**Nutrition Care Process: Case Study A**
**Examples of Charting in Various Formats**

It is recommended that practitioners document each step of the Nutrition Care Process. Typically, documentation is entered in writing or electronically into the medical record. The Nutrition Care Process (NCP) describes documentation of Assessment, Diagnosis, Intervention, Monitoring, and Evaluation (ADIME) steps. In a pilot study, this format was shortened to the Assessment, Diagnosis, and Intervention (ADI) with monitoring and evaluation incorporated into the nutrition intervention step. Implementation of the NCP is not dependent upon a specific format for documentation. The nutrition assessment/monitoring and evaluation, nutrition diagnostic and nutrition intervention terminology can be incorporated into existing documentation formats such as narrative and SOAP notes. The example below illustrates how the assessment/monitoring and evaluation, nutrition diagnosis, PES (Problem, Etiology, Sign/symptoms) statement, and nutrition intervention terminologies can be incorporated into narrative and SOAP notes and also illustrates the ADIME format.

Case:
JO is a 47-year-old man who is married with three children ages 13, 15, and 17 years. JO is 5'11" (180 cm) tall and weighs 235 pounds (106.8 kg), BMI 32.8. While playing college baseball, JO weighed about 185 pounds (84 kg), but when he stopped playing and began coaching, his weight increased to 200 pounds (91kg). About 3 years ago, he took a job as a junior high school principal. The principal's job requires much more desk work, and, despite walking the halls regularly between periods at the large urban school, JO doesn't get much exercise. He has verbalized the need to "get back in shape."

JO's family history is a concern. Both of his parents have type 2 diabetes. JO's father was forced into retirement a year after his foot was amputated because of complications from the diabetes. Two of JO's older brothers have been told to lose weight in order to reduce their risk of developing type 2 diabetes. His younger sister recently gave birth to her third child and was diagnosed with gestational diabetes during the pregnancy.

Because his first son will enter college next year, JO is thinking about the future. He is thinking about how he will prepare for his children's college education and, eventually, their weddings. He would like to be healthy enough to play baseball with his grandchildren when they arrive. He is becoming concerned about his health and realizes that he needs to do something about his weight. A recent visit to his physician was a great relief because no problems other than obesity were identified. The physician emphasized the importance of weight loss and referred JO to a Registered Dietitian (RD) for a weight reduction program.

The RD interviewed JO and found:
JO was born in Mexico, but immigrated to the United States at age four with his parents. His family owned a restaurant, and he learned to cook at an early age. He often prepares traditional foods from Mexico and fries these foods in lard. His North American-born wife does some of the cooking and prepares meals with meat, potatoes, fruits and vegetables, and gravy.

JO does not eat breakfast at home, stating that with five people in the house getting ready for work and school each morning, there is too much of a rush to stop for a meal. He frequently takes several cookies or a large muffin with him to school. He drinks several cups of coffee with sugar and cream at his desk during the morning. He eats lunch in the school cafeteria, often requesting large portions of meats and other foods he likes. After lunch, he usually drinks at least one sweetened soda. He is usually at school until late afternoon, and may return for evening activities.

On these evenings, he enjoys the "all you can eat buffet" at a family restaurant near his home. He eats a variety of foods, including fruits, vegetables and salads. His weakness is flour tortillas slathered with butter or sour cream, and he eats several with each evening meal taken at home. JO eats dessert only on special occasions. Because the family is busy, there are plenty of "snack foods" available, and he usually has an "after dinner snack" when he returns home from evening activities.

JO's alcohol intake is moderate, limited to 2 or 3, 12 ounce (360 mL) cans of beer on a Friday or Saturday night if he and his wife go out with friends. Analysis of a 24-hour diet recall combined with a food frequency questionnaire reveals that JO's typical intake is approximately 4,200 calories/kcal (17,585 kJ)/day with about 200 grams/day of total fat, about 100 grams of saturated fat, and about 20% of calories from sugar or other concentrated sweets.

Because his job and family require so much of his time, JO does not regularly exercise.

Nutrition Diagnosis:
**Excessive Oral Intake (NI-2.2)** (P) related to a knowledge deficit of portion sizes and meal planning (E), as evidenced by weight gain of 35lbs (16 kg) during the last 3 years and estimated oral intake of 2,200 calorie/kcal/day (9,210 kJ) more than estimated needs (S).

Nutrition Intervention:
**Nutrition Prescription:** Reduction of food intake to approximately 2,200 calories/kcal (9,210 kJ) per day with approximately 30% of calories/kcal/kJ from fat and < 10% of intake from saturated fat. **Motivational interviewing (C-2.1)** Client described reasons for desiring wt loss; outlined support and barriers for change; pro's and con's of current eating habits. Requests specific guidance on healthy eating now. Wife willing to assist. *Goal:* Increase diet readiness to the action stage. **Collaboration and Referral of Nutrition Care, Referral to community agencies/programs** (**RC-1.6)** for enrollment in health center cognitive behavioral program. *Goal:* Client will learn behavior change strategies to promote weight loss.

*Toolkits* are available from the Academy for the on-line Evidence-Based Nutrition Practice Guidelines, based upon evidence analyses. They contain sample forms and examples incorporating the nutrition care process steps. These are available for purchase from the Academy Evidence Analysis Library for food and nutrition practitioners to use at the "store" tab at http://www.adaevidencelibrary.com/. Food and nutrition practitioners may find useful the extensive resources provided on the Academy Evidence Analysis Library.

**Case Study A: This table demonstrates how the weight loss program addresses JO's nutrition diagnosis, and how that nutrition diagnosis might change over time. Content is organized to present food and nutrition-related history first, since this is the critical data set contributed by dietitians.**

| Narrative Format | SOAP Format | ADIME Format* |
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| **Meal/snack pattern** (**FH-1.2.2.3)** JO eats two meals and snacks throughout the day. **Food intake (FH-1.2.2)** includes most foods and has a high consumption of sugar based beverages during the day. **Alcohol intake (FH-1.4.1)** is limited to social occasions. **Total energy intake (FH-1.1.1.1)** of 4,200 calories/kcal (17,585 kJ)/day. **Total fat intake (FH-1.5.1.1) and saturated fat intake (FH-1.5.1.2)** with 200 grams of fat, 100 grams of saturated fat. **Readiness to change nutrition-related behaviors (FH-4.2.7)** client is in the preparation stage of change. He is very concerned about his strong family history of diabetes and desires to lose weight and reduce his sugar intake. **Body composition/growth/weight history (AD-1.1)** Height 5'11" (180 cm); Weight 235lbs (106.8 kg); BMI 32.8; waist circumference 43 inches (109 cm), indicating increased disease risk, particularly for type 2 diabetes and dyslipidemia. Client referred for a 35lbs (16 kg) weight gain over the last 3 years, since taking sedentary job. **Physical activity history (FH-7.3.1)** Patient does not exercise regularly. **Personal history (CH-1.1)** He is a 47-year-old male. **Patient/client/family medical history (FH-2.1)** His family history includes diabetes, but he has no medical problems.<br><br>JO has a nutrition diagnosis of **Excessive oral intake (NI-2.2)** related to knowledge deficit of | **S** (subjective): **Meal/snack pattern (FH-1.2.2.3)** Client reports no breakfast, frequent snacking, and large portions at lunch and dinner. He likes most foods. **Food intake (FH-1.2.2)** includes most foods and has a high consumption of sugar based beverages during the day. **Alcohol intake (FH-1.4.1)** is limited to social occasions. **Readiness to change nutrition-related behaviors (FH-4.2.7)** indicated client is in the preparation stage of change. He is very concerned about his strong family history of diabetes and desires to lose weight and reduce his sugar intake. **Weight change (AD-1.1.4)** JO states that he has gained 35lbs (16 kg) over the last 3 years**. Physical activity history (FH-7.3.1)** Patient took a sedentary job 3 years ago and he rarely finds time for exercise due to a busy work and family schedule. **Personal history (CH-1.1)** 47 yr old, male, **Patient/client/family medical history (CH-2.1)** His family history includes diabetes, but he has no current medical problems.<br><br>**O** (objective): **Ht/Wt/BMI (AD-1.1)** Ht. 5'11" (180 cm); Current weight 235lbs (106.8 kg); BMI 32.8; waist circumference is 43 inches (109 cm) | **A** (Assessment): **Total energy intake (FH-1.1.1.1)** of 4,200 calories/kcal (17,585 kJ)/day. **Total fat intake/saturated fat intake** (**FH-1.5.1)** 200 grams/day of total fat, 100 grams of saturated fat. **Sugar intake (FH-1.5.3.2)** 20% of calories from sugar or other concentrated sweets. **Readiness to change nutrition-related behaviors (FH-4.2.7)** client is in the preparation stage of change. He is very concerned about his strong family history of diabetes and desires to lose weight and reduce his sugar intake. **Height/weight/BMI (AD-1.1)** Ht. 5'11" (180 cm); weight 235lbs (106.8 kg); BMI 32.8; waist circumference 43 inches (109 cm) indicating increased disease risk, particularly for type 2 diabetes and dyslipidemia; gained 35lbs (16 kg) over the last 3 years. **Recommended body weight** (**CS-5.1.1)** Client is ~ 63lbs (28.6 kg) above ideal weight of 172lbs (78 kg) (Hamwi Equation). **Estimated energy needs (CS-1.1.1)** Calorie intake is 1,150calorie/kcal/ (4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/ (12,770 kJ)/day. Mifflin-St Jeor Equation **(CS-1.1.2)** with activity factor of 1.4. |


Term codes (e.g., NI-2.2) used for information. The Academy does not recommend using codes in documentation.

**Case Study A: This table demonstrates how the weight loss program addresses JO's nutrition diagnosis, and how that nutrition diagnosis might change over time. Content is organized to present food and nutrition-related history first, since this is the critical data set contributed by dietitians.**

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| portion size and meal planning as evidenced by weight gain of 35lbs (16 kg) over the last 3 years and estimated oral intake of 1,150calorie/kcal/(4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/(12,770 kJ)/day. Mifflin-St Jeor Equation **(CS-1.1.2)** with activity factor of 1.4.<br><br>His **Nutrition Prescription (NP-1)** is 2,200 calories/kcal (9,210 kJ) per day with approximately 30% of calories from fat and < 10% of intake from saturated fat. Conducted **Motivational interviewing (C-2.1).** Client described reasons for desiring wt loss; outlined support and barriers for change; pro's and con's of current eating habits. Requests specific guidance on healthy eating now. Wife willing to assist. *Goal:* Increase diet readiness to the action stage. **Collaboration and Referral of Nutrition Care, Referral to community agencies/programs** (**RC-1.6)** for enrollment in health center cognitive behavioral program. *Goal:* Client will learn behavior change strategies to promote weight loss.<br><br>Will monitor and evaluate the following: **Readiness to change nutrition-related behaviors (FH-4.2.7)** Criteria: Diet readiness to increase to the action stage. **Weight (AD-1.1.2)** Criteria: Lose 23 lbs (10.5 kg) in 6 months, 1-2 lbs (0.5-1kg)/week**. Percent weight change (AD-1.1.4)** Criteria: Lose 10% body weigh in 6 months. **Body compartment estimates (AD-1.1.7)** Criteria: Decrease waist circumference to < 40 inches (102 cm) in 6 months. | **A** (assessment): **Total energy intake (FH-1.1.1.1)** of 4,200 calories/kcal (17,585 kJ)/day. **Total fat intake (FH-1.5.1.1) and saturated fat intake (FH-1.5.1.2)** with 200 grams of fat, 100 grams of saturated fat. **Sugar intake (FH-1.5.3.2)** 20% of calories from sugar or other concentrated sweets. **Readiness to change nutrition-related behaviors (FH-4.2.7)** client is in the preparation stage of change. He is very concerned about his strong family history of diabetes and desires to lose weight and reduce his sugar intake. **Body compartment estimates (AD-1.1.7)** Waist circumference indicates increased disease risk, particularly for type 2 diabetes and dyslipidemia.<br><br>**Recommended body weight** (**CS-5.1.1)** Client is ~ 63lbs (28.6 kg) above ideal weight of 172lbs (78 kg) (Hamwi Equation). **Estimated energy needs (CS 1.1.1)**<br><br>Calorie intake is 1,150calorie/kcal/ (4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/ (12,770 kJ)/day. Mifflin-St Jeor Equation **(CS-1.1.2)** with activity factor of 1.4.<br><br>Nutrition Diagnosis: **Excessive oral intake (NI-2.2)** related to knowledge deficit of portion size and meal planning as evidenced by weight gain of 35lbs (16 kg) over the last 3 years and oral intake of 1,150calorie/kcal/(4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/(12,770 kJ)/day. | **D** (Diagnosis): **Excessive oral food/beverage intake (NI-2.2)** related to knowledge deficit of portion size and meal planning as evidenced by weight gain of 35lbs (16 kg) over the last 3 years and estimated oral intake of 1,150calorie/kcal/(4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/(12,770 kJ)/day.<br><br>**I** (Intervention): **Nutrition prescription (NP-1.1)** 2,200 calories/kcal (9,210 kJ) per day with approximately 30% of calories from fat and < 10% of intake from saturated fat.<br>**Motivational interviewing (C-2.1)** Client described reasons for desiring wt loss; outlined support and barriers for change; pro's and con's of current eating habits. Requests specific guidance on diet now. Wife willing to assist. *Goal:* Increase diet readiness to the action stage.<br>**Collaboration and Referral Nutrition Care, Referral to community agencies/programs** (**RC-1.6)** for enrollment in health center cognitive behavioral program. *Goal:* Client will learn behavior change strategies to promote weight loss. |

**Case Study A: This table demonstrates how the weight loss program addresses JO's nutrition diagnosis, and how that nutrition diagnosis might change over time. Content is organized to present food and nutrition-related history first, since this is the critical data set contributed by dietitians.**

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| | **P** (plan) **Nutrition prescription (NP-1** 2) 2,200 calories/kcal (9,210 kJ) per day with approximately 30% of calories from fat and < 10% of intake from saturated fat. Conducted **Motivational interviewing (C-2.1).** Client described reasons for desiring wt loss; outlined support and barriers for change; pro's and con's of current eating habits. Requests specific guidance on healthy eating now. Wife willing to assist. *Goal:* Increase diet readiness to the action stage. **Collaboration and Referral of Nutrition Care, Referral to community agencies/programs** (**RC-1.6)** for enrollment in health center cognitive behavioral program. *Goal:* Client will learn behavior change strategies to promote weight loss.<br><br>**M&E** (monitor and evaluate) **Readiness to change nutrition-related behaviors (FH-4.2.7)** Criteria: Readiness to increase to the action stage. **Weight (AD-1.1.2)** Criteria: Lose 23 lbs (10.5 kg) in 6 months, 1-2 lbs (0.5-1kg)/week. **Weight change (AD-1.1.4)** Criteria: Lose 10% body weigh in 6 months. **Body compartment estimates (AD-1.1.7)** Criteria: Decrease waist circumference to < 40 inches (102 cm) in 6 months. | **M&E** (monitor and evaluate): **Readiness to change nutrition-related behaviors (FH-4.2.7)** Criteria: Diet readiness to increase to the action stage. **Weight (AD-1.1.2)** Criteria: Lose 23 lbs (10.5 kg) in 6 months, 1-2 lbs (0.5-1kg)/week**. Percent weight change (AD-1.1.4)** Criteria: Lose 10% body weigh in 6 months. **Body compartment estimates (AD-1.1.7)** Criteria: Decrease waist circumference to < 40 inches (102 cm) in 6 months. |

* In some settings, the ADIME format has been abbreviated to the ADI format.

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The following outlines follow-up notes as treatment progressed during group nutrition counseling.

| Session | Topic | Session Details | Follow-up Notes |
|---|---|---|---|
| Session 1 | Diet and lifestyle modifications | Review food records and agree on goals for intake modification. 2,200 calorie/kcal (9,210 kJ) meal plan provided and instruction provided on portion sizes and self-monitoring. | **A: Height/weight/BMI (AD-1.1)** Weight 231 lbs (105 kg). Some progress, patient lost 4 pounds (1.8 kg) in 2 weeks. **Readiness to change nutrition-related behaviors (FH-4.2.7).** Goal met. Diet readiness test indicates patient is in the action stage of change.<br>**D:** Nutrition diagnosis continues to be **Excessive oral intake (NI-2.2)** related to knowledge deficit of portion size and meal planning as evidenced by weight gain of 35lbs (16 kg) over the last 3 years and estimated oral intake of 1,150calorie/kcal/(4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/(12,770 kJ)/day.<br>**I: Nutrition counseling cognitive-behavioral theory (C-1.1)** for weight management. Strategies reviewed include: **Self-monitoring (C-2.3)** and **Goal setting (C-2.2). Nutrition Education-Content, Other or related topics (E-1.6)** provided on portion sizes.<br>**M&E: Height/weight/BMI (AD-1.1)** Goal is to lose 1-2 lbs (0.5-1kg)/week. Will monitor at next visit. **Self-monitoring (C-2.3)** Criteria (goal): Self-monitor daily for one week**, Goal setting (C-2.2)** Criteria (goal): Eat a healthy breakfast four of seven mornings.<br>**Amount of food (FH-1.2.2.1)** Criteria: Portion sizes and number of servings consistent with 2,200 calorie/kcal (9,210 kJ) meal plan. Current goal: Reduce meat/cheese intake to less than 6 oz (180 mL)/day. **Total energy intake (FH-1.1.1.1)** Criteria: 2,200 calorie/kcal (9,210 kJ)/day. |

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| Session | Topic | Session Details | Follow-up Notes |
|---|---|---|---|
| Session 2 | Meal planning and nutrient-dense foods | Review food records and goals for intake modification. Review portion sizes and educate on appropriate substitutions for high-calorie, high-fat foods. | **A: Height/weight/BMI (AD-1.1)** Weight 229.5 lbs (104 kg). Significant progress, patient lost 3 pounds (1.3 kg) this week. **Total energy intake (FH-1.1.1.1)** 4-day of food record reveals ~2,450 calorie/kcal (10,260 kJ)/d intake. Significant progress toward goal to conform to 2,200 calorie/kcal (9,210 kJ) meal plan. **Food intake (FH-1.1.1.1)** Met goal for limiting meat and cheese intake to 6 oz (160 g)/d; consuming 4 regular 12 ounce (330 mL) sodas/day. **Self-monitoring (C-2.3)** Some progress toward goal. Completed food diary for 4 of 7 days. Found it very helpful. **Goal setting (C-2.2)** Met goal to eat a healthy breakfast 4 of 7 days.<br>**D: Excessive oral intake (NI-2.2)** related to knowledge deficit of portion size and meal planning as evidenced by weight gain of 35lbs (16 kg) over the last 3 years and estimated oral intake of 1,150calorie/kcal/(4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/(12,770 kJ)/day.<br>**I: Cognitive-behavioral theory (C-1.1)** for weight management. **Strategies** reviewed include: S**elf-monitoring (C-2.3), Goal setting (C-2.2), Stimulus control (C-2.7)** *Goal:* Client will learn behavior change strategies to promote weight loss **Nutrition Education-Content, Recommended modifications (E-1.5)** provided on the therapeutic lifestyle change diet.<br>**M&E: Self-monitoring (C-2.3)** Criteria (goal): Self-monitor 2 weekdays and 2 weekend days next week and analyze for triggers. Will monitor at next visit.<br>**Food intake (FH-1.1.1.1)** Will continue to monitor at next visit. **Total energy intake (FH-1.2.1)** Will monitor at next visit. **Goal setting (C-2.2)** Client wishes to continue this goal and add substitution of a no calorie beverage for soda this week. Will monitor at next visit.<br>**Weight (AD-1.1.2)** Will monitor at next visit. |

Move forward in time to Session 6

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| Session | Topic | Session Details | Follow-up Notes |
|---|---|---|---|
| Session 6 | Weight maintenance | Develop long-term goals. Review weight-reduction strategies, and discuss continued weight loss and maintenance strategies. | **A: Weight change (AD-1.1.4)** Significant progress, Wt 219.5 lbs (100 kg); patient lost 1.5 pounds (0.75 kg) this week and 11.5 lbs (5 kg) since initial visit. Goal is to lose 23 lbs (10.5 kg) within six months. **Waist circumference (AD-1.1.7)** is 42" (107 cm) and has decreased 1" (2.5 cm) over 7 weeks. Some progress. **Physical activity, Frequency (FH-7.3.3)** No change. Not successful in planning exercise time into schedule, but will partner with PE teacher at school to exercise in AM before school. Criteria (goal): Exercise 20 min, two times next week<br>**D: Excessive oral intake (NI-2.2)** related to knowledge deficit of portion size and meal planning as evidenced by weight gain of 35lbs (16 kg) over the last 3 years and estimated oral intake of 1,150calorie/kcal/(4815 kJ)/day more than estimated needs of 3,050 calorie/kcal/(12,770 kJ)/day. **Physical inactivity (NB-2.1)** related to competing values as evidenced by reports of lack of activity along with lack of time to incorporate exercise.<br>**I: Nutrition Counseling Cognitive-behavioral theory (C-1.1)** for weight management including physical activity. Strategies reviewed include: S**elf-monitoring (C-2.3), Goal setting (C-2.2), Problem solving (C-2.4), Cognitive restructuring (C-2.8)**, and **Relapse prevention (C-2.9).**<br>**M&E: Area and level of knowledge (FH-4.1.1)** Moderate knowledge of planning healthful meals and snacks. Continues to select healthier menu items at home and at the school cafeteria, decided not to visit the Mexican restaurant this week. Client outlined helpful strategies for selecting healthy choices while eating out.<br>Moderate knowledge of healthful food preparation methods. Client experimenting with food preparation methods to reduce amount of saturated fat/total fat used in cooking. Will continue to monitor in one week at booster session.<br>**Total energy intake (FH-1.1.1.1)** Met goal to reduce calorie intake to 2,200 calorie/kcal (9,210 kJ) per day. Will continue to monitor.<br>**Weight change (AD-1.1.4)** Will monitor at weekly booster sessions with an individual appointment with the RD scheduled monthly in place of the session.<br>**Waist circumference (AD-1.1.7)** Goal is to decrease waist circumference to < 40 inches (102 cm) in 6 months.<br>**Physical activity, Frequency (FH-7.3.3)** Will continue to monitor weekly at booster sessions. |