Welcome to the first part of this three-prong series funded by a USDA Professional Standards Grant. The goal of this series of trainings will be to assist sponsors in strengthening their current menu planning system as it relates to cycle menus, the use of cycle menus to best utilize supplies and USDA Foods, and procurement of foods that meet meal pattern requirements while still complying with other Federal, State, and local regulations.

Here at the Oregon Department of Education, Child Nutrition Programs, we agree with - -Cecilia Munoz, assistant to the president and director of the Domestic Policy Council - “We believe that the evidence is incredibly compelling that if you want kids to succeed, you need to make sure that they eat sufficiently…’And let us add, eat healthfully.

Please take a few moments to take this module’s pre assessment to gauge your understanding of the subject. Simply click the link to be redirected to Survey Monkey. When you are finished with the survey, click back to the power point to continue with the training.

• _______ percent of children and adolescents are overweight or obese.
  • ~5%
• ~10%
• ~30%*
• ~50%

- Poor diet and physical inactivity are associated with which diseases?
  a. Type 2 diabetes,
  b. Heart disease,
  c. Certain types of cancer
  d. Increase the risk of premature death
  e. All of the above*

- Which food should you reduce within your diet to promote a healthy weight?
  • Sodium
  • Solid Fats
  • Added Sugars
  • Refined Grains
  • All of the above*

- Which foods should we increase within our diet to promote a healthy weight?
  a. A variety of fruits and vegetables, especially dark-green and red and orange vegetables and beans and peas (legumes).
  b. Whole grains
  • Fat-free or low-fat milk and milk products
  • A and B only
  • All of the above*

- The Dietary Guidelines provides evidence-based food and beverage recommendations for Americans ages 2 and older. Aiming to:
  • Promote health
  • Prevent chronic disease
  • Help people reach and maintain a healthy weight
  • A and C only
  • All of the above*

- MyPlate illustrates the five food groups that are the building blocks
for a healthy diet using guidance from the Dietary Guidelines for Americans and transforming them into a familiar image — a place setting for a meal.

- True* or False

- How many children rely on the U.S. Department of Agriculture's (USDA) National School Lunch Program and School Breakfast Program for one to two meals per day
  - One in five students
  - Two in five students
  - Three in five students
  - None of the above

  - 1/8
  - 1/4
  - 1/3*
  - 1/2

9. National School Program breakfasts must meet the meal pattern and nutrition standards based on the latest Dietary Guidelines for Americans — They must provide ___ of the Recommended Dietary Allowance (RDA): calories, protein, Vitamin A, Vitamin C, Iron, and Calcium
  - 1/8
  - 1/4*
  - 1/3
  - 1/2
This first online presentation – Basic Elements of Nutrition - will focus on relating the Dietary Guidelines and USDA food guidance concepts (such as MyPlate) to the goals of School Nutrition Programs. This segment will also link basic nutrition theories, such as eating a variety of fruits and vegetables, consuming whole grain rich items, and using portion control, to the requirements set forth for the School Breakfast Program (SBP) and the National School Lunch Program (NSLP).

Let’s begin...

Let us go over several key terms and definitions related to Basic Elements of Nutrition that will help build vocabulary, and clarification of this topic area.

Nutrients - a substance that provides nourishment essential for growth and the maintenance of life. For example: fish is a source of many important nutrients, including protein, vitamins, and minerals.

Role Model – A person who serves as an example of the values, attitudes, and behaviors associated with a role. For example, a parent is a role model for their child. Parents can try new foods to set a good example to their children - encouraging new tastes, textures, and smells.
Whole Grains – Whole grains contain the entire grain kernel — the bran, germ, and endosperm. Examples of whole grains include whole-wheat flour, bulgur (cracked wheat), oatmeal, whole cornmeal, and brown rice.

Refined Grains – Refined grains have been milled, a process that removes the bran and germ. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron, and many B vitamins. Some examples of refined grain products are white flour, de-germed cornmeal, white bread, and white rice.

Chronic Disease – A disease that persists over a long period. They rarely resolve spontaneously, and they are generally not cured by medication or prevented by vaccine. Many chronic diseases are linked to lifestyle choices that are within your own hands to change. Eating nutritious foods, becoming more physically active and avoiding tobacco can help keep you from developing many of these diseases and conditions.

The United States Department of Agriculture (USDA) defines food insecurity within two definitions—Low food security – is defined as reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake. Very low food security – is defined as reports of multiple indications of disrupted eating patterns and reduced food intake.
So, what does the current health and nutrition intake of children in America look like?

• ~32 percent of children and adolescents are overweight or obese, with 17 percent of children being obese

• Risk factors for adult chronic diseases are increasingly found in younger ages

• Increased risk of many health problems due to overweight/obesity include
  • Type 2 diabetes,
  • Heart disease,
  • Certain types of cancer
  • Increase the risk of premature death
But what is contributing to this widespread problem? The current dietary intake of Americans has greatly added to this obesity crisis, and does not align with the Dietary Guidelines’ recommendations.

As you can see on this graph – Americans are far from meeting their nutritional needs for some foods, and far from limiting their intake of others.

The center line represents the goal or the limit.

Most Americans exceed the recommendations for added sugars, saturated fats, sodium and refined grains, while three fourths of the population has an eating pattern low in vegetables, fruits and dairy. It is also important to note that eating patterns of most Americans are too high in total calories.

This graph makes it quite clear that Americans need to shift their eating patterns to align with a healthier diet.

Next, we will expand on the most recent food intake trends compared to recommendations, for school aged children. The following slides will be broken down by food groups (components).
Most foods in healthy eating patterns should come from food groups such as fruits, vegetables, whole grains, lean protein, and dairy. However, you will see, that average intakes in these food groups are far lower than the amounts recommended in the Healthy U.S.-Style Eating Pattern.

For each graph, you will see the recommended intake ranges represented by the blue bars and the current intake, represented by the orange dots. You will also see that school aged children are boxed in red. Ideally, the orange dots (what kids are eating on average) would be within the blue bars (what is recommended for kids).

Now, let us focus on fruit. You see for most school aged children, they are not eating the recommended amounts.

Fruits, prepared without added fats, sugars, refined starches, and sodium, supply important nutrients and relatively few calories. Knowing that some of the nutrients found in fruit, including potassium and dietary fiber, are under-eaten by school children in the United States, we can see why fruit, is a required component in minimum daily and weekly amounts, for both school breakfast and lunch meal patterns.
This graph is for the vegetable group – showing the current intake compared to recommended levels. Diets rich in vegetables can provide many health benefits, and may reduce the risk of diseases including heart disease, type II diabetes, and certain cancers. This illustrates why vegetables are a required component in minimum daily and weekly quantities, for the lunch meal pattern (and potentially the breakfast program).

Vegetables are organized into subgroups based on their nutrition content. The next few slides will dive a bit deeper into these subgroups. Recommendations are based on a week of lunches. As we will see, required minimum weekly quantities for each subgroup are established in the National School Lunch meal pattern.

This graph shows the weekly intake of dark green vegetables (like broccoli, kale, spinach, chard, cilantro, etc), which are below recommended intakes for school aged children.
Red/Orange intakes (like carrots, tomatoes, pumpkin, and sweet potatoes), are also below recommendations.

Though the legume or dried beans and peas group can be somewhat confusing, it includes foods such as lentils, chickpeas, black beans, soybeans (edamame) and more. This group, again, is under-eaten overall, but definitely in the school-age children’s group.

The Starchy subgroup, though one of many school-aged children’s favorites – (including corn, potato, and green peas) also shows intake numbers which are below recommendations.
The category of Other Vegetables (avocado, beets, snap peas, green bell peppers, mushrooms, onions, zucchini, cabbage) – also do not meet recommendations.

Together, these graphs highlight the fact that school aged children are not meeting any of the recommendations for intake of vegetables (total or by subgroups). We can see why required minimum weekly quantities for each subgroup are established in the national school lunch meal pattern.

The graph showing the recommendations and actual intake of whole and refined grain looks a little differently than the previous graphs. The blue bars indicate the range of recommended intake for whole grains as well as the limits for refined grains. Both intakes and limits for whole and refined grains are the same blue bar – since the recommendations center around the idea limiting your intake of refined grains to ½ of your total intake, and ensuring ⅔ of your total intake of grains are whole.

The orange dots show the average intake of refined grains, and the green diamonds show the average intake of whole grains. Ideally orange dots and green diamonds would fall within the blue bars. Instead, this shows intakes for whole grains are far below what is recommended, and intakes for refined grains, are far above. And for school aged children (highlighted in the red boxes), intakes are furthest from recommendations when looking at all
other ages represented here.

Whole grains are a good source of iron, magnesium, selenium, B Vitamins, and dietary fiber. Knowing that intakes are below recommended levels, we can see why there are required minimum daily and weekly quantities of whole grains for both the school breakfast and school lunch meal pattern.

This graph shows the dairy group – it shows that current intakes of dairy for most age groups are far below recommendations. You will see however, that children aged 1-3 do meet recommendations.

Low fat and fat free dairy is a good source of protein, calcium, vitamin A, vitamin D (fortified), magnesium, phosphorus and potassium but intakes for school age children are below recommended levels. This shortage demonstrates why the school breakfast program and national school lunch program emphasize fluid milk as an option at meals.
As you have just seen and heard, there are a great many school aged children who are obese or overweight in America, and being overweight and obese, is a major cause of diet-related chronic disease. Additionally, we have looked at the current dietary patterns and the under-eating of important vitamins and minerals and over-eating of less healthy options. These factors are adding to the diet related diseases we discussed.

Let’s now review how a shift to healthier eating patterns, paired with a shift in healthier eating behaviors, can help children keep a healthy weight, reduce their risk of chronic disease, and promote overall health!

- We now know that poor diet and physical inactivity are the most important factors contributing to an widespread problem of overweight and obesity affecting children in all areas of our society. Even in the absence of overweight, poor diet and physical inactivity are associated with major causes of disease and death.

- Eating patterns established in childhood often track into later life, so making early changes and adopting healthy nutrition and physical activity behaviors are important. Role modeling these behaviors can be key.

- Families, schools, and communities play important roles in supporting
changes and in modeling behaviors for eating and physical activity to children and adolescents.

So how do we help?

- By following the Dietary Guidelines for Americans recommended intake levels for certain nutrients and food groups (components), and,
- By limiting some specific food items and increasing others.

*Who can see the connection with the USDA school meal patterns?*

We know that eating healthy is important in promoting good health, but where do we start? Where would we go to find science-based food and beverage recommendations for children? Where do we go to find information that could be easily understood and easily and affordably put into practice?

Enter...Dietary Guidelines for Americans, MyPlate and School Meal Programs.
A good place to start is with the Dietary Guidelines for Americans (DGAs), and the recommendations which are important to school aged children. “Dietary Guidelines for Americans” means the current set of recommendations of the federal government that are designed to help people choose diets that will meet nutrient requirements, promote health, support active lives and reduce chronic disease risks.

The DGA’s are published every five years to...

Provide evidence based recommendations about the components of a healthy diet

Focus on disease prevention, rather than treatment aiming to promote health, prevent chronic disease and help people reach and maintain a healthy weight AND

Inform Federal food, nutrition and health policies for programs such as National School Lunch and Breakfast Programs.
As we have already discussed, the key recommendations from the DGAs are

- Follow a healthy eating pattern across the lifespan
- Focus on variety, nutrient, amount
- Limit calories from added sugars, saturated fats and reduce sodium intake
- Shift to healthier food and beverage choices
- Support healthy eating patterns for all

Everyone has a role to play in helping create and support healthy eating patterns, from home to school to communities.

The key recommendations should be applied in their sum, given the relationships that each food component can have with others. It is recommended that you choose to consume a healthy eating pattern that takes into account all foods and beverages within an suitable calorie range.
Who can see the similarities between the key recommendations from DGAs and the National School Lunch and Breakfast meal patterns? How are these recommendations incorporated into the school meal programs?

Enter – My Plate!

MyPlate shows the five food groups (components) that are the building blocks for a healthy diet using guidance from the Dietary Guidelines for Americans and changing them into a familiar image — a place setting for a meal.

This plate stresses food group meal planning and the relationship between school meal programs with which you are familiar. It highlights what a healthy balanced diet should look like based on the recommendations we just reviewed – whole grains, fruit and vegetables, protein and low fat dairy.
Now that we know school lunch and breakfast regulations are based off of the Dietary Guidelines for Americans, and therefore, required to provide the energy and nutrient needs of active, growing students, let’s look further into their reach and the potential impact school meals have on children who participate in these Child Nutrition Programs.

Breakfast is a way to nourish the body. A healthy body produces a healthy mind. With a healthy mind, kids are ready to learn, ready to strive, ready to go. It helps with socialization, language skills, being able to identify what a healthy meal looks like. – Joyce Dougherty – ODE CNP Director

The School Breakfast Program:

- Started as a pilot program founded by the Child Nutrition Act of 1966
- Enacted as a permanent program in 1975
The National School Lunch Program:

- The National School Lunch Act was started in 1946 - Harry Truman
- Aims to reduce under nutrition in low income populations
- Protects the health and well-being of the Nation’s children
- In FY 2015 (prelim. data)-
  - ~30.5 million children participated each day
  - ~22 million received their meals free or at a reduced-price
  - Total of 5 billion meals were served
Let’s now review the benefits of these Child Nutrition Programs and how they impact school aged children, their families, and communities, at large.

Three in five students – more than 30 million children – rely on National School Lunch and School Breakfast Programs for one to two meals per day.

USDA Economic Research Service (ERS)-sponsored research found that children from food-insecure and marginally secure households were more likely to eat school meals and received more of their food and nutrient intake from school meals than did other children (see Children’s Food Security and Intakes from School Meals: Final Report).

As a reminder, low food insecurity is defined as reports of reduced quality, variety, or desirability of diet. Little or no sign of reduced food intake. Very low food security is defined as reports of multiple signs of disrupted eating patterns and reduced food intake.
Now that we have reviewed who relies on school meals, let’s speak about why that’s important.

- The cost of school meals are subsidized by the government. Because the meals are offered at low or no cost, this provides families with additional income that they are not needing to spend on food. It also means these meals have a greater impact on diets of customers who have difficulty meeting basic food needs.
- U.S. supported foods are donated to support the school meal programs and US famers. These donated products may introduce children to new foods.
- Following a meal pattern based on food groups (components) meets nutritional goals.

The most current school meal patterns focus on promoting healthier eating habits by requiring minimum fruit, vegetable and whole grain servings, as well as implementing maximums for sodium, sugar and fat contents by age grade group. School meals provide nutrient rich foods to the customer, and are backed by science.
The Healthy, Hunger Free Kids Act of 2010 calls on schools to reflect the Dietary Guidelines for Americans in meal programs. Meals need to provide students with minimum levels of nutrients needed for growth and health.

NSLP meals provide 1/3 Recommended Dietary Allowance (RDA): calories, protein, Vitamin A, Vitamin C, Iron, and Calcium and SBP meals provide ¼.

With this final rule in mind and nutrition requirements for both meal programs outlined—here are some tips from the Institute of Child Nutrition: Nutrition 101 Course to ensure you meet these recommendations/requirements of the school meal programs.

- Serve whole grain ready-to-serve and cooked cereals.
- Offer toast made with 100% whole wheat bread.
- Wrap beans, scrambled eggs, cheese, vegetables, or salsa in whole wheat tortillas.
- Provide whole wheat bagels or whole-grain English muffins.
- Serve egg and cheese breakfast sandwiches on whole-grain English muffins.
Use whole wheat flour and rolled oats in recipes for baked bread items.

Vary the vegetables offered during lunch. Include different colors, such as dark green, red/orange, and different types of vegetables, such as legumes and starchy vegetables, several times a week.

- Create seasonal salad bar choices with a wide variety of deeply colored vegetables.
- Put more green in specialty salads by combining fresh spinach or romaine lettuce with traditional iceberg lettuce blends.
- Serve soups made with beans, cubed sweet potatoes or winter squash, and sliced carrots.
- Introduce culturally relevant ethnic foods featuring dried beans, peas, and lentils.
- Assemble Asian rice bowls by layering assorted vegetables and lean meat mixtures over brown rice.
- Make Mexican wraps featuring brown rice and cooked beans/meat, salsa,
POST ASSESSMENT
Please click the link to take a short post assessment survey:

Post Assessment

Please take the post-assessment survey on this slide related to this module. The information you provide will be used for ODE CNP’s internal use only.

• ______ percent of children and adolescents are overweight or obese.
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  • ~10%
  • ~30%*
  • ~50%

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  b. Heart disease,
  c. Certain types of cancer
  d. Increase the risk of premature death
  e. All of the above*

• Which food should you reduce within your diet to promote a healthy weight?
  • Sodium
  • Solid Fats
  • Added Sugars
  • Refined Grains
  • All of the above*

• Which foods should we increase...
within our diet to promote a healthy weight?

a. A variety of fruits and vegetables, especially dark-green and red and orange vegetables and beans and peas (legumes).
b. Whole grains
   • Fat-free or low-fat milk and milk products
   • A and B only
   • All of the above*

• The Dietary Guidelines provides evidence-based food and beverage recommendations for Americans ages 2 and older. Aiming to:
  • Promote health
  • Prevent chronic disease
  • Help people reach and maintain a healthy weight
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• MyPlate illustrates the five food groups that are the building blocks for a healthy diet using guidance from the Dietary Guidelines for Americans and transforming them into a familiar image — a place setting for a meal.
  • True* or False

• How many children rely on the U.S. Department of Agriculture’s (USDA) National School Lunch Program and School Breakfast Program for one to two meals per day
  • One in five students
  • Two in five students
  • Three in five students
  • None of the above

8. National School Lunch Program lunches must meet meal pattern and nutrition standards based on the latest Dietary Guidelines for Americans — They must provide ___ of the Recommended
Dietary Allowance (RDA): calories, protein, Vitamin A, Vitamin C, Iron, and Calcium

- 1/8
- 1/4
- 1/3*
- 1/2


- 1/8
- 1/4*
- 1/3
- 1/2

REFERENCES
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REFERENCES

- US Department of Agriculture Economic Research Service
- USDA News Release - USDA, NFL, Fuel Up to Play 60 Partner to Award $35 Million to Help Schools Serve Healthier Meals, Strengthen Childhood Nutrition sent out 2/5/16 (slide 27)

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RESOURCES

ODE School Nutrition Training Page
2015-2020 Dietary Guidelines for Americans
http://health.gov/dietaryguidelines/2015/guidelines/
ICN – Nutrition 101: A Taste of Food and Fitness
www.nfsmi.org/documentlibraryfiles/PDF/20140722044006.pdf
MyPlate
http://www.choosemyplate.gov/

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Individual training and additional resources for the School Lunch and Breakfast Programs can be found on the ODE School Nutrition training webpage.

Thank you for participating in Basic Elements of Nutrition Training for School Nutrition Programs. We look forward to tying the topic areas discussed in this module into the topic areas we will discuss in Module II: How to Create a Cycle Menu. Please don’t forget to take your post assessment through the link on the next slide.

As a reminder, the next training will be in-person and will focus on planning cycle menus that meet all rules and regulations; the benefits, the steps to create them, considering cost, equipment, foods available, student
tastes, promotional events, etc. This segment will allow you to bring questions, concerns and ideas to the table and create your own cycle menu with the help of ODE Specialists.

If you have any questions please contact your assigned Child Nutrition Specialist. We greatly appreciate the work that you do to fuel Oregon’s future!