LEVEL 1

WIC Certification Program

Nutrition Risk Factors

Module

State of Iowa Department of Health
and Human Services, WIC Program
321 E. 12th St., Des Moines, IA 50319
(515) 281-6650

IOWA WIC

STATE OF IOWA DEPARTMENT OF
Health AND Human
SERVICES

Revised October 2022

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Preface

In order for a person to qualify for the WIC Program they must meet four criteria:

1. **Categorically** eligible: A person must fall into one of the categories of people who are served by the WIC Program. The person must be a pregnant, breastfeeding or postpartum woman, an infant, or a child under the age of 5 years.
2. Meet **residency** requirements: The person must reside in the state of Iowa. Residency is defined as living in the state. There are no requirements for length of residence, legal status, immigration status or citizenship status.
3. Meet **financial** guidelines: The person meets adjunctive income eligibility requirements or their household income does not exceed WIC's Income Eligibility Guidelines (185% of the federal poverty level).
4. Have at least one qualifying **nutrition risk factor.**

Nutrition risk factors (NRFs) are the subject of this module. The *NRF Mo*dule is part of the Level I New Employee Training Course.

Complete the *Orientation Module* and *Screening Module* before working on this module. The *NRF Module* assumes that you know how to assess a person's nutrition practices, screen them with respect to height, weight and hemoglobin, and that you have basic knowledge of the Focus computer system and the panels involved to certify a participant on the WIC Program.

The *NRF Module* introduces you to the many NRFs. The Level II modules contain guidance on how to counsel WIC participants in relation to their assigned NRFs.

The supporting documents listed below, are available on the WIC Portal - Policies

- Iowa WIC Program's nutrition risk policies
  - Nutrition Risk Requirements
  - Nutrition Risk Definitions
  - Nutrition Risk Priorities
  - Nutrition Education Contacts
  - Nutrition Care Plans
- Iowa WIC Program Nutrition Risks

Section I: Introduction

What is a Nutrition Risk Factor?

A nutrition risk factor (NRF) is a condition or set of circumstances that indicate a person is either **more likely to get** or **already has** a nutrition-related problem.

WIC regulations define nutrition risk as:

- Detrimental or abnormal nutritional conditions detectable by biochemical or anthropometric measures
- Other documented nutritionally related medical conditions
- Conditions that predispose persons to inadequate nutritional patterns or nutritionally related medical conditions
- Dietary deficiencies that impair or endanger health, or
- Feeding practices with health or nutrition implications

Assigned NRFs serve as the foundation from which other WIC nutrition services (food benefits, referrals, nutrition education, and breastfeeding promotion and support) are provided.

The "*Risks and Critical Thinking Guides*" on the Resources section of the WIC Web Portal provides information on each NRF, including the definition, priority based on category, risk, justification, implications for nutrition services, and references. TheNutrition Risk Definitions policy, is a condensed version for your easy reference.

Priority

At every certification, Focus designates a priority level for each participant based on their category and assigned NRFs. Priorities range from 1 to 6 with 1 labeling those at the highest level of nutritional risk. Focus labels a participant's priority based on their assigned NRFs. When a participant is certified with 2 or more NRFs, the participant's priority is based on the NRF with the highest nutritional risk.

Priority is important when WIC has limited funding and cannot serve all people who are eligible for the WIC Program. Should state and/or local funding be insufficient to support existing caseload, a Waiting List is established. A participant's priority dictates whether they will receive WIC services and in what order. The lower the participant's priority number, the more likely the participant will be eligible to receive WIC benefits. For example, a priority 1 Pregnant Woman on the waiting list will be served sooner than a priority 6 Non-Breastfeeding Woman.

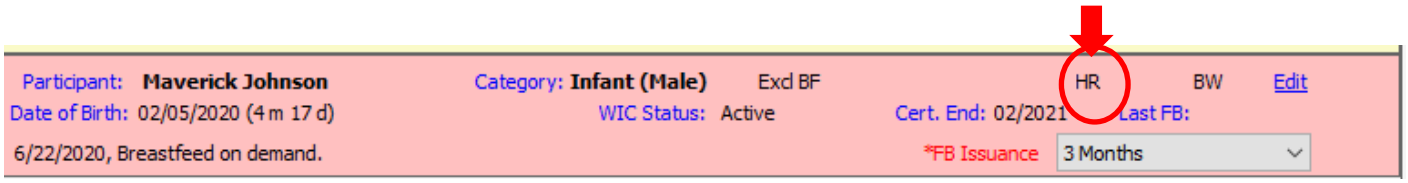
Risk

Most NRFs have a 3-digit numeric code, for example the code for the Low Maternal Weight Gain NRF is 131. A few NRFs have 4-digit codes that contain 3 numbers and 1 letter, for example the code for Short Stature is 121b. This character has been added to facilitate state reporting and

tracking of specific risks and nutrition practices. Each NRF is designated as high risk or low risk. Focus determines a participant's risk level based on his/her combined NRFs.

Low risk: The majority of NRFs are designated as low risk. When a participant is only assigned low risk NRFs, Focus designates this participant as low risk. CPAs are trained to provide nutrition education for participants designated as low risk.

High risk (HR): When a participant is assigned 1 or more high risk NRFs, Focus designates this participant as high risk and displays a check mark in the "High Risk" box on the Risk screen, and a black **HR** next to a high risk participant's name in the Family Heading in Focus (screen shot below). Every participant designated as high risk must be scheduled for at least one individual education contact by a licensed dietitian and have a nutrition care plan. This contact may take place at certification or at the second education contact. (Nutrition Education ContactsPolicy)



High and Low Risk: Identification and Follow-Up

The purpose of the high risk visit is to assess the participant's nutrition status, provide nutrition education/counseling, make referrals, and reinforce her health care provider's nutrition recommendations.

If a licensed dietitian (L.D.) certifies the high-risk participant and writes the nutrition care plan, this contact meets the policy requirement for one individual contact by a L.D. The L.D. should determine the appropriate level of service for the second education contact (L.D. or another CPA) and schedule it accordingly.
If a non-L.D. CPA certifies the high-risk participant, this CPA can:

- Write the initial care plan identifying the participant as high-risk
- Provide nutrition education, and
- Schedule a one-to-one second education contact with a L.D.

The additional assessment check box should be marked on the nutrition risk panel if a CPA determines that follow-up should occur with the participant. Typically, the participant would be scheduled for a follow-up appointment the following month.

Assigning Nutrition Risk Factors (NRFs) In Focus:

Auto or Manually Assigned NRFs

Some NRFs are "auto-assigned" meaning that Focus assigns the NRF based on information entered. Other NRFs are "manually-assigned"meaning that the NRF must be entered by the CPA.

Once the nutrition assessment is complete, access the Risk panel and click '*New*' and then '*Determine Risk*' to pull forward all risks identified during the assessment. Then manually-assign any additional applicable NRF's.

During Certification

NRFs are identified and assigned during the certification visit as part of the nutrition assessment. Most NRF's are assigned in the Assessment Branch. The Assessment Branch contains the Anthropometric, Pregnancy, Blood, Nutrition Interview, and Risk panels. Once the assessment has been completed in the Anthropometric, Pregnancy, Blood, and Nutrition Interviews, the participant's level of risk is finalized in the Risk panel. A few NRFs, such as Homelessness and Migrancy, are assigned in the Family/Intake Branch on the Contact/Address panel. Focus automatically assigns some risk factors based on information entered. Examples of NRFs assigned by Focus are 121-Short Stature and 201-Low Hemoglobin. Focus assigns these NRFs based on information entered on the Anthropometric panel or the Blood panel. Nutrition Practice Risk Factors and Clinical/Health/Medical Conditions are "manually-assigned" by checking a box on the Nutrition Interview panel or highlighting and adding them in the Risk panel.

Once a participant's certification process is complete, risk factors assigned to a participant cannot be removed until the next certification period.

After the Certification Visit

During visits following the certification visit, new information may be presented that signals assignment of a new NRF. For example, a pregnant woman may initially be certified on the WIC Program with 1 nutrition risk factor. During her visit 3 months later, she informs you that she has just been diagnosed with gestational diabetes. You must then add NRF 302-Gestational Diabetes to her Focus record. To do so, access the Risk panel, select 'New' on the Risk panel, then select NRF 302 from the Clinical/Health/Medical Risks. By adding this new risk factor, Focus will change her priority to "1" and her risk to "high". When doing this you also want to make sure all of the risks that were assigned to the particpant at the certification are still on the risk panel when you add the new risk. If any have dropped off you will need to manually assign them.

More Information on Assigning Risk Factors

How do you know which risk factors to assign? After reviewing the risk factor tables you may feel overwhelmed and wonder how you will ever remember them all. Actually, it's not that hard. You do not need to memorize all of the risk factors but you will need to be familiar with those NRFs that are manually-assigned. Focus assigns the other risk factors as you navigate through each of the following panels within the Assessment Branch.

Pregnancy panel

Enter the pregnant woman's Estimated Due Date (EDD) and her pre-pregnant weight. Focus automatically calculates the number of weeks gestation. If the woman is pregnant with twins or triplets, when you check the box next to *Multifetal Gestation* and enter the number of expected babies, Focus assigns that risk factor.

At the first visit following the birth of her baby, enter the actual delivery date and total weight gained. Focus links the infant to the mother from information entered on this panel.

Anthropometric panel

Enter the participant's heights/lengths and weights in this panel. Based on these measurements, Focus automatically plots these measurements on the automated growth charts. Some anthropometric NRF's are auto-assigned by Focus while other NRFs must be assigned by you.

Take time to review the Growth Charts and Prenatal Weight Gain charts with the participant. The infant/child growth grids and prenatal grids are the best tools to illustrate a growth pattern. Move the computer monitor so that both you and the participant/guardian can view the growth charts during the growth discussion.

Blood panel

Hemoglobin: Enter the participant's hemoglobin value on this panel. Focus assigns NRF 201 Low Hemoglobin/Low Hematocrit when the value fall below those stated in the Nutrition Risk Definitions policy. Values from this table are programmed into Focus.

Lead: The definition for NRF 211 Elevated Blood Lead Level reflects current guidance from the CDC.

- **Definition/Cut-off Value:** Blood lead level of ≥ 5 µg/deciliter within the past 12 months.
- To assign NRF 211, when participants report a blood lead level ≥ 5 µg/deciliter within the past 12 months:
    1. Select **"Yes"** to **Tested for Lead in the Last Year**.
    2. If the blood lead level reported was **≥ 5 µg/deciliter**, select **"Yes"** from the **Lead Level 5 µg/dl or Higher** drop down.
    3. Enter the reported blood lead level.

Nutrition Interview

The Nutrition Interview contains categories of topics such as: Health/Medical, Immunizations, Oral Health, Lifestyle, Nutrition Practices, Social Environment, BF Preparation, and Mother's WIC Participation. The topics displayed depend on the participant category. Checking certain boxes in the Nutrition Interview assigns NRFs. There are text boxes in the Nutrition Interview as well. Information entered in the text boxes is also displayed in the Participant Care Plan, therefore it is important to type complete sentences in the nutrition interview text boxes.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Complete the following columns, using the Nutrition Risk Definitions policy.

Nutrition Risk Factor	NRF Code	Low (L) or High (H) Risk
Underweight Infant < 24 months and ≤ 2.3rd percentile weight-for-length as plotted on the CDC Birth to 24 months' gender specific growth charts.		
Pregnant woman who conceived this pregnancy when she was 15 years old.		
Eight month old infant who is only consuming iron-fortified infant formula. Mom is not allowing solids because they are messy.		
Thirteen month old child who drinks fruit juice in a bottle on a regular basis.		
Breastfeeding woman with mastitis.		
Child from a family who is currently homeless.		
Breastfeeding woman who is following a strict vegan diet.		
Infant whose birth weight was 8 pounds and who now weighs 7 pounds 2 weeks later.		
Postpartum (non-breastfeeding) woman whose hemoglobin level falls within WIC's "Low Hemoglobin" range.		

ANSWERS

Nutrition Risk Factor	NRF Code	Low (L) or High (H) Risk
Underweight Infant < 24 months and ≤ 2.3rd percentile weight-for-length as plotted on the CDC Birth to 24 months' gender specific growth charts.	103b	H
Pregnant woman conceived this pregnancy when she was 15 years old.	331A	H
Eight month old infant who is only consuming iron-fortified infant formula. Mom is not allowing solids because they are messy.	411D	L
Thirteen month old child who drinks fruit juice in a bottle on a regular basis.	425C	L
Breastfeeding woman with mastitis.	602C	L
Child from a family who is currently homeless.	801	L
Breastfeeding woman who is following a strict vegan diet.	427B	H
Infant whose birth weight was 8 pounds and who now weighs 7 pounds 2 weeks later.	135	H
Postpartum (non-breastfeeding) woman whose hemoglobin level falls within WIC's "Low Hemoglobin" range.	201	H

Section II: Nutrition Risk Factors: Pregnant Woman

Good nutrition during pregnancy is essential for good health of the mother and fetus. A woman needs the right balance of nutrients to maintain her own health and to properly support the growth of her developing fetus. Poor nutrition can seriously affect the health of either. The effects of poor nutrition on a developing fetus can last a lifetime.

An important part of every nutritional assessment is nutrition practices – that is, whether routine eating habits meet the participant's specific nutritional needs. NRF 427 Inappropriate Nutrition Practices for Women is the nutrition practices NRF for all women, whether pregnant, breastfeeding or non-breastfeeding.

Please review the detailed description of NRF 427 in the Nutrition Risk Definitions policy before completing the self-check below.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Below are two case studies. Read through each case study. Using the risk factors in the Nutrition Risk Definitions policy, list all NRF codes and descriptions that apply. Ordinarily, some NRFs would be Auto-assigned by Focus. For learning purposes, you will assign both Auto and Manually-assigned NRFs. Also, indicate if the NRF assigned is high or low risk.

Case #1: Pregnant woman, 25 years old in 1st trimester – prenatal weight, weight gain and hemoglobin are within normal range.

- Currently lives in a shelter for battered women
- Drinks unpasteurized milk
- Reports craving and eating chalk

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

Case #2: Pregnant woman, 19 year old in 2nd trimester – prenatal weight, weight gain and hemoglobin are within normal range.

- Takes a prenatal vitamin plus a 500 mg vitamin C tablet per day (her doctor did not recommend the vitamin C)
- Vegan - Does not eat ANY animal products
- Drinks 2 wine coolers to help her relax in the evening

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

ANSWERS

Case #1:

NRF Code and Description		Risk
801	Homelessness (lives in shelter)	L
901	Recipient of abuse/neglect	L
427e	Ingesting foods that could be contaminated with pathogenic microorganisms	H
427c	Compulsively ingesting non-food items (pica)	H

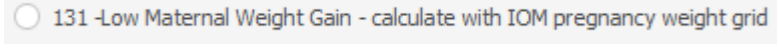
High Risk or Low Risk? **High**

Case #2:

NRF Code and Description		Risk
331b	LMP at ≥ 16 and ≤ 20 years	H
427a	Potentially harmful dietary supplements	L
427b	Diet very low in calories or essential nutrients (she is a vegan)	H
372a	Alcohol Use	H

High Risk or Low Risk? **High**

NRFs Related to Weight During Pregnancy:

Focus assigns **101-Underweight** and **111-Overweight** based on the woman's pre-pregnancy BMI value. Focus calculates the woman's BMI using the woman's pre-pregnancy weight entered in the Pregnancy panel and her height entered in the Anthropometric panel.
The CPA assigns **131-Low Maternal Weight Gain** by checking the appropriate box on either the Anthropometric panel 

or the Risk panel, at any point during a singleton pregnancy when the weight plots below the bottom line of the appropriate weight gain range for her respective pre-pregnancy weight category – **or** – when

weight gain in the 2nd or 3rd trimester (14 – 40 weeks gestation) is lower than the following recommendations for her prepregnancy weight category.

Prepregnancy Weight Classification	BMI	Total Weight Gain (lbs)/ per week
Underweight	<18.5	<1
Normal Weight	18.5 - 24.9	< 0.8
Overweight	25.0-29.9	<0.5
Obese	≥30.0	<0.4

Similarly, the CPA would assign **133-High Maternal Weight Gain** using one of the two aforementioned options at any point during a singleton pregnancy when the weight plots above the top line of the appropriate weight gain range for her respective pre-pregnancy weight category **- or –** when weight gain in the 2nd or 3rd trimester (14 – 40 weeks gestation) is higher than the following recommendations for her prepregnancy weight category.

Prepregnancy Weight Classification	BMI	Total Weight Gain (lbs)/ per week
Underweight	<18.5	> 1.3
Normal Weight	18.5 - 24.9	> 1
Overweight	25.0-29.9	> 0.7
Obese	≥30.0	> 0.6

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Below are two case studies. Read through each case study. Using the risk factors in the Nutrition Risk Definitions policy, list all NRF codes and descriptions that apply. Also, indicate if the NRF assigned is high or low risk.

1. Maria (certification visit)

- 20 years old
- Height = 5 feet 5 inches
- Pre-pregnancy weight = 139 pounds (Pre-pregnancy BMI = 23.1)
- Current weight at 24 weeks = 159 pounds
- Started prenatal care during the 3rd month
- Hemoglobin level was within normal range
- Not taking prenatal vitamins/minerals
- Drank alcohol until she found out she was pregnant and stopped
- No smoking or drugs
- Was diagnosed by a physician as having diabetes mellitus one year ago

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

2. Margaret (certification visit) Hint: Use the Prenatal Weight Gain Chart at the end of this module to plot her growth.

- Pregnant 17 year old (conceived when 16 years old) now in her 22nd week
- Hemoglobin level was within normal range
- Non-smoker, no drugs, no alcohol
- Height = 5 feet
- Pre-pregnancy weight = 92 pounds (Pre-pregnancy BMI = 18; pre-pregnancy BMI is underweight)
- Current weight at 16 weeks = 96 pounds
- Not taking prenatal vitamin/mineral but takes ginseng, Echinacea, and calcium because her Aunt Mae told her they were good for her
- Has nausea and vomiting
- Prenatal care began during the 2nd month

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

ANSWERS

1. Maria

NRF Code and Description		Risk
133	High maternal weight gain (for singleton pregnancies)	L
427d	Inadequate vitamin/mineral supplementation recognized as essential by national public health policy	L
343	Diabetes Mellitus (this is not gestational diabetes since she was diagnosed over one year ago. Diagnosis was made by a physician.)	H

High or LowRisk? High

- Maria is high risk due to NRF 343 Diabetes Mellitus.
- Maria is a normal weight woman (Pre-Pregnancy BMI = 23.1). Her weight gain for a singleton pregnancy is above her recommended curve, so her weight gain is high.
- Maria started prenatal care at 3 months (1st trimester) so cannot be risked for inadequate prenatal care.
- She is not risked for alcohol consumption because she is not CURRENTLY drinking.

2. Margaret

331b	Pregnancy at a young age	H
101	Underweight/women	L
131	Low maternal weight gain	H
427d	Inadequate vitamin/mineral supplementation recognized as essential by national public health	L
427a	Potentially harmful dietary supplements	L

High or Low Risk? High

- Margaret is at high risk due to NRF 131 and 331b.
- Nausea and vomiting are not a risk factor unless they are part of hyperemesis gravidarum.

Section III: Nutrition Risk Factors: Breastfeeding and Non-Breastfeeding Women

Good nutrition continues to be important for the woman who has just delivered her baby. Pregnancy requires large amounts of nutrients and often depletes a woman's body of nutrient stores. Good nutrition replenishes a postpartum woman's nutrient stores and is essential for preparing her for a future pregnancy. Breastfeeding women have higher nutrient requirements than pregnant women.

The NRFs for postpartum women are similar to those for pregnant women. Some NRFs are identical while others have slightly different definitions. For example, **NRF 133 High Maternal Weight Gain** has slightly different definitions depending on the woman's category:

- **NRF 133 High Maternal Weight Gain** (Pregnant Woman): At any point in a singleton pregnancy, her weight plots at any point above the top line of the appropriate weight gain range for her respective pre-pregnancy weight category or when weight gain in the 2nd or 3rd trimester (14 – 40 weeks gestation) is higher than the recommendations for her prepregnancy weight category.

- **NRF 133 High Maternal Weight Gain** (Breastfeeding or Non-Breastfeeding): **Weight gain** in the most recent pregnancy exceeded these levels based on prepregnancy BMI. Focus assigns NRF 133 according to the following chart
  Underweight >40 lb.
  Normal weight >35 lb.
  Overweight >25 lb.
  Obese > 20 lb.

Note: For all categories, NRF 133 can be assigned to singleton pregnancies only.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Below are two case studies of postpartum women. One woman is breastfeeding and the other is not. Using the information given, list all NRFs that apply and determine her risk.

1. Matilda (recertification visit)

- 24-year-old breastfeeding woman complaining of sore, cracked nipples
- First pregnancy
- Height = 5 feet 7 inches, current weight 160 pounds (BMI = 25.1)
- Pre-pregnancy weight 140 (Pre-pregnancy BMI = 21.9);
- Gained 38 pounds with pregnancy
- Hemoglobin within normal limits
- Matilda is no longer taking prenatal vitamins
- Infant is 2 weeks old today and enrolled on WIC
- Infant's birth weight was 7 pounds 12 ounces
- Infant's length is at the 50th percentile for age

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

2. Janet (recertification visit)

- 18-year-old, non-breastfeeding, postpartum woman (conceived while 17 years old)
- First pregnancy
- Height = 5 feet 10 inches
- Pre-pregnancy weight = 120 pounds (Pre-pregnancy BMI = 17.2)
- Gained 22 pounds during pregnancy
- Current weight = 128 pounds (BMI = 18.4)
- Hemoglobin is 11.8 gms
- Infant born at 37 weeks weighing 6 pounds
- Following the grapefruit diet to lose her pregnancy weight

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

ANSWERS

1. Matilda

NRF Code and Description		Risk
602e	Cracked, bleeding or severely sore nipples)	L
133	High Maternal Weight Gain	L
427d	Inadequate vitamin/mineral supplementation recognized as essential by national public health policy	L

High or Low Risk? **Low Risk**

- Participant is low risk as all assigned NRFs are low risk. Overweight (NRF 111) is not risked because, since Matilda is less than 6 months post-partum, overweight status is based on her pre-pregnancy weight rather than current weight. Her pre-pregnancy weight was normal.

2. Janet

NRF Code and Description		Risk
331b	Pregnancy at a young age	H
101	Underweight/women	L
201	Low hemoglobin/hematocrit	H
311b	History of early term delivery	H
427b	Diet very low in calories or essential nutrients	H

High or Low Risk? **High Risk**

- Participant is high risk as all assigned NRFs but 101 are high risk.

Section IV: Growth Related Risk Factors: Infants and Children

A common method to evaluate a child's nutritional status is to compare his growth against growth standards. The rate of gain during infancy, especially early infancy is rapid. Deviations from normal rates of weight gain can be detected in just a few weeks. However, children over one year of age grow more slowly and it may take months to recognize a growth problem.

Infants and children with abnormal rates of growth may benefit from nutrition and health interventions. Nutritious foods, nutrition education, and referrals to other health and social services can make a significant difference in the health of the child even into adulthood. A very important part of the WIC assessment includes assessing and assigning NRFs related to growth and identifying when to refer to a health care provider.

Studies show that evaluation of eating practices during early childhood provides a great opportunity for preventive intervention. For example, infants and toddlers whose parents/guardians respond to their child's hunger and fullness cues have a lower chance for obesity.

Growth Charts

WIC uses the Centers for Disease Control (CDC) growth charts for children birth through 24 months of age. Because these charts are based on growth standards determined by the World Health Organization (WHO), WIC commonly refers to these charts as the "WHO Charts." WIC uses the 2000 CDC growth charts for children 2 to 5 years of age. WIC refers to these as the "CDC Charts."

When the WIC staff person enters height and weight measurements in Focus, Focus plots these values onto automated growth charts. Growth charts can be printed at any time.

Growth related NRFs:

Assessing whether a infant or child has growth related issues generally involves determining whether the participant:

1) is overweight, underweight, short stature and
2) is gaining weight at the proper rate.

WIC policy requires heights and weights at <u>every</u> certification, recertification, and at one health update.

The main categories of growth related NRFs with information specific to assignment of that NRF follow. As you read each one, please also review that NRF's description in the Nutrition Risk Definitions policy.

Remember:
Infants and children under 2 years of age are measured lying down, in a *recumbent* position. This measurement is called "length." Children age two years and older are measured standing up. This measurement is called "height" or "stature." Recumbent and standing height measurement values of the same child will differ.

Underweight:

NRFs 103A & 103B are assigned by Focus and indicate a possibility that the infant or child may not be receiving adequate nutrients for normal growth.

- **NRF 103a – At Risk of Underweight/infants & children:**
  - < 24 months — > 2.3rd percentile and ≤ 5th percentile weight-for-length as plotted on the CDC Birth to 24 months' gender specific growth charts
  - 24 months — > 5th percentile and ≤ 10th percentile BMI-for-age as plotted on the 2000 CDC age/gender specific growth charts

- **NRF 103b – Underweight/infants & children:**
  - < 24 months — ≤ 2.3rd percentile weight-for-length as plotted on the CDC Birth to 24 months' gender specific growth charts
  - ≥ 24 months — ≤ 5th percentile BMI-for-age as plotted on the 2000 CDC age/gender specific growth charts

Overweight:

- **NRF 113 – Obese**
  Child (2-5 years of age): ≥ 95th percentile Body Mass Index (BMI)-for-age.

  Focus auto assigns this NRF to children over 2 years of age.

- **NRF 114 – Overweight or at risk of overweight**
  Focus assigns this NRF to an infant (< 12 months) when the mother's pre-pregnancy BMI in Focus (in her pregnancy record) is greater than or equal to 30 and to a child 2-5 years of age with a Body Mass Index (BMI) for age that plots between ≥ 85th and < 95th percentiles.

- **NRF 115 – High Weight-for-Length birth to < 24 months**
  Focus assigned NRF that applies to babies and children < 24 months of age when weight-for-length is greater than or equal (≥) to the 97.7th percentile.

Short stature:

- **121a - At Risk for Short Stature & 121b - Short Stature**
  Short stature in babies and children can be related to a diet that is lacking in total energy or to a diet of poor nutrient quality, especially protein. Short stature can also result from certain disease conditions.

  That being said, a growth plot less than the 5th percentile may also be "normal" for some infants and children. Proper evaluation determines whether their short stature is "normal" or due to limited nutrition or a medical condition. Focus assigns both 121a and 121b using

lengths and weights entered on the Anthropometric panel. If an infant's or child's length/height-for-age falls within these ranges after the certification visit, the system assigns these risk factors on the Risk panel when the Determine Risk button is pushed. Both 121a and 121b are low-risk NRFs.

Note: When a child between 24-36 months of age can only be measured lying down, the CPA will need to designate this measurement as "inaccurate"and select the reason from the drop down list. Focus plots this growth in red on the 2-5 years height-for-age chart. The user designates this measurement as "inaccurate" in Focus because a recumbent measurement is plotted on a height-for age chart.

NRF 135 - Slowed/Faltering Growth Pattern

Focus assigned risk factor

- **Infants** (*birth to 2 weeks of age*) - Excessive weight loss after birth, defined as ≥ 7% birth weight.

- **Infant** *(from 2 weeks to 6 months of age):* Any weight loss using two separate weight measurements taken at least 8 weeks apart.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Below are 3 opportunities to assess for inadequate growth. Indicate which of the inadequate growth risk factors apply in each case.

1. Gloria, 2-week-old infant
   - Birth weight 8 pounds 0 ounces.
   - Current weight 7 pounds 6 ounces at 1 week of age.

   List the NRF that applies: _____ Is the participant High or Low Risk? _____

2. Travis, 4-month-old infant
   - Weight at 2 months= 11 pounds.
   - Weight at 4 months= 10 pounds 8 ounces.

   List the NRF that applies: _____ Is the participant High or Low Risk? _____

3. Bella, 2-year-old child
   - At the child's 24 months certification visit, her BMI for age was 8% and she was risked NRF 103B – At Risk of Underweight. Now, at her 30 month mid-certification visit, her BMI for age has dropped to 5%. You find out that she has been bedridden for the past three months.

List the NRF that applies: _____ Is the participant High or Low Risk? _____

ANSWERS

1. Gloria, 1-week-old infant

- List the NRF that applies: **NRF 135 - Slowed/Faltering Growth Pattern** (excessive weight loss after birth, defined as ≥ 7% birth weight).
- High or Low Risk? **High risk**

2. Travis, 4- month-old infant

- List the NRF that applies: **NRF 135 - Slowed/Faltering Growth Pattern** (any weight loss between two weight measurements taken at least eight weeks apart).
- High or Low Risk? **High risk**

3. Bella, 2-year-old child

- List the NRF that applies: **NRF 103b: Underweight**
- High or Low Risk? **High risk**

Section V: Nutrition Practice (Or Dietary Related) NRFs for Infants and Children

Good nutrition is critical for infants. Poor nutrition can have a greater and quicker impact on an infant's health than at any other time during their life. Infants depend on a single food (breast milk or formula) for much of their first year of life to give them nutrients they need to grow and stay healthy. Small deficiencies in their nutrition can quickly and seriously impact their growth and development.

Nutrition continues to be important as an infant becomes a child. Nutrition is important for normal growth and development. While a child's diet is more varied than an infant's diet, the child is still susceptible to nutritional deficiencies. Children are also in the process of developing food habits that they continue to practice for life.

Nutrition Practice NRFs

There are two Nutrition Practice NRFs for infants and children:

- 411 – Inappropriate Nutrition Practices for Infants
- 425 – Inappropriate Nutrition Practices for Children

Both Nutrition Practice NRFs have sub-categories depending on the dietary problem observed. Please see the Nutrition Risk Definitions policy for subcategories & their corresponding NRF codes.

Most of the NRFs that may be assigned to children are the same as those that may be applied to infants. There are only a few that are unique to children or that have special definitions that apply only to children. Note that priority and risk for many of the risk factors are different for children than they are for infants.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

The following exercise will help you become familiar with the nutrition practice infant NRFs. For each condition, list the risk factor or risk factors that apply (if any). Please see the Nutrition Risk Definitions policy for subcategories & corresponding NRF codes.

Infant NRF#	**Condition**
_____	Mother mixes infant formula with bottled water that does not contain fluoride.
_____	Infant is fed formula from a bottle. Bottle with remaining formula is returned to the refrigerator and used with the next feeding.
_____	Mother routinely adds sugar to the infant's bottle.
_____	Infant is routinely fed in a car seat with the bottle propped.
_____	9-month-old infant is eating shaved deli meat (cold).
_____	5-month-old infant is getting low iron formula.
_____	Infant cereal is added to the infant's (5 months old) bottle on a regular basis.
_____	1-month-old exclusively breastfed infant is fed at scheduled times every 4 hours.
_____	2-month-old infant is offered 4 ounces herbal remedy tea every day.
_____	Mother mixes formula with more water to make it last all month.

The following exercise will help you become familiar with the nutrition practice child NRFs. For each condition, list the risk factor or risk factors that apply (if any).

Child NRF#	Condition
_____	Child routinely drinks an unfortified rice-based beverage.
_____	Child takes a bottle to bed.
_____	Child takes 2 multi-vitamins each day instead of one as directed on label.
_____	Mother blends the child's diet, even though the child can eat chopped soft foods.
_____	28 month-old child is eating sliced deli meat (cold).
_____	Child loves to eat dirt and mom cannot get him to stop.

ANSWERS

Infant NRF#	Condition
411k	Mother mixes infant formula with bottled water that does not contain fluoride.
411Ii	Infant is fed formula from a bottle. Bottle with remaining formula is returned to the refrigerator and used with the next feeding.
411c, 411b	Mother routinely adds sugar to the infant's bottle.
411b	Infant is routinely fed in a car seat with the bottle propped.
411e	9-month-old infant is eating shaved deli meat (cold.)
411a	5-month-old-infant is getting low iron formula.
411b, 411c, 411d	Infant cereal is added to the infant's (5 month old) bottle on a regular basis.
411g	1-month-old exclusively breastfed infant is fed at scheduled times every 4 hours.
411j	2-month-old infant is offered 4 ounces herbal remedy tea every day.
411f	Mother mixes formula with more water to make it last all month.

Child NRF#	Condition
425a	Child routinely drinks an unfortified rice-based beverage.
425c	Child takes a bottle to bed.
425g	Child takes 2 multi-vitamins each day.
425d	Mother blenderizes the child's diet, even though the child can eat chopped soft foods.
425e	28 month-old child is eating sliced deli meat (cold).
425i	Child loves to eat dirt.

Section VI: "Last Ditch" NRFs For Women, Infants and Children

The following two NRFs are available for assignment when a complete nutrition assessment has been performed and no other risk factors have been identified. **Focus does not allow assignment of these NRFs in the Risk panel when other NRFs have already been assigned.**

401: Failure to meet Dietary Guidelines for Americans
Women and children two years of age and older who meet the eligibility requirements of income, categorical, and residency status may be presumed to be at nutrition risk based for Failure to Meet Dietary Guidelines for Americans. Based on an individual's estimated energy needs, the Failure to Meet Dietary Guidelines is defined as consuming fewer than the recommended number of servings from one or more of the basic food groups (grains, fruits, vegetables, milk products, and meat or beans).

428: Dietary risk associated with complementary feeding practices
Assign NRF 428 when an infant (> 4 months) or child (< 24 months) has begun to or is expected to begin to:

1) Consume complementary foods and beverages,
2) Eat independently,
3) Be weaned from breast milk or infant formula, or
4) Transition from a diet based on infant/toddler foods to one based on the Dietary Guidelines for Americans.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

1. **John, 6-week-old infant (certification visit)**
    - Fed iron-fortified formula in a bottle, powdered formula mixed and stored appropriately.
    - Birth weight = 5 pounds 4 ounces.
    - Born at 35 weeks gestation.
    - Mom was on WIC when she was pregnant and is now enrolled as a postpartum woman.
    - Father smokes cigarettes in the home where John, his mother and father live.

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

2. **Rachel, 9-month-old infant (certification visit)**
    - Breastfed exclusively other than a bottle of corn syrup sweetened water (4 ounces) that is given before an afternoon nap.
    - Eats whole, uncut grapes
    - Height and weight are within normal limits
    - Infant is breastfed 8-12 times a day

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

3. Katie, 16-month-old girl (certification visit)

- Height, weight and hemoglobin within normal ranges
- Mom reports that she took Katie to an allergy specialist (physician) who diagnosed her with allergies to peanuts, milk, and soy
- Eats table foods, can feed herself with spoon and cup
- Gets fruit juice in her bottle

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

4. Bobby, 3-year 2-month-old boy (recertification visit)

- Current weight = 24 pounds 12 ounces; current height = 35 inches
  - (Wt/age = 0.5%, ht/age = 4.27%, BMI/age = 4.1%)
- Hemoglobin low
- Takes a children's one-a-day multivitamin/mineral daily
- Eats dirt any chance he gets when playing outside

NRF Code and Description	Risk

Is the participant High or Low Risk? _____

ANSWERS

1. John

NRF Code and Description		Risk
142a	Preterm (infant born ≤ 36 6/7 weeks gestation)	H
141a	Low birth weight	H
701	Mother on WIC while pregnant or mother not on WIC but was at nutrition risk	L
904	Environmental tobacco smoke exposure	L

Is the participant High or Low Risk? **High risk**

2. Rachel

NRF Code and Description		Risk
411b	Routinely using nursing bottles or cups improperly (feeding any sugar-containing fluids)	L
411c	Inappropriatecomplementary foods Sugar/corn syrup added to beverage/food/pacifier	L
411d	Feeding practices disregard developmental feeding foods of inappropriate consistency, size or shape that put infant at risk for choking)	L

Is the participant High or Low Risk? **Low risk**

3. Katie

NRF Code and Description		Risk
353	Food allergies	H
425c	Routinely using nursing bottles, cups, or pacifiers improperly (using a bottle beyond 14 months of age and using a bottle to feed fruit juice)	L

Is the participant High or Low Risk? **High risk**

4. Bobby

NRF Code and Description		Risk
103b	Underweight/infants & children (BMI for age ≤ 5th percentile)	H
121b	Short Stature (≤5th percentile height for age)	L
201	Low hemoglobin/ hematocrit	H
425i	Routine ingestion of nonfood items (pica)	H

Is the participant High or Low Risk? **High risk**

- NRF 103b, 201 and 425i all put the participant at high risk.

Section VII: Clinical/Health/Medical Conditions

One final component completes the nutrition assessment – whether or not the participant has an underlying condition that could potentially impact or actually interfere with achieving good nutritional status.

Clinical/Health/Medical Condition NRFs

The table below includes all the clinical/health/medical condition NRFs. Please refer to the Nutrition Risk Definitions policy for definitions and participant categories. A detailed description of each condition is included in the Risks and Critical Thinking Guides section of the Resources page on the WIC Web Portal.

Focus Codes	Nutrition Risk Factor	Risk
301	Hyperemesis Gravidarum*	H
302	Gestational Diabetes*	H
303	History of Gestational Diabetes*	L
304	History of Preeclampsia*	H
311a	History of Preterm Delivery: Delivery of an infant born ≤ 36 6/7 weeks gestation: **Pregnant:** Any history of preterm delivery **Breastfeeding/Non-Breastfeeding:** Most recent pregnancy	H
311b	History of Early Term Delivery: Delivery of an infant born >37 0/7 and <38 6/7 weeks: **Pregnant:** Any history of early term delivery **Breastfeeding/Non-Breastfeeding:** Most recent pregnancy	H
312	History of Low Birth Weight	L
321	History of Spontaneous Abortion, Fetal or Neonatal Loss **321a Pregnant:** history of fetal or neonatal death or 2 or more spontaneous abortions **321b Breastfeeding:** most recent pregnancy in which there was a multifetal gestation with one or more fetal or neonatal deaths but with one or more infants still living **321c Non-Breastfeeding:** Spontaneous abortion, fetal or neonatal loss in most recent pregnancy	L
331	331a: < 16 years 331b: ≥16 and ≤ 20 years Pregnant: Current pregnancy Breastfeeding/Non-Breastfeeding: Most recent pregnancy	H

Focus Codes	Nutrition Risk Factor	Risk
332	Short Interpregnancy Interval	L
334	Lack of or Inadequate Prenatal Care	H
335	Multi-fetal Gestation Pregnant Breastfeeding Non-Breastfeeding	 H H H
336	Fetal Growth Restriction (FGR)*	H
337	History of Birth of a Large for Gestational Age Infant*	L
338	Pregnant Woman Currently Breastfeeding	H
339	History of Birth with a Nutrition Related Congenital or Birth Defect*	L
341	Nutrient Deficiency or Disease*	H
342	Gastro-Intestinal Disorders*	H
343	Diabetes Mellitus*	H
344	Thyroid Disorders*	H
345	Hypertension and Prehypertension*	H
346	Renal Disease*	H
347	Cancer*	H
348	Central Nervous System Disorders*	H
349	Genetic or Congenital Disorders*	H
351	Inborn Error of Metabolism*	H
352a	Infectious Diseases - Acute*	H
352b	Infectious Diseases – Chronic*	H
353	Food Allergies*	H
354	Celiac Disease*	H
355	Lactose Intolerance	H
356	Hypoglycemia*	H
357	Drug Nutrient Interactions	L
358	Eating Disorders**	H
359	Recent Major Surgery, Trauma, Burns	H
360	Other Medical Conditions*	L
361	Depression*	H
362	Developmental, Sensory, or Motor Delays Interfering with the Ability to Eat	H
363	Pre-Diabetes*	H

Focus Codes	Nutrition Risk Factor	Risk
371	Nicotine and Tobacco Use	L
372	Alcohol and Substance Use o 372A -Any current alcohol use (pregnant women), High risk drinking or binge drinking (breastfeeding and non-breastfeeding woman) o 372B - Any current illegal drug use, abuse of prescription medications or marijuana use in any form (pregnant women), any illegal substance use and/or abuse of prescription medications (breastfeeding and non-breastfeeding women) or marijuana use in any form (breastfeeding women)	H H
381	Oral Health Conditions	L
382	Fetal Alcohol Spectrum Disorders*	H
383	Neonatal Abstinence Syndrome*	H

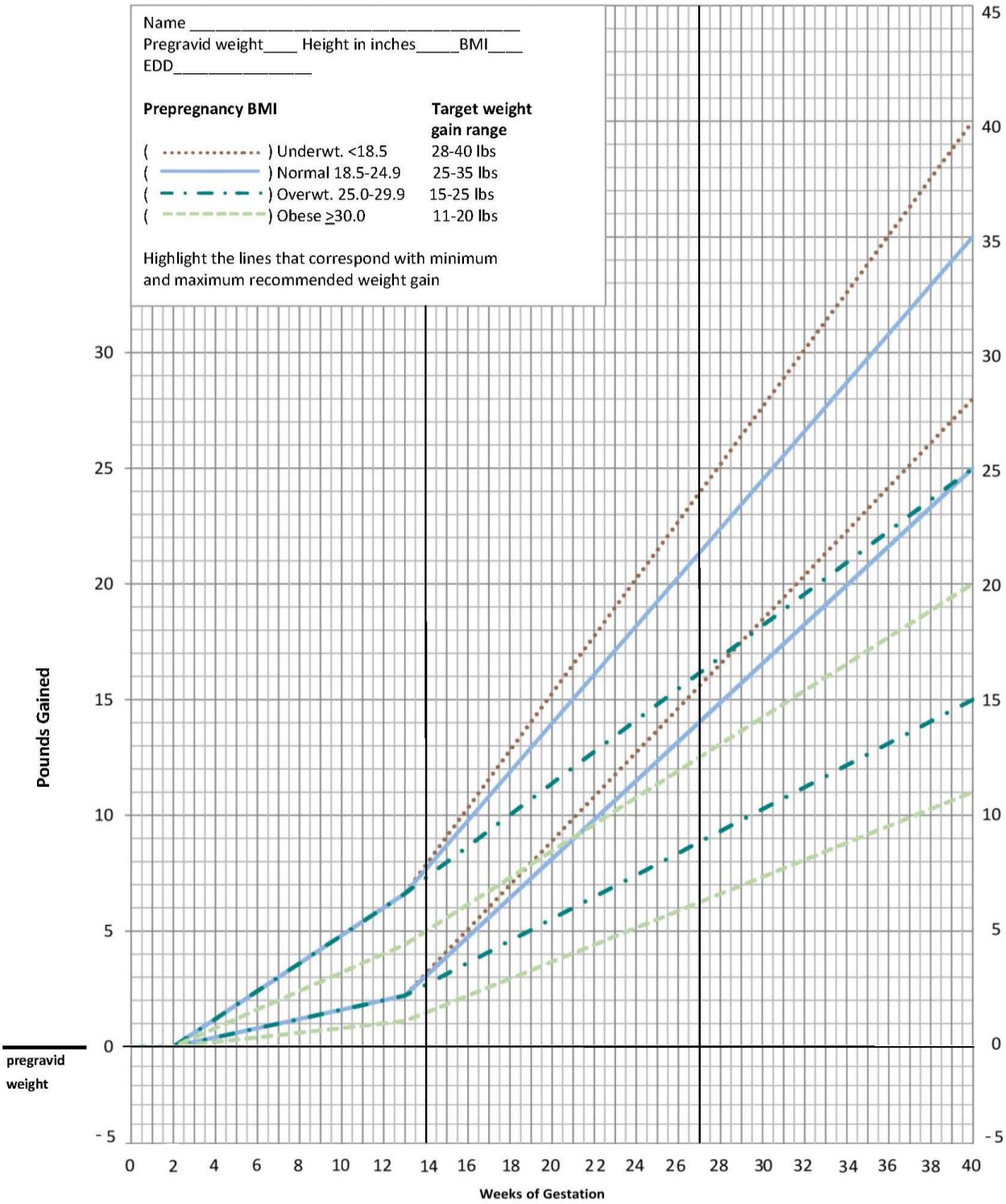
* Presence of medical conditions(s) diagnosed, documented, or reported by a physician or someone working under a physician's orders, or as self reported by applicant/participant/caregiver. A self-reported diagnosis (My doctor says that I have/my son or daughter has…") should prompt the WIC user to validate the presence of the condition by asking more pointed questions related to that diagnosis.

PRENATAL WEIGHT GAIN CHART

Name _____
Pregravid weight____ Height in inches_____BMI____
EDD_____

Prepregnancy BMI	Target weight gain range
(·····) Underwt. <18.5	28-40 lbs
(———) Normal 18.5-24.9	25-35 lbs
(- · - · -) Overwt. 25.0-29.9	15-25 lbs
(– – –) Obese ≥30.0	11-20 lbs

Highlight the lines that correspond with minimum and maximum recommended weight gain



Current weight and date _____
Weight last visit _____
Change since last visit _____

WIC # 124 (revised 09/10)

Training Activity

Now that you have completed this module, please take the Nutrition Risk Factor Module online post test located on the WIC Web Portal Training Personnel page. **Good luck to you!**