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Term Project: Part 3

For the term project, I evaluated the diet of my roommate, Andrew. He's a 20 year old Caucasian male. On average, he weighs about 215 lbs. and is 5'11". He's super into fitness and lifts 5-6 days a week for 60-90 minutes per session, also walking to 2 classes a day means he walks several miles a day, so his activity factor is probably about 1.75. He's very healthy; cholesterol, blood pressure, etc. are all on point (he got his cholesterol tested over the summer). Andrew takes creatine, a multivitamin, and omega-3's religiously, and is very health conscious, so his diet's focus is health and slow weight loss (0.5 lbs. a week).

Methods: Obtaining his food record was easy because he eats the same stuff every day, he believes this is how he can pinpoint issues in his life; by being routine. Once he wrote out what he eats for each day, I put each day's intake into NDSR and did the same with SuperTracker to then get the average nutrient intakes from each program. While SuperTracker tends to give servings of fruits and vegetables and just gives percentages and grams/milligrams for common nutrients (such as calcium and iron), NDSR tends to stick with percentages and grams/milligrams of all nutrients consumed, making it difficult to compare the two.

Guideline: How does your client's 3-day food record compare to these guidelines?	
Note: "Yes" means that your client is already meeting the Dietary Guidelines.	
"No" means that your client is NOT meeting the Dietary Guidelines and this is an area for improvement.	
BALANCING CALORIES TO MANAGE WEIGHT Key Recommendations	Yes/no; provide specific number when possible (e.g., gram amount, number of servings); describe behaviors; compare to guidelines.
<ul style="list-style-type: none"> Prevent and/or reduce overweight and obesity through improved eating and physical activity behaviors. 	<ul style="list-style-type: none"> Yes 60-90 minutes of exercise per day, plus 30-60 minutes of walking Doubles the guidelines' minimum
<ul style="list-style-type: none"> Control total calorie intake to manage body weight. For people who are overweight or obese, this will mean consuming fewer calories from foods and beverages. 	<ul style="list-style-type: none"> Yes 3,253 kcal/d WHO equation puts his REE at 1932.6 kcal/d, with an AF of 1.75 a calorie intake of 3382 kcal/d should slowly lose weight.
<ul style="list-style-type: none"> Increase physical activity and reduce time spent in sedentary behaviors. 	<ul style="list-style-type: none"> No Andrew is very active as is and doesn't necessarily need to increase activity. His activity levels exceed guideline minimum of 150 minutes/week
FOODS AND FOOD COMPONENTS TO REDUCE	
Key Recommendations	
<ul style="list-style-type: none"> Reduce daily sodium intake to less than 2,300 milligrams (mg) and further reduce intake to 1,500 mg among persons who are 51 and older and those of any age who are African American or have hypertension, diabetes, or chronic kidney disease. The 1,500 mg recommendation applies to about half of the U.S. population, including children, and the majority of adults. 	<ul style="list-style-type: none"> No 3,883 mg/d sodium (3000 mg NDSR & 3846 mg SuperTracker) Sodium is way too high and should be reduced by using low sodium alternatives for sauces and less meat.
<ul style="list-style-type: none"> Consume less than 10 percent of calories from saturated fatty acids by replacing them with monounsaturated and polyunsaturated fatty acids. 	<ul style="list-style-type: none"> Yes 8.0% kcals from SFA (7.9% NDSR & 8% SuperTracker) Saturated fat intake is right where it should be.
<ul style="list-style-type: none"> Consume less than 300 mg per day of dietary cholesterol. 	<ul style="list-style-type: none"> No 936 mg/d cholesterol (911 mg NDSR & 961mg SuperTracker)

	<ul style="list-style-type: none"> • He needs to significantly reduce his meat consumption to bring his cholesterol intake to where it should be.
<ul style="list-style-type: none"> • Keep <i>trans</i> fatty acid consumption as low as possible by limiting foods that contain synthetic sources of <i>trans</i> fats, such as partially hydrogenated oils, and by limiting other solid fats. 	<ul style="list-style-type: none"> • Yes • 1.0 g/d <i>trans</i> fats (NDSR) • This is as low as one could possibly get without buying everything raw/organic.
<ul style="list-style-type: none"> • Reduce the intake of calories from solid fats and added sugars. 	<ul style="list-style-type: none"> • Yes • Saturated fat intake is on point and (added) sugar intake is only 37.6 g/day. • Guidelines allow 25% of calories to come from added sugar, Andrew is at 5.2%.
<ul style="list-style-type: none"> • Limit the consumption of foods that contain refined grains, especially refined grain foods that contain solid fats, added sugars, and sodium. 	<ul style="list-style-type: none"> • Yes • He opts for whole grains and low sugar options as often as possible • Consumes 0 servings of refined grains per day.
<ul style="list-style-type: none"> • If alcohol is consumed, it should be consumed in moderation—up to one drink per day for women and two drinks per day for men—and only by adults of legal drinking age. 	<ul style="list-style-type: none"> • Yes • 0 drinks/d • While he could consume two drinks per day, he might drink a beer a week, at most.
FOOD AND NUTRIENTS TO INCREASE Key Recommendations	
<ul style="list-style-type: none"> • Increase vegetable and fruit intake. 	<ul style="list-style-type: none"> • No • 3 vegetables/d • 3 ¼ fruits/d • Guidelines recommend 4c vegetables and 2 ½ c fruit per day, Andrew is well above that for his fruit intake but his vegetable intake is 1c lower than it needs to be.
<ul style="list-style-type: none"> • Eat a variety of vegetables, especially dark-green and red and orange vegetables and beans and peas. 	<ul style="list-style-type: none"> • No • 2 ¾ c dark-green vegetables/d • 2 ¾ red/orange vegetables/d

	<ul style="list-style-type: none"> • 0 beans/d • 0 peas/d • His dark green veg intake is spot on, but he needs to triple his red/orange vegetable intake, and consume 1 ½ c beans and 1 ½ c peas per week, instead of zero for the latter two.
<ul style="list-style-type: none"> • Consume at least half of all grains as whole grains. Increase whole-grain intake by replacing refined grains with whole grains. 	<ul style="list-style-type: none"> • No • 1 ½ whole grains/d • While half of his grains are whole grains, his grain intake is very low and needs to increase drastically to 10 oz/day.
<ul style="list-style-type: none"> • Increase intake of fat-free or low-fat milk and milk products, such as milk, yogurt, cheese, or fortified soy beverages. 	<ul style="list-style-type: none"> • No • 2 dairy servings/d • He is a serving short of the dietary recommendation.
<ul style="list-style-type: none"> • Choose a variety of protein foods, which include seafood, lean meat and poultry, eggs, beans and peas, soy products, and unsalted nuts and seeds. 	<ul style="list-style-type: none"> • No • 0 seafood servings/d • 7 lean meat servings/d • 4 eggs/d • 0 beans/d • 0 peas/d • 0 soy products/d • 2 unsalted nuts/d • 0 unsalted seeds/d • Andrew really needs to expand his protein sources and consume some beans, peas, seeds and seafood regularly.
<ul style="list-style-type: none"> • Increase the amount and variety of seafood consumed by choosing seafood in place of some meat and poultry. 	<ul style="list-style-type: none"> • No • 0 seafood servings/d • Guidelines recommend 11 oz. per week and he currently consumes zero ounces. Definitely needs to start eating seafood.
<ul style="list-style-type: none"> • Replace protein foods that are higher in solid fats with choices that are lower in solid fats and calories and/or are sources of oils. 	<ul style="list-style-type: none"> • Yes • He doesn't consume a lot of saturated fats and chooses lean meat and avoids fried food.
<ul style="list-style-type: none"> • Use oils to replace solid fats where possible. 	<ul style="list-style-type: none"> • Yes

	<ul style="list-style-type: none"> Since his saturated fat intake is where it needs to be, he's on the right track here.
<ul style="list-style-type: none"> Choose foods that provide more potassium, dietary fiber, calcium, and vitamin D, which are nutrients of concern in American diets. These foods include vegetables, fruits, whole grains, and milk and milk products. 	<ul style="list-style-type: none"> Yes 6.6 mg/d potassium 41 g/d fiber 1,353 mg/d calcium 12.7 mg/d vitamin D While his vitamin D intake is a little low (this doesn't include sun exposure), his other main micronutrients are slightly above the recommended levels.
INDIVIDUALS AGE 50 YEARS OR OLDER	
<ul style="list-style-type: none"> Consume foods fortified with vitamin B12, such as fortified cereals, or dietary supplements. 	<ul style="list-style-type: none"> Yes 12.9 mg/d vitamin B12 Guidelines recommend 2.4 mg/d, so Andrew is well above that.
BUILDING HEALTHY EATING PATTERNS	
Key Recommendations	
<ul style="list-style-type: none"> Select an eating pattern that meets nutrient needs over time at an appropriate calorie level. 	<ul style="list-style-type: none"> Yes 3,253 kcal/d WHO equation + Harris Benedict puts his recommended calories at 3382 kcal/day, so he will slowly lose weight.
<ul style="list-style-type: none"> Account for all foods and beverages consumed and assess how they fit within a total healthy eating pattern. 	<ul style="list-style-type: none"> Yes Eats very consistently, but could use variety.
<ul style="list-style-type: none"> Follow food safety recommendations when preparing and eating foods to reduce the risk of foodborne illnesses. 	<ul style="list-style-type: none"> Yes Washes hands an obnoxious amount of times and cooks food very thoroughly.

Discussion: Andrew is definitely on the right track to being as healthy as he possibly can be. His diet includes very few added sugars, which is awesome for keeping cholesterol levels low as well as minimizing insulin resistance. His saturated fat is also very low (8% of calories), which could help him further reduce his LDL while keeping his HDL at an optimal level with his low trans fat intake. Another very positive part of his lifestyle is his activity levels. He's very committed to lifting and it's the highlight of his day, so he does it very aggressively, which keeps his heart rate up and his muscle mass high. This obviously keeps his cholesterol, blood pressure, and overall physical well-being in good condition.

His diet, like most people, has its drawbacks. While he does consume 3 servings of vegetables a day, he really should be consuming 4 servings. This extra serving would optimally come from red and orange vegetables to further the variety needed in his diet, since he's lacking in that department. Most obviously, his whole grain intake is very low (2 ½ oz./day). To get the most nutrients possible, he would be better off reducing his meat consumption and replacing those calories with whole grains, as whole grain consumption is associated with an improved lipid profile. His protein variety is very much lacking, since he doesn't consume seafood. Adding seafood would increase his omega-3's, reducing inflammation and possibly further improving his lipid profile.

While using NDSR and SuperTracker, obvious differences in the programs arose as I progressed through the term project. NDSR is absolutely perfect for someone in a clinical setting. It's very accurate in providing the right nutrient information, as it asks detailed questions about each food you enter, such as "Was salt added?" and "Was the skin eaten?". However, this is also a drawback to NDSR, as it's very tedious to enter each individual food item and answer questions about the cooking process. Yet it is still very easy to navigate to find each food item and the search feature works astonishingly well, considering the broad database. It seems that the database is a bit dated, though; Doritos Locos tacos didn't pop up and it doesn't have many alcoholic beverages. Since fast food and alcohol are very common in America, this could be a huge drawback for some dietitians. But NDSR makes it easy to organize clients and review each day's intake individually or to find averages for nutrients, thus making it even better for someone in a clinical setting with multiple clients. It was easy for me to navigate between days and see what affected that day's nutrient levels versus another day's nutrient levels. However, it was only easy to find the averages because I've used the program several times. Getting used to NDSR takes a while and it can be difficult to understand how to save files for later use or how to save files as a PDF. Because of this being a bit tricky, I think it is a drawback to NDSR and it could really make some people angry with the program if they aren't tech-savvy.

SuperTracker was very different compared to NDSR. It seemed that the search feature for SuperTracker isn't as fine tuned as NDSR's and it can be troublesome to find what particular food you're looking for. However, it's very simple to enter that food and you can factor in your cooking methods yourself (such as cooking with butter), instead of answering multiple questions. This made it more accurate in its own way, since you could measure out how much cooking oil you used and enter it into SuperTracker. While this is a strength to me, it could be a drawback for those who don't factor in things like that and don't think twice about cooking with butter or bacon grease. I loved that it tells you how many servings of fruits and vegetables you consumed that day. It makes it pair well with the food pyramid as well as making it easier to understand instead of just seeing % RDA for nutrients. SuperTracker did have a limited nutrient profile, as it didn't cover things like phenylalanine or artificial sweeteners, which some people need to avoid. I know Andrew likes to avoid artificial sweeteners, which weren't covered by SuperTracker. The application was easy to navigate through and I found it very easy to find nutrient/food group averages, which was definitely a positive, as technology can indefinitely be frustrating.

Steps toward improving Andrew's diet are pretty simple because he's definitely on the right track with his eating habits. The main concern is his sodium intake; it's currently 3.883 mg/d with 2,300 mg/d being the recommendation. Excessive sodium intake can lead to hypertension, especially in the elderly, who are more susceptible to heart issues. His sodium intake would drop significantly if he reduced his meat consumption and went for low-sodium sauces (especially marinara). His whole grain intake is almost non-existent, at 1 ½ oz/day. Whole grains are full of fiber, which is needed with his meat intake. They're also rich in iron, magnesium, and the B-vitamins. Whole grain intake is associated with a reduced risk of cardiovascular disease, type II diabetes, and will also increase his carbohydrates, since they're only 36% of his calories with 55%-65% being the recommendation. If he increased his grain intake to 10 oz/day, this problem would be solved and he would be consuming much more essential nutrients. Lastly, his diet desperately needs seafood. Since he never eats seafood, his omega-3, EPA and DHA intake is low. Seafood is rich in omega-3 EFA's, EPA and DHA, all of which are associated with improved heart health, such as decreased hypertension, reduced cardiovascular death, and improved lipid profile.