Children Program (WIC).

Hörnell A, Hofvander Y, Kylberg E. *Solids and Formula: Association with Pattern and Duration of Breastfeeding.* Pediatrics. 2001;107(3):e38. Abstract available from: http://pediatrics.aappublications.org/cgi/content/abstract/107/3/e38
Description: Changes in pattern and duration of breastfeeding associated with the introduction of solids and formula.

International Lactation Consultant Association. *Evidence-based guidelines for breastfeeding management during the first fourteen days.* Raleigh (NC): International Lactation Consultant Association; 1999 Apr.
Description: 24 key strategies to guide professionals in providing optimal care to mothers and infants during the crucial first 14 days, when many mothers discontinue breastfeeding.

Institute of Medicine. *Nutrition during Lactation*. Washington (D.C.): National Academy Press; 1991. Available from: http://www.nap.edu/books/0309043913/html
Description: Chapters on: Nutritional status and usual dietary intake of lactating women, milk volume, milk consumption, maternal health effects of breastfeeding, and meeting maternal nutrient needs during lactation.

Lawrence, Ruth A., Lawrence, Robert M. *Breastfeeding: A Guide for the Medical Profession, 6th ed.* St. Louis (MS): CV Mosby, 2005.
Description: Coverage of anatomy and physiology, composition of human breast milk, family-centered counseling and guidance on lactation management, equipment, pumps, and other devices, contraindications to breastfeeding, new drugs and herbal products, infections, and much more.

Mitra AK, Khoury AJ, Carothers C, Foretich C. *Evaluation of a comprehensive loving support program among state Women, Infants, and Children (WIC) program breast-feeding coordinators.* South Med J. 2003 Feb;96(2):168-71. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12630643
Description: Describes the Mississippi Breastfeeding Promotion Campaign. The project included patient and family education, staff training, public awareness activities, health professional outreach, and partnerships with the community.

Mohrbacher N, Stock J. *The Breastfeeding Answer Book, 3rd Revised Ed.* Franklin Park (IL): La Leche League International; 2003.
Description: This is a complete resource guide on the art and technique of breastfeeding for those persons who want to help mothers breastfeed. It includes information such as prescription and herbal medications to increase milk supply, timing of starting solids, breastfeeding the baby with reflux disease, cleft palate babies, importance of human milk for premature babies, hormonal approaches to induced lactation, new approaches to positioning and latch-on, and much more.

Riordan J. *Breastfeeding and Human Lactation, 3rd edition.* Sudbury (MA): Jones & Bartlett Publishing; 2005.
Description: Five sections that cover the socio-cultural context of infant feeding, anatomy and biological imperatives, the prenatal, perinatal and postnatal periods, beyond postpartum and contemporary issues. Helps readers prepare for the certification examination in lactation in combination with the Study Guide for Breastfeeding and Human Lactation, 3rd ed.

U.S. Department of Agriculture, Best Start Social Marketing. *Loving Support Makes Breastfeeding Work* [homepage on the Internet]. Beltsville: National Agricultural Library, WIC Works Resource System [updated 2004 Apr 6; cited 2005 Sep 26]. Available from:
http://www.nal.usda.gov/wicworks/Learning_Center/loving_support.html
Description: Promotional materials, goals and key messages and a resource for loving support projects in action.

Wilson-Clay B, Hoover K. *The Breastfeeding Atlas.* 2nd ed. Austin (TX): LactNews Press; 2002 Jul.
Description: Clinical breastfeeding situations, case studies, evidence-based breastfeeding management information, as well as pictures with mini-case histories, explanations and references.

Child Safety

American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care. *Caring for Our Children National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs.* 2nd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2002. Available from: http://nrc.uchsc.edu/CFOC/
Description: Resource for child care providers, parents, health consultants, and regulators on National Health and Safety Performance Standards including information on SIDS.

Food Security

Basiotis PP, Lino M. (2002) *Food insufficiency and prevalence of overweight among adult women.* Nutrition Insight No. 26 [A Publication of the USDA Center for Nutrition Policy and Promotion]. Available from: http://www.usda.gov/cnpp/insights.html
Description: Link to all the Nutrition Insight Publications produced by the Center for Nutrition Policy and Promotion.

Bhattacharya J, Currie J, Haider S. *Poverty, Food Insecurity, and Nutritional Outcomes in Children and Adults.* J Health Econ. 2004 Jul;23(4):839-62. Available from: http://www.econ.ucla.edu/people/papers/currie/more/bch_oct03.pdf
Description: Relationship between nutritional status, poverty, and food insecurity for household members of various ages.

Bickel G, Nord M, Price C, Hamilton W, Cook J. *Guide to Measuring Household Food Security.* Alexandria, VA: USDA, Food and Nutrition Service, Office of Analysis, Nutrition, and Evaluation. Revised 2000. Available from: http://www.fns.usda.gov/fsec/FILES/FSGuide.pdf
Description: Chapters on: food security measure, food security questionnaire, implementing the food security scale, and preliminary guidance on sampling local population groups for food security surveys.

Cook et al. *Food insecurity is associated with adverse health outcomes among human infants and toddlers.* J. Nutr. 2004;134:1432-1438. Available from: http://www.nutrition.org/cgi/content/full/134/6/1432
Description: New measures to examine associations between food insecurity and health outcomes in young children.

Nord M, Andrews M, Carlson S. *Household Food Security in the United States, 2003.* Economic Research Service, U.S. Department of Agriculture. ERS Research Brief. 2004 Oct;FANRR42:1-69. Available from: http://www.ers.usda.gov/publications/fanrr42/
Description: Report on household food security in the United States. Sections include: household spending on food, household responses to questions in the food security scale, and use of federal and community assistance food programs.

Oral Health

General Resources

ADA. *American Dietetic Association: Oral health and nutrition.* J Am Diet Assoc. 2003;103(5):615-625. Available from: http://www.eatright.org/Public/Files/Oral_Health.pdf
Description: Nutrition and oral health, supports collaboration between dietetics and dental professionals for oral health promotion and disease prevention and intervention.

CDC. National Center for Chronic Disease Prevention and Health Promotion [homepage on the Internet]. *Oral Health Resources : Fact Sheet: Dietary Fluoride Supplement Schedule.* Atlanta: Centers for Disease Control and Prevention [updated 2002 August 07]. Available from: http://www.cdc.gov/OralHealth/factsheets/fl-supplements.htm
Description: Dietary fluoride supplement schedule.

Hale KJ; American Academy of Pediatrics Section on Pediatric Dentistry. *Oral health risk assessment timing and establishment of the dental home.* Pediatrics. 2003 May;111(5 Pt 1):1113-6. Abstract available from: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;111/5/1113
Description: Guidance on preventing caries in children by identifying high-risk individuals at an early age (preferably high-risk mothers during prenatal care), and adopting aggressive strategies, including anticipatory guidance, behavior modifications (oral hygiene and feeding practices), and establishment of a dental home by 1 year of age for children deemed at risk.

Marshall TA, et al. *Dental caries and beverage consumption in young children. Pediatrics.* 2003 Sep;112(3 Pt 1):e184-91. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12949310&query_hl=2
Description: Associations among caries experience and intakes of dairy foods, sugared beverages, and nutrients and overall diet quality in young children (4 to 7 years).

National Center for Education in Maternal and Child Health. *Bright Futures in Practice: Oral Health.* Casamassimo PS, chairman. Arlington (VA): National Center for Education in Maternal and Child Health; 1996. Available from: http://www.brightfutures.org/oralhealth/about.html
Description: Help for health professionals to implement specific oral health guidelines during pregnancy and postpartum, infancy, early childhood, middle childhood, and adolescence.

Staff Training

A Health Professional's Guide to Pediatric Oral Health Management: Pediatric Oral Health Management [homepage on the Internet]. Washington (DC): National Maternal and Child Health Resource Center; ©2004. Available from: http://www.mchoralhealth.org/PediatricOH/index.htm
Description: Seven self-contained online modules designed to assist health professionals in managing the oral health of infants and young children.

OHRC (National Maternal and Child Oral Health Resource Center). *Open Wide: Oral Health Training for Health Professionals*. Katrina Holt, M.P.H., M.S., R.D., and Ruth Barzel, M.A. Washington, DC: National Maternal and Child Oral Health Resource Center, 2005. Online modules available from: http://www.mchoralhealth.org/OpenWide/index.htm
Description: Online training on oral health consists of four modules (Tooth Decay, Risk Factors for Tooth Decay, Prevention of Tooth Decay, What to Do and How to Do It) that were designed to help health and early childhood professionals working in community settings (for example, Head Start and WIC staff) promote oral health to infants, children, and their families.

Physical Activity

Bright Futures in Practice: Physical Activity. Patrick K, Spear B, Holt K, Sofka D, eds. Arlington, VA: National Center for Education in Maternal and Child Health, 2001.
Description: Provides developmental guidelines on physical activity for the periods of infancy through adolescence. It provides current information on screening, assessment, and counseling to promote physical activity to meet the needs of health professionals, families, and communities.

CDC. *Physical Activity for Everyone: Making Physical Activity Part of Your Life: Overcoming Barriers to Physical Activity* [homepage on the Internet]. Atlanta (GA): Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition and Physical Activity-[updated 2003 May 29, cited 2005 Sep 26]. Available from: http://www.cdc.gov/nccdphp/dnpa/physical/life/overcome.htm
Description: Environmental and personal barriers to being more physically active, quiz on assessing the barriers to being active and suggestions for overcoming physical activity barriers.

Get moving: For the health and fun of it!: Putting the Guidelines into Practice. Alexandria (VA): Center for Nutrition Policy and Promotion, United States Department of Agriculture, 2003 Oct. Home and Garden Bulletin No.: 267-5. Available from: http://www.cnpp.usda.gov/Pubs/Brochures/
Description: Various publications produced by the Center for Nutrition Policy and Promotion such as: "Get Moving for the Fun and Health of it," "Fabulous Fruits, Versatile Vegetables," and "Get on the Grain Train."

Immunization

Shefer A, Mezoff J, Caspari D, Bolton M, Herrick P. *What mothers in the Women, Infants, and Children (WIC) program feel about WIC and immunization linkage activities. A summary of focus groups in Wisconsin.* Arch Pediatr Adolesc Med. 1998 Jan;152(1):65-70 & Comment in: Arch Pediatr Adolesc Med. 1998 Jul;152(7):714-5. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=9452710
Description: Gaining a better understanding of how parents using WIC resources feel about the association of WIC and immunization services, factors that may cause clients to drop out of the program, and effects of racial background on parent attitudes.

Policies and Procedures

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *WIC Policy Memo #92-10*: Bloodwork Protocol, July 1992. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: Provides guidance related to the hematological testing requirement for WIC certification.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *WIC Policy Memo #92-13*: WIC: Proof of Pregnancy, July 1992. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: Clarifies questions regarding whether a State or local agency may require documented proof of pregnancy from a WIC Program applicant.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *WIC Policy Memo #93-3A: WIC's Role in Screening for Childhood Lead Poisoning*. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: Clarifies questions concerning WIC's role in screening for childhood lead poisoning and allowable costs associated with this screening.

WIC Program Regulations; Section 246.7(e) Nutritional risk.
Description: WIC Regulations describing all aspects of participant eligibility. Available from:
http://www.fns.usda.gov/wic/lawsandregulations/default.htm.
WIC Regulations are published by the Federal Register in the Code of Federal Regulations, 7 C.F.R. Part 246. The CFR is updated in January each year. The CFR, in print or on-line, represents updates as of January and will not include changes which have been subsequently published.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *WIC Policy Memo #93-7*: WIC: Verification of Certification Cards, July 1993. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: Explains the requirement that transferring WIC participants receive continuous benefits during their certification periods, within the funding limitations of the receiving local agency.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *WIC Policy Memo # 98-9*: Revision 8, Nutrition Risk Criteria, April 2005. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: This memorandum lays out a change about how the WIC Program will determine nutrition risk eligibility.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *FNS Instruction 803-11, Rev.1*: WIC Program-Certification: Verification of Certification (VOC) Cards. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: This instruction describing verification of certification cards for participants who are members of a family in which there is a migrant farmworker or any other participant likely to relocate during his or her certification period, such as homeless individuals.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *FNS Instruction 803-16*: WIC Program – Certification: Participation of Breastfeeding Women and Their Infants. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: This instruction discusses that states have the option to establish procedures whereby a breast-feeding woman is determined to be at nutritional risk if her breast-fed infant has been determined to be at nutritional risk.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *WIC Policy Memo #2001-2: WIC Bloodwork Requirements,* Jan 2001. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: This policy memo serves to clarify questions regarding WIC bloodwork requirements, as well as to provide an update on the status of all policy memoranda previously issued that addressed bloodwork requirements.

U.S. Department of Agriculture, Food and Nutrition Service, Supplemental Food Programs Division: *WIC Policy Memo #2001-7*: Immunization Screening and Referral in WIC, August 2001. WIC State agencies can obtain a copy of this memorandum from their respective FNS Regional Offices.
Description: This policy memo is to assure that children served by WIC are screened for immunization status and, if needed, referred for immunizations.

WIC Nutrition Services Standards, U.S. Department of Agriculture, Food and Nutrition Service, October 2001. Available from:
http://www.fns.usda.gov/wic/benefitsandservices/nutritionservicesstds.HTM
Description: Designed to help State and Local WIC agencies self-assess how well they currently deliver a wide range of nutrition services and how to improve the delivery and quality of nutrition services.

Communication Skills and Tools

Developing Questionnaires and Print Materials

Clear and Simple: Developing Effective Print Materials for Low Literate Readers. Bethesda (MD): Department of Health and Human Services, National Institute of Health, National Cancer Institute; 1994. Available from:
http://cancer.gov/cancerinformation/clearandsimple
Description: Link to the National Cancer Institute website containing: career topics, clinical trials, cancer statistics, research and funding, and news.

Developing Effective Wording and Format Options for a Children's Nutrition Behavior Questionnaire for Mothers of Children in Kindergarten. ORC Macro. Contractor and Cooperator Report No.10. United States Department of Agriculture, Economic Research Service. August 2005. Study is available at: See
http://www.ers.usda.gov/Publications/CCR10/
Description: Set of eating habit questions proposed for inclusion in the U.S. Department of Education's Early Childhood Longitudinal Survey, Birth Cohort. Assessment of wording and format of a series of questions for mothers of children in kindergarten and/or first grade regarding the child's food consumption habits.

Developing Health Education Materials for Special Audiences: Low Literate Adults [audiocassette]. Chicago(IL): American Dietetic Association; 1992
Description: Self-study program including an audiotape and 56-page study guide that reviews planning, developing, and evaluating health education materials for low-literate adults. The SMOG readability technique for evaluating reading level of materials is described. Guidelines are provided for adapting existing materials to meet clients' needs.

WIC Works Resource System [homepage on the Internet], Beltsville (MD): *Learning Center, Counseling and Educational Methods, Developing Educational Materials* [updated 07/09/2004; cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/Learning_Center/Education_Counseling_develop.html
Description: Developing Educational Materials divided into three categories: general, low literacy, and readability assessment.

Nutrition Education and Communication Techniques

Brief Interventions

Fleming M, Manwell LB. *Brief intervention in primary care settings: A primary treatment method for at-risk, problem, and dependent drinkers.* Alcohol Res & Health. 1999;23(2):128-137. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10890807&dopt=Abstract
Description: method of "brief interventions", a technique that is a time-limited, patient-centered counseling strategy that focuses on changing a variety of patient behaviors (e.g., to modify dietary habits; stop smoking; and reduce weight, cholesterol levels, or blood pressure) and increasing patient compliance with therapy.

Berg-Smith SM, Stevens VJ, Brown KM, Van Horn L, Gernhofer N, Peters E, Greenberg R, Snetselaar L, Ahrens L, Smith K. *A brief motivational intervention to improve dietary adherence in adolescents.* The Dietary Intervention Study in Children (DISC) Research Group. Health Educ Res. 1999 Jun;14(3):399-410. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10539230
Description: Brief motivational intervention model to improve and renew dietary adherence with adolescents in the Dietary Intervention Study in Children (DISC).

Motivating Change: The Motivating Change Worksheet & Motivating Change: The 5-R Model. Rochester (NY): Cardiovascular Health Practitioners' Institute; © 2002 Scott McIntosh, PhD. [cited 2005 Sep 26]. Available from: http://cvhpinstitute.org/aafp/motiv.html
Description: Worksheet designed for patients' and physicians' use to help determine a patient's readiness to quit smoking. It also discusses the 5-R model: Relevance, Risks, Rewards, Roadblocks, and Repetition.

The 5-A Model. Rochester (NY): Cardiovascular Health Practitioners' Institute; © 2002 Scott McIntosh, PhD. [cited 2005 Sep 26]. Available from: http://cvhpinstitute.org/aafp/5amodel.html
Description: Structured intervention with patients that is feasible to implement in a short period of time using the 5-A Model (Ask, Advise, Assess, Assist, and Arrange).

Rollnick S, Heather N, Bell A. *Negotiating behavior change in medical settings: the development of brief motivational interviewing.* J Ment Health.1992;1:25-37.

Communication in Medical Encounters

Beck RS, Daughtridge R, Sloane PD. *Physician-patient communication in the primary care office: A systematic review.* J Am Board Fam Pract. 2002, Jan Feb;15(1):25-38. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dop=Abstract&list_uids=11841136
Description: Physician-patient interview as a key component of all health care, particularly of primary medical care. Evaluation of existing primary-care-based research studies to determine which verbal and nonverbal behaviors on the part of the physician during the medical encounter have been linked in empirical studies with favorable patient outcomes.

Coulehan JL, Platt FW, Egener B, Frankel R, Lin CT, Lown B, Salazar WH. *"Let me see if I have this right": words that help build empathy.* Ann Intern Med. 2001 Aug 7;135(3):221-7. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11487497
Description: Words that help build empathy, empathy in theory, empathy in practice, active listening, and culture and empathy.

Makoul G. *Essential elements of communication in medical encounters: the Kalamazoo consensus statement.* Acad Med. 2001, Apr;76(4):390-3. Abstract available at: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11299158&dopt=Citation
Description: Leaders and representatives from major medical education and professional organizations met to delineate a coherent set of essential elements in physician-patient communication resulting in the identification of seven essential steps for effectively communication with patients: (1) build the doctor-patient relationship; (2) open the discussion; (3) gather information; (4) understand the patient's perspective; (5) share information; (6) reach agreement on problems and plans; and (7) provide closure.

Seidel R. *How effective communication promotes better health outcomes.* American Academy of Physician Assistants (JAAPA). 2004, Nov;17:22-24.
http://www.jaapa.com/issues/j20041101/articles/seidel.html
Description: Describe four communication tasks (engagement, empathy, education, enlistment) that must be performed during medical encounters.

Platt FW, Gordon GH. *Review chapter 26: The Non-Compliant Patient.* In: Field Guide to the Difficult Patient Interview. Hagerstown (MD): Lippincott Williams & Wilkins; 1999.
Description: Dealing with difficult situations in the communication between physicians and patients by presenting a hypothetical scenario, describing effective communication techniques, and identifying pitfalls to avoid. Examples of physician-patient dialogue and illustrations of body language.

Platt FW, Gordon GH. *Review chapter 16: The Ambivalent Patient.* In: Field Guide to the Difficult Patient Interview. Hagerstown (MD): Lippincott Williams & Wilkins; 1999.
Description: Resource for dealing with difficult situations in the communication between physicians and patients. Hypothetical scenario, describes effective communication techniques, and identifies pitfalls to avoid. It includes examples of physician-patient dialogue and depicts illustrations of body language.

Cultural Competency

General Resources

Counseling the Culturally Different: Theory and Practice, 3rd ed. [database on the Internet]. Beltsville (MD): WIC Works Resource System, The WIC Works Database [cited 2005 Sep 26]. For more information see:
http://peaches.nal.usda.gov/wicworks/wicform4b.asp?title=Counseling+the+Culturally+Different:+Theory+and+Practice,+3rd+edition and http://www.nal.usda.gov/wicworks/WIC_Learning_Online/support/references/multicultural.htm
Description: Reference book on multi-cultural counseling includes individual chapters on counseling African Americans, Asian Americans, Latino/Hispanic Americans, and Native Americans.

Eliades DC, Suitor CW. *Celebrating diversity: Approaching families through their food.* Arlington (VA): National Center for Education in Maternal and Child Health.
Description: Communication of nutrition education messages to people from a variety of cultural backgrounds. Discussion on changing food patterns, how food choices are made, communicating with clients and families, and working within the community.

Pedersen PB, Draguns JG, Lonner WJ, Trimble JE, eds. *Counseling Across Cultures.* Thousand Oaks: Sage Publications; 2002.
Description: Comprehensive examination of the increasing priority of culture in the counseling process. Examination of the cultural context of accurate assessment and appropriate interventions in counseling, highlighting work with groups including African Americans, Asian Americans, Hispanics, American Indians, refugees, and international students. Chapters also consider culturally appropriate counseling methods as they relate to gender, aged populations, health psychology, and school settings.

Quervalu JV, Nunes H, Gonzales F, Lecca Pedro J (ed). *Cultural Competency in Health, Social & Human Services: Directions for the 21st Century.* New York (NY): Garland Publishing; 1998.
Description: Latest information and techniques for improving cultural competency in the delivery of health, social, and human services to multicultural populations in the United States including African-American, Anglo-American, Asian American and Hispanics/Latinos. Cultural values, religion and beliefs of the four major ethnic groups that come to health professionals for help and chapter on cultural competency and Child and Family Services.

Staff Training

Towards Culturally Competent Care: A Toolbox for Teaching Communication Strategies. San Francisco, (CA): Center for Health Professions, University of California; 2002. Available for order at:
http://www.futurehealth.ucsf.edu/cnetwork/resources/curricula/diversity.html
Description: Curriculum focusing on teaching clinicians to recognize cultural differences in patient interactions and to use specific communication skills to improve patient care that can be adapted for sequential one-hour sessions or for day-long seminars. Each section includes: exercises, learning objectives and teaching instructions, time requirements, overheads and handouts.

Facilitated Group Discussion

General Resources

Abusabha R, Peacock AR, Achterberg C. *How to make nutrition education more meaningful through facilitated group discussions.* J Am Diet Assoc. 1999 Jan 99(1):72-76. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=9917735
Description: Alternative method to lecture and one-on-one approaches for conducting educational interventions at clinic sites.

Facilitator's Guide for Nutrition Education: Listen, Share, and Support. Santa Fe (NM): New Mexico WIC Program, 1994. [Kit can be borrowed from the National Agricultural Library: http://www.nal.usda.gov/fnic/pubs/bibs/gen/wicpub.html]
Description: Compilation of materials produced or used by the WIC program published between 1995 and 2001 currently available at the National Agricultural Library for loan.

Sigman-Grant, M. Facilitated Discussions. *University of Nevada Cooperative Extension Continuing on the Road to Excellence Newsletter*. Issue 1; June 2001. (not a journal article)
Description: This guide provides a thorough explanation of facilitated dialogue, the steps involved in having a successful facilitated discussion, and numerous self-learning activities.

WIC Works Resource System [homepage on the Internet], Beltsville (MD): *Learning Center, Counseling and Educational Methods, Facilitated Group Discussion* [updated 2004 Jul 9; cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/Learning_Center/Education_Counseling_methods.html#Facilitated
Description: Link to the facilitated dialogue resources on the WIC Works Resource System.

Staff Training

Beyond Nutrition Counseling: Reframing the Battle Against Obesity. Video Script, Version 1.1 and Discussion Guide, Version 1.01, September 2002
Description: Provides a basic structure for a 60-minute facilitated group discussion with the video "Beyond Nutrition Counseling: Reframing the Battle Against Obesity"

Facilitated Dialogue Basics: *Let's Dance: A Self-Study Guide for Nutrition Educators.* Madeleine Sigman-Grant, PhD, RD. University of Nevada Cooperative Extension, 2004. SP-04-21. Full text available from: http://www.unce.unr.edu/publications/SP04/SP0421.pdf
Description: Self-study guide entitled: Facilitated Dialogue Basics: Let's Dance was created in order to balance the needs of nutrition educators and participants. Incorporated into the guide are various learner-centered education techniques to assist educators in promoting dialogue and improving critical thinking skills among participants.

WIC Works Resource System [homepage on the Internet], Beltsville (MD): *References used for WIC Learning Online, Lesson 2: Counseling Skills, Using Facilitated Discussion* [updated 07/09/2004; cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/WIC_Learning_Online/support/references/facilitated_discussion.htm
Description: Provides a link to the WIC Learning Online support center.

General Nutrition Education Communication Techniques

General Resources

Moreland JC, Lloyd L, Braun SB, Heins JN. *A new teaching model to prolong breastfeeding among Latinos.* J Hum Lact. 2000 Nov:16(4):337-41. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11155611
Description: Latino women in Salt Lake City, Utah, and how their breastfeeding rates are the lowest in the state of Utah. New teaching model for pregnant Spanish speaking participants.

Bauer KD, Sokolik CA. *Basic Nutrition Counseling Skill Development.* Belmont (CA): Wadsworth/Thomson Learning; 2002.
Description: Step-by-step guide to the fundamental skills of counseling strategies and protocol, including action-based worksheets and practical case studies.

Bensley R, Brookins-Fisher J. *Community Health Education Methods: A Practitioner's Guide.* Sudbury (MA): Jones and Barlett Publisher, 2001.
Description: Written by and for health education practitioners from a real-world perspective. Useful and practical information that can be easily applied to real health education situations.

Crawford PB, Gosliner W, Anderson C, Strode P, Becerra-Jones Y, Samuels S, Carroll AM, Ritchie LD. *Counseling Latina mothers of preschool children about weight issues: Suggestions for a new framework.* J Am Diet Assoc. 2004;104:387-394.
Description: Latina mothers' health beliefs and attitudes regarding early childhood weight issues.

Moe El, Elliot DL, Goldberg L, Kuehl KS, Stevens VJ, Breger RK, DeFrancesco CL, Ernst D, Duncan T, Dulacki K, Dolen S. *Promoting Healthy Lifestyles: Alternative Models' Effects (PHLAME).* Health Educ Res. 2002,Oct;17(5): 586-96. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12408203
Description: Efficacy of two intervention strategies for improving nutrition and physical activity practices in fire fighters: a team-centered program and a one-on-one format targeting the individual.

Nestor B, McKenzie J, Hasan N, Abusabha R, Achterberg C. *Client Satisfaction with the Nutrition Education Component of the California WIC Program.* J Nutr Educ Behav. 2001 Apr;33(2):83-90. Abstract available from:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12031188
Description: Quantitatively and qualitatively examine client satisfaction with the nutrition education component of the California WIC Program.

Vella, J. *Learning To Listen, Learning to Teach: The Power of Dialogue in Educating Adults (Revised Edition).* San Francisco, CA: Jossey-Bass; 2002.
Description: Twelve principles of dialogue education with a new theoretical perspective gleaned from the discipline of quantum physics.

WIC Works Resource System [homepage on the Internet], Beltsville (MD): *Learning Center, Counseling and Educational Methods: Other Educational/Counseling Methods* [updated 2005 June 22; cited 2005 Sep 26]. Available from:
http://www.nal.usda.gov/wicworks/Learning_Center/Education_Counseling_methods.html
Description: Contains resources on counseling and education methods including: ethnic and cultural, feeding relationship, facilitated discussion, and motivational interviewing.

WIC Works Resource System [homepage on the Internet], Beltsville (MD): *WIC Topics A-Z, Health Literacy* [updated 07/09/2004; cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/Topics/Health_Literacy.html
Description: This link provides information on health literacy provided by the WIC Works Resource System. It contains resources including: health and adult literacy, health literacy and outcomes, and improving health literacy.

Staff Training

Curry KR, Jaffe A. Nutrition Counseling and Communication Skills. Philadelphia: WB Saunders Co; 1998. p. 89-111; 119-132.
Description: Effective nutrition education strategies and techniques across the lifespan and in a cross-cultural context that are practical and that offer a hands-on approach to developing these skills. Psychological element of counseling addressing issues such as emotional factors and eating disorders.

Osborne H. *Overcoming Communication Barriers in Patient Education.* Frederick (MD): Aspen Publishers, Inc.; 2001.
Description: Guide for health care professionals on how to improve health communication with people who have difficulty reading, people who are older adults, people with visual or hearing impairment, and people who speak little or no English or are from other cultures.

WIC Works Resource System [homepage on the Internet], Beltsville (MD): National Agricultural Library/Food and Nutrition Information Center, USDA/Food and Nutrition Service, and the University of Maryland. *WIC Learning Online.* For more information see: http://www.nal.usda.gov/wicworks/WIC_Learning_Online/index.html
Description: WIC Learning Online - a series of 12 modules designed to train all levels of staff working in the WIC Program. (Need to register).

Health Behavior Changes

Achterberg C, Miller C. *Is one theory better than another in nutrition education? A viewpoint: more is better.* J Nutr Educ Behav. 2004 Jan-Feb;36(1):40-2. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14756981
Description: Health behavior theories and how they may or may not predict behavior or behavior change.

Ammerman AS, Lindquist CH, Lohr KN, Hersey J. *The efficacy of behavioral interventions to modify dietary fat and fruit and vegetable intake: a review of the evidence*. Prev Med. 2002 Jul;35(1):25-41. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12079438
Description: Evaluation of the overall effectiveness of behavioral dietary interventions in promoting dietary change related to chronic disease risk reduction.

Baranowski T, Cullen KW, Nicklas T, Thompson D, Baranowski J. *Are current health behavioral change models helpful in guiding prevention of weight gain efforts? [review].* Obes Res. 2003;11(Suppl.):23S-43S. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14569036
Description: Seven categories of theories and models to define the concepts used to identify the motivational mechanism and the resources that a person needs to promote change.

Carpenter RA, Finley C, Barlow CE. *Pilot test of a behavioral skill building intervention to improve overall diet quality.* J Nutr Ed. *2004;36:20-26*
Description: Effect of a cognitive and behavioral skills building intervention delivered via a small group or correspondence on improvement in total diet quality.

Elder JP, Ayala GX, Harris S. *Theories and intervention approaches to health-behavior change in primary care.* Am J Prev Med. 1999 Nov;12(4):275-284. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10606196
Description: Health-belief model, the social learning theory, and the transtheoretical model as they relate to behavior modification and patient compliance.

Elder JP, Geller ES, Hovell MF. *Motivating Health Behavior.* Albany (NY): Delmar Publishing; 1994.
Description: Difference between marketing and social marketing and examples of specific ways to apply the theory of social marketing to public health problems such as tobacco, nutrition, injury prevention, and teen sexual behavior.

Feldman M, Christensen J. *Section III: Health Related Behavior.* Guide Section III. In: Behavioral Medicine in Primary Care: A Practical. Stamford (CT): Appleton & Lange; 1997.
Description: Guide that discusses: health literacy, the culture of medicine, behavior change, and obtaining and using community health data.

Keller VF, White MK. *Choices and changes: a new model for influencing patient health behavior.* Journal of Clinical Outcomes Management. 1997;4(6):33–6. Abstract available at: http://www.acgme.org/outcome/comp/refCom2.asp#4
Description: Author's model for influencing behavior change in patients and techniques to promote the physician-patient dialogue.

Kristal AR, Hedderson MM, Patterson RE, Neuhauser. *Predictors of self-initiated, healthful dietary change.* J Am Diet Assoc. 2001;101:762-766.
Description: Demographic and psychosocial factors that predict healthful dietary change. Results suggest that food labels are useful for helping people reduce fat intake, that interventions should target persons at all stages of dietary change, and that new efforts are needed to reach men and persons who are less well educated.

NCI (National Cancer Institute). Theory at a Glance: A Guide for Health Promotion Practice. [updated 2003 Feb 27, 2005 Sep 26]. Bethesda (MD): National Institutes of Health, National Cancer Institute, 2003. Document available from: http://www.cancer.gov/aboutnci/oc/theory-at-a-glance/page1
Description: Seven theories of health-related behaviors, the processes of changing behaviors, and community and environmental factors that influence behavior (Stages of Change, Health Belief Model, Consumer Information Processing-Individual level, Social Learning Theory-Interpersonal level, Diffusion of Innovations, Organizational Change Theory, Community Organization Theories-Community level. Useful to health promotion practitioners who design and implement programs that seek to change health behaviors.

Peterson KE, Sorensen G, Pearson M, Hebert JR, Gottlieb BR, McCormick MC. *Design of an intervention addressing multiple levels of influence on dietary and activity patterns of low-income, postpartum women.* Health Educ Res. 2002 Oct; 17(5):531-40. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_ uids=12408198
Description: Efficacy of an educational model delivered by community-based paraprofessionals in improving diet, activity and weight loss among new mothers over a 12-month postpartum period and a 6-month maintenance period.

WIC Nutrition Education: On the Road to Excellence. Teleconference sponsored by the Southwest Region of the United States Department of Agriculture; 2001 Apr 26-27. Available from: http://www.nal.usda.gov/wicworks/Sharing_Center/statedev_ontheroad-excellence.html
Description: Addresses nutrition education techniques such as relationship-building, recognizing and removing barriers, and using motivational messages to help clients receive nutrition information and change their lifestyles.

Health Belief Model

Kloeblen AS, Batish SS. *Understanding the intention to permanently follow a high folate diet among a sample of low-income pregnant women according to the Health Belief Model.* Health Educ Res. 1999 Jun;14(3):327-38. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10539225
Description: Applicability of the Health Belief Model (HBM) to understanding the intention to permanently follow a high folate diet among low-income pregnant women.

Motivational Interviewing

General Resources

Miller WR, Rollnick S. *"Conviction Confidence"*. Section of Motivational Interviewing Professional Training Videotape Series. Tape E. "Motivational Interviewing in Medical Settings (48 min)". Moyers TB, directed. Albuquerque, NM: University of New Mexico; 1998. Order information available from: http://motivationalinterview.org/training/miorderform.pdf
Description: Introduction to motivational interviewing. Videos are intended to be used as a resource in professional training, offering six hours of clear explanation and practical modeling of component skills

Miller WR, Rollnick S. *Motivational Interviewing: Preparing People for Change.* 2nd ed. New York: Guilford Press; 2002.
Description: Detailed guidelines for using the authors approach to facilitating change and reflection on the process of learning motivational interviewing. Stages of change model, applications in medical, public health, and criminal justice settings, and using the approach with groups, couples, and adolescents.

Motivational Interviewing: resources for clinicians, researchers, and trainers [homepage on the Internet]. Motivational Interviewing. Richmond (VA): Mid-Atlantic Addiction Technology Transfer Center, Virginia Commonwealth University, Dept. of Psychiatry; c1999-2004 [updated 2004 July 19]. Available from: http://www.motivationalinterview.org/
Description: Provides resources for those seeking information on motivational interviewing. It includes general information about the approach, as well as links, training resources, and information on reprints and recent research.

Resnicow K, DiIorio C, Soet JE, Borrelli B, Ernst,D, Hecht J, Thevos AK. *Motivational Interviewing in Medical and Public Health Settings.* In: Miller WR, Rollnick S, editors. Motivational Interviewing: Preparing people for change. 2nd ed. New York: Guilford Press; 2002
Description: Chapter within the book on Preparing People for Change.

Resnicow K, Jackson A, Wang T, De AK, McCarty F, Dudley WN, Baranowski T. *A motivational interviewing intervention to increase fruit and vegetable intake through Black churches: results of the Eat for Life trial.* Am J Public Health. 2001 Oct;91(10):1686-93. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11574336
Description: Multi-component intervention to increase fruit and vegetable consumption among African Americans that was delivered through Black churches.

Rollnick S, Mason P, Butler C. *Health Behavior Change: A Guide for Practitioners.* New York, NY: New York, NY: Churchill Livingstone 1999.
Description: For health professional to become more flexible and skillful in the consultation of behavior changes including over-eating, physical inactivity.

WIC Works Resource System [homepage on the Internet], Beltsville (MD): *Learning Center, Counseling and Educational Methods, Motivational Interviewing* [updated 2004 Jul 9; cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/Learning_Center/Education_Counseling_methods.html#motivational
Description: Provides resources for motivational interviewing and facilitated discussion, and other counseling education methods.

Staff Training

WIC Works Resource System [homepage on the Internet], Beltsville (MD): *References used for WIC Learning Online, Lesson 2: Counseling Skills, Applying Motivational Interviewing* [updated 2004 Jul 9; cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/WIC_Learning_Online/support/references/MI.htm
Description: Provides references of books, articles, and internet resources, for applying motivational interviewing.

Stages of Change Theory

Kristal AR, Glanz K, Curry SJ, Patterson RE. *How can stages of change be best used in dietary interventions?* J Am Diet Assoc. 1999;99:679-684.
Description: Key findings from research on stages of dietary change, and controversies regarding use and interpretations of the construct.

Molaison EF. *Stages of change in clinical nutrition practice [review].* Nutrition Clinical Care. 2002 Sep-Oct; 5(5):251-7. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12455227
Description: Stages of change and tailoring education methods to meet the needs of the patient and helping to promote life-long dietary change through identification of an individual's stage.

Prochaska JO, DiClemente CC. (1984). *The transtheoretical approach: Crossing the traditional boundaries of therapy.* Melbourne, Florida: Krieger Publishing Company. January 1994. (Reprint of book first published by the Dorsey Press in 1984).
Description: Shift in the field of behavior change from an action paradigm to a stage paradigm in which changing behavior involves progressing through six stages of change: precontemplation, contemplation, preparation, action, maintenance and termination.

James Prochaska, Ph.D., Professor of Clinical and Health Psychology at the University of Rhode Island, Director of Cancer Prevention Research Consortium. *Helping Populations Progress Through Stages of Change.* Webcast produced January 10, 2001. Webcast is available from: http://www.bu.edu/cpr/webcast/change.html
Description: Live broadcast of Dr. Prochaska's discussion about the Transtheoretical Model for behavior change on January 10, 2001, at 1:00 PM eastern standard time.

Taylor T, Serrano E, Anderson J, Kendall P. *Knowledge, skills, and behavior improvements on peer educators and low-income Hispanic participants after a stage of change-based bilingual nutrition education program.* J Community Health. 2000 Jun;25(3):241-62. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10868817
Description: improvement of nutrition related knowledge, skills and behaviors that lead to healthy lifestyles in a low-income Hispanic population.

Zimmerman GL, Olsen CG, Bosworth MF. *A Stages of Change Approach to Helping Patients Change Behavior.* American Family Physician, 2000, Mar;61(5):1409-1416. Abstract available at: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10735346&dopt=Citation.
Description: Review of Transtheoretical Model of Change (Stages of Change model) and its application to the medical setting. Includes two tools that can help promote dialogue: The Readiness to Change Ruler and the Agenda-Setting Chart.

Multi-Media Programs

Black MM, Siegel EH, Abel Y, Bentley ME. *Home and videotape intervention delays early complementary feeding among adolescent mothers.* Pediatrics. 2001 May;07(5):E67. Abstract available from: http://pediatrics.aappublications.org/cgi/content/full/107/5/e67
Description: Efficacy of an intervention to delay the early introduction of complementary feeding among first-time, black, adolescent mothers living in multigenerational households.

Carlton DJ, Kicklighter JR, Jannalagadda SS, Shoffner MB. *Design, development, and formative evaluation of "Put Nutrition Into Practice," a multimedia nutrition education program for adults.* J Am Diet Assoc. 2000 May; 100(5):555-63. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10812381
Description: Design, development, and formative evaluation of a computer-based multi-media nutrition education program for adults based on the Dick and Carey model of instructional design. Four phases of study included: analysis, design, development, and evaluation.

Campbell MK, Carbone E, Honess-Morreale L, Heisler-Mackinnon J, Demissie S, Farrell D. *Randomized trial of a tailored nutrition education CD-ROM program for women receiving food assistance.* J Nutr Educ Behav. 2004 Mar-Apr; 36(2):58-66. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15068753
Description: Development and randomized evaluation of a tailored nutrition education CD-ROM program for participants in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) in North Carolina.

Gross SM, Caulfield LE, Bentley ME, Bronner Y, Kessler L, Jensen J, Paige VM. *Counseling and motivational videotapes increase duration of breast-feeding in African-American WIC participants who initiate breast-feeding.* J Am Diet Assoc. 1998 Feb;98(2):143-8. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12515413
Description: Evaluation of relative effects of introducing motivational videotapes and/or peer counseling in Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinics serving African-American women have on breast-feeding duration.

Critical Thinking

Elder L, Richard P. A Miniature Guide for Students and Faculty to The Foundation Of Analytic Thinking. *How To Take Thinking Apart and What To Look For When You Do. The Elements of Thinking and The Standards They Must Meet.* Based on Critical Thinking Concepts & Tools. Dillon Beach (CA): The Foundation of Critical Thinking; 2003.
Description: Guide on analytical thinking containing sections on: Understanding the Basic Theory of Analysis, Getting Started, Using analysis to figure out the logic of anything, taking your understanding to a deeper level and more.

Ennis RH. *A Super-Streamlined Conception of Critical Thinking.* Champaign (IL): University of Illinois, 2002.
Description: Critical thinking dispositions and abilities that may serve as a set of comprehensive goals for critical thinking curriculum and its assessment.

Halpern DF. *Thought and knowledge: An Introduction to Critical Thinking.* Mahwah (NJ): Lawrence Erlbaum Associates, Inc.; 1996.
Description: Theories and research of cognitive psychology to the development of critical thinking and learning skills.

Mariorana VP. Critical Thinking Across the Curriculum: Building the Analytical Classroom. Bloomington, IN: Eric; 1992.
Description: Understanding of how conventional pedagogical practices inhibit the teaching of cognitive skills, and to introduce a thorough, practical, and assessable classroom methodology for reaching cognitive skills.

Norris SP. *Synthesis of Research on Critical Thinking.* Educational Leadership. 1985 May;42(8):40-45.
Description: Review of the elements of critical thinking; the nature, merits, and flaws of various critical thinking tests, and frequently encountered errors in reasoning. Critical thinking must be coupled with content knowledge and better assessments are needed to determine accurately the effectiveness of critical thinking instruction (taken from a research article written by Kathleen Cotton, see http://www.nwrel.org/scpd/sirs/6/cu11.html).

Richard P, Elder L. *The Miniature Guide to Critical Thinking Concepts & Tools.* Dillon Beach (CA): The Foundation of Critical Thinking; 2003.
Description: Critical thinking including chapters on the elements of thought, a checklist for reasoning, the problem of egocentric thinking, etc.

Shuster P, McHugh. *Concept mapping: A critical thinking approach to care planning.* Philadelphia: FA Davis Co; 2002.
Description: Promotion of critical thinking and clinical reasoning by helping to clearly visualize priorities and identify relationships in patient data when assessing patients' problems. Use of concept mapping allows the educator to quickly assess a student's critical thinking skills and progress

Suggested Maternal and Child Nutrition Resources

Charney P, Malone A, eds. *ADA Pocket Guide to Nutrition Assessment.* Chicago (IL): American Dietetic Association; 2004.
Description: Guide with convenient, reliable information on the tools and techniques of nutrition assessment. It includes: laboratory assessment, anthropometrics, and determining protein and energy requirements.

Duyff RL. American Dietetic Association. *The American Dietetic Association's complete food and nutrition guide.* Minneapolis (MN): Chronimed Pub; 1996.
Description: Resource on healthful eating. Practical, accurate nutrition information for individuals and families.

Ekvall SW, ed. *Pediatric Nutrition in Chronic Diseases and Developmental Disorders: Prevention, Assessment, and Treatment.* New York: Oxford University Press; 1993.
Description: Chapters on prenatal and postnatal growth, evaluation of nutritional status and a wide range of pediatric disorders such as neurogenetic disorders, behavioral disorders, drug toxicity, obesity, cancer, diabetes, and inborn errors of metabolism that present special nutritional problems. Each chapter includes biochemical and clinical abnormalities, techniques in nutrition evaluation, nutritional management, and follow-up procedures.

Green M, Palfrey J, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents.* 2nd edition, revised. Green M. (Ed.). Arlington, VA: National Center for Education in Maternal and Child Health. 2002.
Description: Detailed framework for health professionals, in partnership with families, to promote health and development of children ages 0-21. Health questions, developmental observations/milestones, immunizations, screenings, and anticipatory guidance.

Klienman RE, ed. *Pediatric Nutrition Handbook.* 5th ed. Elk GroveVillage (IL): American Academy of Pediatrics; 2003.
Description: Pediatric nutrition including sections on: feeding the infant, feeding the older child, macronutrients, and micronutrients, nutrition delivery systems, and more.

Lacey K, Pritchett E. *Nutrition care process and model: ADA adopts road map to quality care and outcomes management.* J Am Diet Assoc. 2003;103:1061-1072.
Description: Four steps of ADA's Nutrition Care Process and the overarching framework of the Nutrition Care Model and rationale for a standardized process of nutrition care. Distinction between the Nutrition Care Process and Medical Nutrition Therapy.

Institute of Medicine (IOM); Committee on Scientific Evaluation of WIC Nutrition Risk Criteria, Food and Nutrition Board, Institute of Medicine. *WIC nutrition risk criteria: A scientific assessment.* Washington (DC): National Academy Press; 1996. Available from: http://www.nap.edu/books/0309053854/html/
Description: Review of the scientific basis for nutrition risk criteria used to establish eligibility for participation in the WIC Program.

IOM; Committee on Dietary Risk Assessment in the WIC Program. *Dietary risk assessment in the WIC program.* Washington, DC: National Academy Press; 2002.
Description: Reviews of methods used to determine dietary risk based on failure to meet dietary guidelines for applicants to the WIC Program.

Mahan LK, Escott-Stump S. *Krause's Food, Nutrition & Diet Therapy.* 11th ed. Philadelphia (PA): WB Saunders Company; 2003.
Description: Medical nutrition therapy for various diseases and health related disorders.

National Center for Education in Maternal and Child Health (U.S.). *Bright Futures in Practice Nutrition – Pocket Guide.* Story M, Holt K, Sofka D, Clark EM, eds. Arlington (VA): National Center for Education in Maternal and Child Health, 2002.
Description: Guide based on the nutrition practice guide and highlights key aspects of each developmental period and includes tools such as indicators of nutrition risk and tips for promoting food safety.

Nissenberg SK, Bogle ML, Langholz EP, Wright AC. *How Should I feed My Child? From Pregnancy to Preschool.* Hoboken (NJ): John Wiley & Sons, Inc.; 2003.
Description: Chapters on: diet during pregnancy, feeding during the first year, health concerns, eating away from home, and others.

Samour PQ, Helm KK, Lang CE, eds. *Handbook of Pediatric Nutrition*. 2nd ed. Gaithersburg (MD): Aspen Publishers; 1999.
Description: Nutrition care for infants, children, and adolescents in 2 sections: normal pediatric nutrition and therapeutic pediatric nutrition.

Satter E. *Child of Mine: Feeding With Love and Good Sense.* Boulder (CO): Bull Publishing Company; 2000.
Description: Information and guidance on nutrition, feeding, child development, and parenting.

Satter E. *How to Get Your Kid to Eat but Not Too Much.* Boulder (CO): Bull Publishing Company; 1987.
Description: Tips on parenting with feeding such as: how much your child should eat, what is normal eating, helping your child eat the right food, and childhood obesity.

Satter E. *Secrets of Feeding a Healthy Family.* Madison (WI): Kelcy Press; 1989.
Description: For adults to choose food joyfully, appealingly and wisely manage eating to establish a positive feeding relationship with children.

U.S. Department of Health and Human Services, Healthy People 2010: Understanding and Improving Health. 2nd ed. Washington, DC: U.S. Government Printing Office, November 2000.
Description: Framework to improve the health of Americans by the year 2010. Information on leading health indicators including Physical Activity, Overweight and Obesity, Tobacco Use, Substance Abuse, Responsible Sexual Behavior, Mental Health, Injury and Violence, Environmental Quality, Immunization, and Access to Health Care.

Zeman FJ. *Clinical nutrition and dietetics.* 2nd ed. Upper Saddle River (NJ): Prentice Hall; 1991.
Description: Basic principles of pathology, pharmacology, and genetics as they relate to nutrition and dietetics.

WIC Sharing Center [homepage on the Internet]. Beltsville (MD): U.S. Department of Agriculture, National Agricultural Library, WIC Works Resource System [updated 2004 Sep 13, cited 2005 Sep 26]. Available from: http://www.nal.usda.gov/wicworks/Sharing_Center/index.html
Description: WIC Works sharing center for state developed materials.

Staff Competencies and Performance Standards

Elder L, Paul R. *Universal intellectual standards* [monograph on the Internet]. Foundation for Critical Thinking. Available from: http://www.criticalthinking.org/
Description: Improvement of instruction in primary and secondary schools, colleges and universities. Conferences and professional development programs, emphasizing assessment, research, instructional strategies, Socratic questioning, critical reading and writing, higher order thinking, quality enhancement, and competency standards.

Guidelines for Community Nutrition Supervised Experiences. 2nd ed. Public Health/ Community Nutrition Practice Group, American Dietetic Association; 2003. Available from: http://www.phcnpg.org/GuideCommunityNutrSuperExp.pdf
Description: Guidance on training experiences from those working in public health nutrition. It was offered as the first comprehensive curriculum for enhancing the capacity of public health nutrition personnel to respond to the broad range of responsibilities demanded from the field.

Harris-Davis E, Haughton B. *Model for multicultural nutrition counseling competencies.* J Am Diet Assoc. 2000;200:1178-1185.
Description: For educators to enhance dietetics education and training and by public health nutritionists as a basis for self-evaluation and selection of continuing education opportunities to enhance their multicultural nutrition counseling competence.

Holli BB, Calabrese RJ, Maillet JO. *Communication and Education Skills for Dietetics Professionals.* Philadelphia: Lippincott Williams & Wilkins; 2003. p110-148. WIC agencies can borrow this reference (call number RM214.3 H65 1998) by contacting NAL.
Description: Tools for nutritionists, dietitians, and allied health professionals in strengthening interpersonal relationships with clients and patients by offering current activities, case studies, techniques, and directives related to nutritional counseling.

Hughes R. *Competencies for effective public health nutrition practice: a developing consensus.* Public Health Nutr. 2004 Aug;7(5):683-91. Abstract available from: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15251059
Description: Assessment of level of consensus among an international panel of public health nutrition leaders regarding the essential competencies required for effective public health nutrition practice.

National Public Health Performance Standards Program http://www.phppo.cdc.gov/nphpsp/index.asp
Description: National public health performance standards for state and local public health systems and local governing bodies.

Paul R. *Critical thinking handbook: high school, a guide for redesigning instruction.* Rohnert Park (CA): Foundation for Critical Thinking, Sonoma State University; 1989.
Description: Handbook for use as the basis for critical thinking staff development, or as an independent resource for teachers.

Glossary

Anticipatory guidance – The counseling technique in which healthcare professionals provide parents or caregivers information for decision-making.

BMI (Body Mass Index) – A measure of body fat based on height and weight that applies to both men and women. The calculation is performed using weight in kilograms divided by height in meters squared (kg/m^2 or 703 x lb/in^2).

CDC (Centers for Disease Control and Prevention) – The lead Federal agency for protecting health decisions, and promoting health through strong partnerships. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and educational activities designed to improve the health of the people of the United States.

Client-centered approach – The origin is client-centered therapy (CCT), developed by the psychotherapist Dr. Carl Rogers. CCT assumes that all persons have an internal drive for growth and healing and, in a supportive environment, can solve their own problems. A CCT therapist does not diagnose, analyze, or offer treatment. Instead, the therapist offers an environment of empathy and acceptance. He listens and provides advice only when asked.

Competency – An individual's demonstrated knowledge, skills, or abilities performed to a specific standard. Competencies are observable, behavioral acts that are demonstrated in a job context and, as such, are influenced by an organization's culture and work environment.

Concept map – A technique for visually representing the structure of information and more specifically how concepts within a domain are interrelated.

Continuity of care – As defined by the American Academy of Family Physicians, it is "The process by which the patient and the physician are cooperatively involved in ongoing health care management toward the goal of high quality, cost-effective medical care."

Critical thinking – The ability to integrate and demonstrate nutrition knowledge in order to communicate higher order thinking in the problem solving process to resolve dilemmas.

EPSDT (Early Periodic Screening Diagnosis and Treatment) – This is Medicaid's comprehensive and preventive child health program for individuals under the age of 21. EPSDT was defined by law as part of the Omnibus Budget Reconciliation Act of 1989 (OBRA 89) legislation and includes periodic screening, vision, dental and hearing services. In addition, section 1905(r)(5) of the Social Security Act requires that any medically necessary health care service listed at section 1905 (a) of the Act be provided to an EPSDT recipient even if the service is not available under the State's Medicaid plan to the rest of the Medicaid population.

Feeding relationship – An interactive process that depends on the abilities and characteristics of both parent and child that is essential for a child's proper nutrition and growth.

Health determinants – Factors which occur in varying degrees with each other to determine how susceptible individuals are to disease or, by comparison, how healthy individuals are day to day.

MMWR (Morbidity and Mortality Report Series) – A weekly report prepared by the CDC which includes provisional data, based on weekly reports to the CDC by State health departments.

Motivational interviewing – Motivational interviewing is a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence.

NHANES (National Health and Nutrition Examination Survey) – An ongoing nationwide survey that uses the statistics compiled together to guide actions and policies to improve the health of the nation. A team of researchers with expertise in the medical sciences, epidemiology, social science, survey and statistical methods, and nutrition, coordinate planning activities for NHANES interviews, laboratory, and examination components.

Nutrition assessment – The in-depth review and analysis of a person's medical and diet history, laboratory values, and anthropometric measurements to verify nutritional risk or malnutrition and identify underlying causes so that appropriate nutrition intervention, tailored to the needs of the individual, can be planned and initiated.

Nutrition education – Individual and group sessions and the provision of materials that are designed to improve health status and achieve positive change in dietary and physical activity habits, and that emphasize the relationship between nutrition, physical activity, and health, all in keeping with the personal and cultural preferences of the individual.

Nutrition services – The full range of activities performed by a variety of staff to operate a WIC Program, such as participant assessment and screening, nutrition education, nutrition, breastfeeding and health promotion, food package prescriptions, and health care referrals. WIC nutrition services encompass not only what WIC offers to participants but how WIC offers its services. At all levels this includes taking a fresh look at clinic environment, staff attitude, training and proficiency, materials and tools used, strategies for assessment, and nutrition education/ counseling techniques.

Pregravid – Refers to a woman's pre-pregnancy weight.

RQNS (Revitalizing Quality Nutrition Services) – An initiative of continuous program improvement at the Federal, State, and local levels, that is refocusing attention on nutrition services as the core benefits and heart of the WIC Program. Nutrition Services encompass the following: assessment for certification and counseling, nutrition education, food package prescription, breastfeeding promotion and support, and referrals to health and social services. WIC staff excels in many aspects of nutrition services, but more can be done in order to deliver quality nutrition services that impact participant behavior change.

RSV (Respiratory Syncytial Virus) – The most common respiratory virus in infants and young children. The virus causes symptoms resembling those of the common cold. In infants born prematurely and/or with chronic lung disease, RSV can cause a severe or even life-threatening disease.

Stages of Change - The Stages of Change Model evolved from work with smoking cessation and the treatment of drug and alcohol addiction and has recently been applied to a variety of other health behaviors. The basic premise is that behavior change is a *process* and not an event, and that individuals are at varying levels of motivation, or *readiness,* to change. People at different points in the process of change can benefit from different interventions, matched to their stage at that time.

VOC (Verfication of Certification) – Information pertaining to certification of WIC participants, which includes the name of the participant, the date the certification was performed, the date income eligibility was last determined, the nutritional risk condition of the participant, the date the certification period expires, the signature of the local agency certifying official, the name and address of the certifying local agency and a form of identification

VENA (Value Enhanced Nutrition Assessment) – The latest in a progression of projects and initiatives by the United States Department of Agriculture's Food and Nutrition Service to continually improve nutrition services for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).