



BRIANNA HEEGER
KEIKO KAMIYA
GALIA KESHESHIAN
EVGENIYA NOZDRINA

NUTRITION CARE PROCESS (NCP)

- A systematic problem-solving method that food and nutrition professionals use to think critically and make decisions that address practice-related problems.
- A standardized model intended to guide Registered Dietitians and Registered Dietetic Technicians, in providing high quality nutrition care.

WHAT IS THE NUTRITION CARE PROCESS AND MODEL

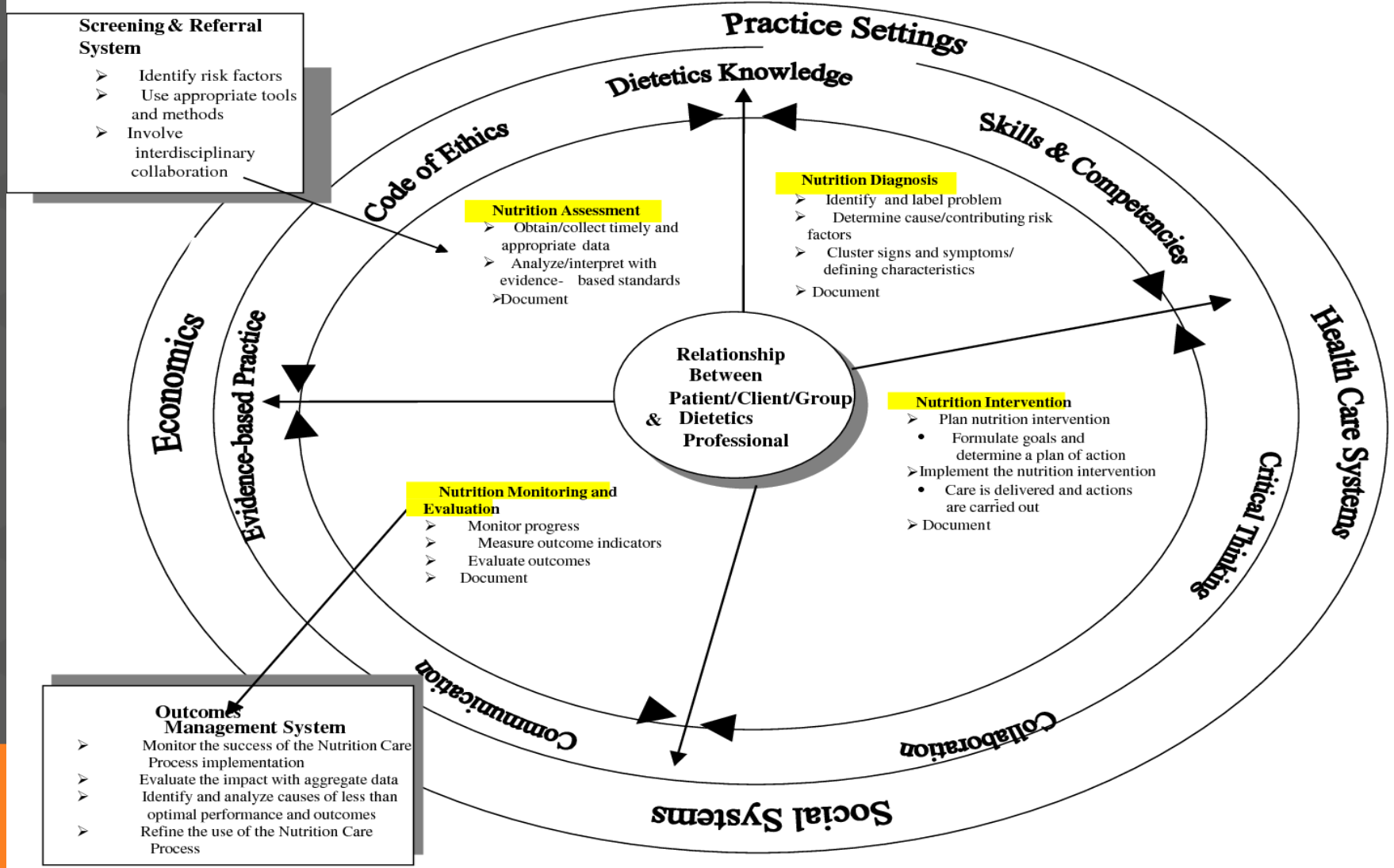
- **Developed by the Academy of Nutrition and Dietetics (AND)**
- Improve the consistency and quality of individualized patient/client care and the predictability of the patient/client outcomes.
- Provide structure and terminology for research studies and data collection.
- Provide a standardized language.

WHY WAS THE NCP DEVELOPED

1. **Assessment:** nutritional health status
2. **Diagnosis:** interpret data
3. **Intervention:** develop a plan of action
4. **Monitor/Evaluate:** monitor the effectiveness of the plan

NUTRITION CARE PROCESS: ADIM

ADA NUTRITION CARE PROCESS AND MODEL



AND NUTRITION CARE PROCESS AND MODEL

- Initiates the data collection process that is continued throughout the NCP and forms the foundation for reassessment and reanalysis of the data in Nutrition Monitoring and Evaluation (Step 4).

STEP 1: NUTRITION ASSESSMENT

For individuals:

- Patient/client through interview
- Observation and measurements
- Medical records
- Referring health care provider

For population groups:

- Data from surveys
- Administrative data sets
- Epidemiological or research studies

Nutrition Care Process Snapshot NCP step 1: Assessment www.eatright.org

**HOW DO FOOD AND NUTRITION
PROFESSIONALS DETERMINE WHERE TO
OBTAIN NUTRITION ASSESSMENT DATA?**

Food and nutrition-related history:

- Food intake, nutrition and health awareness and management, physical activity and exercise, and food availability.

Biochemical data, medical tests and procedures

- Include laboratory data (e.g., electrolytes, glucose, lipid panel, and gastric emptying time).

Anthropometric measurements

- Include height, weight, body mass index (BMI), growth rate, and rate of weight change.

**CATEGORIES OF NUTRITION
ASSESSMENT DATA**

Nutrition-focused physical findings

- Include oral health, general physical appearance, muscle and subcutaneous fat wasting

Client history

- Include medication and supplement history, social history, medical/health history, and personal history.

**...CATEGORIES OF NUTRITION
ASSESSMENT DATA**

- Determining appropriate data to collect
- Determining the need for additional information
- Selecting assessment tools and procedures that match the situation
- Applying assessment tools in valid and reliable ways
- Distinguishing relevant from irrelevant data
- Distinguishing important from unimportant data
- Validating the data

Nutrition Care Process Snapshot NCP step 1: Assessment www.eatright.org

NUTRITION ASSESSMENT: CRITICAL THINKING

- Identification and labeling of a nutrition problem that the RD is responsible for treating independently.
- Standardized terminology for nutrition diagnosis has been developed to facilitate this step.
- It is suggested that the RD use a PES Statement to communicate the nutrition diagnosis (problem, etiology, and signs/symptoms).

Examples:

- “inadequate energy intake”, “overweight/obesity”, “food and nutrition related knowledge deficit”, and “limited access to food or water”

STEP 2. NUTRITION DIAGNOSIS WHAT IS NUTRITION DIAGNOSIS?

- Critical step between nutrition assessment and nutrition intervention.
- Identification of an existing nutrition problem, by using the data collected in the nutrition assessment that the RD is responsible for treating.
- Creates a standardized nutrition diagnosis language to describe nutrition problems consistently.
- Different from a medical diagnosis.

STEP 2. NUTRITION DIAGNOSIS PURPOSE

Medical Diagnosis	Nutritional Diagnosis
Diabetes	Excessive CHO intake r/t visits to Coldstone Creamery as evidenced by diet hx and high hs blood glucose
Trauma and closed head injury	Increased energy needs r/t multiple trauma as evidenced by results of indirect calorimetry
Liver failure	Altered gastrointestinal function r/t cirrhosis of the liver as evidenced by steatorrhea and growth failure

NUTRITIONAL VS. MEDICAL DIAGNOSIS

Medical Diagnosis	Nutritional Diagnosis
Obesity	Excessive energy intake r/t lack of access to healthy food choices (restaurant eating) as evidenced by diet history and BMI of 35.
Dependence mechanical ventilation	Excessive energy intake r/t high volume PN as evidenced by RQ >1
Anorexia nervosa	Undesirable food choices r/t history of anorexia nervosa and self-limiting behavior as evidenced by diet history and weight loss of 5 lb

NUTRITIONAL VS. MEDICAL DIAGNOSIS

- Nutrition diagnosis is documented by writing a PES statement.
- The format for the PES statement is:
“Nutrition problem label related to _____ as evidenced by _____.”

Example:

- Inadequate fiber intake (NI-5.8.5) related to lack of nutritional knowledge about desirable quantities of fiber as evidenced by patient’s intake of fiber that is insufficient when compared to the RDA.

NUTRITION DIAGNOSIS COMPONENTS

PES statement should be:

- Clear and concise
- Specific to the patient
- Limited to a single problem
- Accurately related to one etiology
- Based on signs and symptoms from the assessment data

NUTRITION DIAGNOSIS COMPONENTS

PES statement components:

- (P) Problem or Nutrition Diagnosis Label:** Describes alterations in the patient's nutritional status.
- (E) Etiology:** Cause/Contributing risk factors linked to the nutrition diagnosis label by the words "related to."
- (S) Signs/Symptoms:** Data used to determine that the patient has the nutrition diagnosis specified. Linked to the etiology by the words "as evidenced by."

NUTRITION DIAGNOSIS COMPONENTS

- (P)** 1. Can the RD resolve or improve the nutrition diagnosis?
2. Consider the Intake Domain as the preferred problem type

- (E)** 1. Is the etiology listed the “root cause”?
2. Will RD intervention resolve or improve the problem by addressing the etiology?
3. Can RD intervention at least lessen the symptoms?

- (S)** 1. Will measuring the signs and symptoms tell you if the problem is resolved or improved?
2. Are the signs and symptoms specific enough?

PES Overall

Does nutrition assessment data support the nutrition diagnosis, etiology, and signs and symptoms?

EVALUATING PES STATEMENT

- Intake
- Clinical
- Behavioral

**NUTRITION DIAGNOSIS HAS THREE
GENERAL DOMAINS**

Intake (NI)

- Excessive or Inadequate intake compared to requirements (actual or estimated)

Composed of five categories:

1. Energy balance
2. Oral or nutrition support intake
3. Fluid intake
4. Bioactive substance
5. Nutrient

**NUTRITION DIAGNOSIS HAS THREE
GENERAL DOMAINS**

Clinical

- Medical or physical conditions that are abnormal

Composed of three categories:

1. Functional
2. Biochemical
3. Weight

**NUTRITION DIAGNOSIS HAS THREE
GENERAL DOMAINS**

Behavioral

- Environmental related to knowledge, attitudes, beliefs, physical environment, access to food, or food safety

Composed of three categories:

1. Knowledge and beliefs
2. Physical activity and function
3. Food safety and access

**NUTRITION DIAGNOSIS HAS THREE
GENERAL DOMAINS**

- Focuses on the issue at hand taking a detailed course of action and utilizing resources.
- Final goal is to modify an individual, a specific group, or a community's nutrition behavior.

Steps of Nutrition Intervention

1. Selecting
2. Planning
3. Implementing

STEP 3: NUTRITION INTERVENTION

- The nutrition intervention chosen is based by the nutrition diagnosis and uses:
 1. team involvement
 2. science based principles
 3. additional research, if available.
- The key element is that the RD improves the issue by creating a rational plan with the help of the whole family including the individual

STEP 3: NUTRITION INTERVENTION

- Food and/or Nutrient Delivery
- Nutrition Education
- Nutrition Counseling
- Coordination of Nutrition Care

NUTRITION INTERVENTION STRATEGIES

- Prioritize nutrition diagnoses
- Consult AND's EBNPG
- Determine patient-focused expected outcomes
- Confer with family members/caregivers
- Define nutrition plan and strategies
- Define time and frequency of care

PLANNING THE NUTRITION INTERVENTION

- Communicate the nutrition care plan
- Help carry out the plan

IMPLEMENTING THE NUTRITION INTERVENTION

The plan of action will be based on the patient's diagnosis:

1. Select the appropriate strategy based on the problem
2. Discuss the intervention to the patient (include family)
3. Explain the plan (i.e. nutrition education)
4. Schedule of care (program duration follow-ups)
5. Additional materials, documentations, financial/food resources

STEPS OF NUTRITION INTERVENTION

- **An on-going course of action**
- **Accurate, timely, and applicable records**
- **Scrutiny of patient's file should include:**
 1. Date and time
 2. Goals and outcomes
 3. Plan's adjustments
 4. Patient's receptiveness
 5. Resources and referrals
 6. Follow-ups (observe progress) and frequency
 7. Discharge (if applicable)

DOCUMENTATION OF NUTRITION INTERVENTIONS

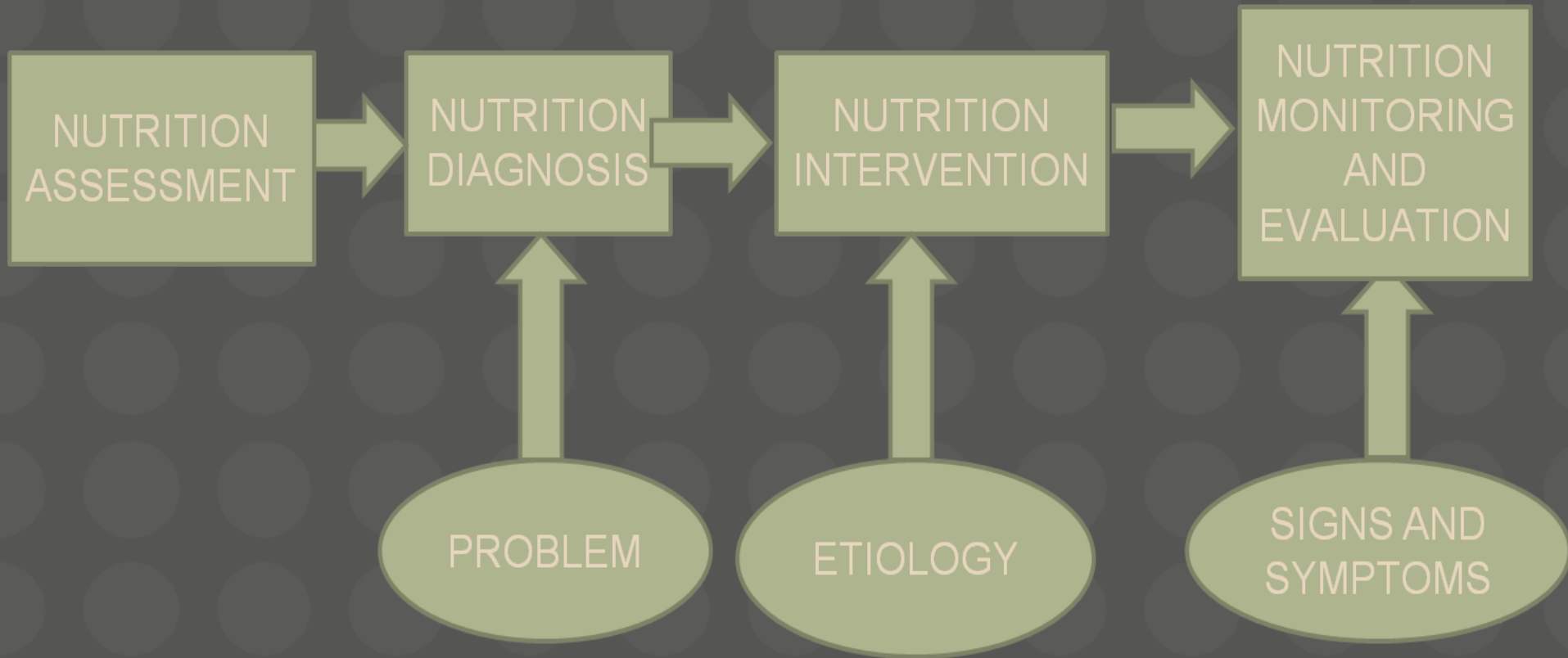
- Critical step that defines the outcomes specific to nutrition care.
- Overlapping between nutrition assessment, monitoring and evaluation terminology (except client history).
- Generating a standardization of evaluating the effectiveness of nutrition intervention.

STEP 4: NUTRITION MONITORING AND EVALUATION

Purpose

- To determine whether progress made is related to the patient's nutrition intervention goals and/or desired outcomes.
- To provide evidence if the intervention is/has been effective in changing the behavior or status of the patient.
- To evaluate nutrition care outcomes.
- To create a standardized language for nutrition intervention.

**NUTRITION MONITORING AND
EVALUATION**



**RELATIONSHIP BETWEEN MONITORING
& INTERVENTION AND NCP**

Monitoring provides findings that the nutrition intervention has impacted the patient's status positively or negatively

Measuring outcomes by using data from the nutrition care indicators*

Evaluate patient outcomes by comparing current findings with previous status/behavior and patient's nutritional intervention goals

<http://adaeal.com/ncp/NCP14/>

MONITORING AND EVALUATION COMPONENTS

- Nutrition related behavioral and environmental outcomes
- Food and nutrient intake outcomes
- Nutrition related physical signs and symptoms
- Nutrition related patient/client centered outcomes

NUTRITION OUTCOME CATEGORIES OF MONITORING AND EVALUATION

- Determine proper indicator/measures
- Determine suitable data for comparison
- Determine the process of the clients relating to expected outcomes
- Determine why the patient outcomes are different from the expected outcomes
- Determine issues that assist or hamper improvement
- Determine how long a patient needs to be under nutrition care

Nutrition Care Process Snapshot NCP step 4: Assessment www.eatright.org

NUTRITION MONITORING AND EVALUATION

Patient outcomes

- Improved nutrition intakes
- Changes in physical signs and symptoms
- Increases patients quality of life

Health & disease outcomes

- Prevention or maintenance of health
- Changes in knowledge
- Changes in severity, duration of disease

Cost outcomes

- Decreased cost to health care system
- Length of hospital stay
- Outpatient visits
- Procedures
- Medication and equipment used

<http://adaeal.com/ncp/NCP14>

HEALTH CARE OUTCOMES

Nutrition Assessment

- Medical hx: 72 y.o. female admitted with decompensated CHF; heart failure team consulted; has been admitted with same dx 2x in past month; meds: Lasix and Toprol; current diet order: 2 grams sodium; has lost 5 pounds in 24 hours since admission; Output > input by 2 liters
- Nutrition history: has been told to weigh herself daily but has no scale at home. Does not add salt to foods at the table. Noticed swollen face and extremities on day prior to admission. Day before admission ate canned soup for lunch and 3 slices of pizza for dinner; does not restrict fluids; has never received nutrition counseling

NCP EXAMPLE #1: ACUTE CARE

Nutrition Diagnosis

- Excessive sodium intake r/t frequent use of canned soups and restaurant foods as evidenced by diet history.
- Knowledge deficit r/t no previous nutrition education as evidenced by frequent use of high sodium convenience foods and inability to name high sodium foods.
- Excess fluid intake r/t dietary indiscretions as evidenced by diet hx and current fluid status.
- Self-monitoring deficit r/t lack of access to scale as evidenced by patient self report.

NCP EXAMPLE #1: ACUTE CARE

Nutrition Intervention

- Excessive sodium intake: Patient will attend Senior Feeding site that provides low sodium meals; Patient will implement survival skills low sodium diet principles and attend heart failure diet program in heart failure clinic.
- Self-monitoring deficit: Patient will obtain free home scale from CHF case manager; will limit fluids to 2 liters/day per instructions in Heart Failure Clinic if adherence to low sodium diet does not achieve appropriate fluid balance.

NCP EXAMPLE #1: ACUTE CARE

Monitoring and Evaluation

- Patient will weigh himself daily and keep log; report to heart failure case manager if weight ↑ 2 lb in 24 hours
- Patient will bring 3 day diet record to heart failure clinic for review by dietitian
- Heart failure case manager will track hospital readmissions over 12 months

NCP EXAMPLE #1: ACUTE CARE

Nutrition Assessment

- JW is a 70 yr. old white man admitted for cardiac bypass surgery. The nutrition risk reveals that he has lost weight without trying and has been eating poorly for several weeks before admission, leading to referral to the RD for nutrition assessment.
- Caloric intake: 1,200kcal/day (less than energy requirements as stated in the recommended dietary allowances). Meals: irregular throughout the day; drinks coffee frequently. History of hypertension, thyroid dysfunction, asthma, prostate surgery. JW lives alone in his own home. He lost his wife 3 months ago, and for the past 6 months he rarely sits down to a cooked meal.

NCP EXAMPLE #2

Nutrition Diagnosis

- Involuntary weight loss related to missing meals as evidenced by loss of 15 lbs over 3 months.
- Inadequate oral food and beverage intake

NCP EXAMPLE #2

Nutrition Intervention

- **Diagnosis 1: Involuntary weight loss**
 - During the hospitalization JW will maintain his current weight, following discharge he will begin to slowly gain weight up to a target weight of 145lb.
 - JW will modify his diet to include adequate calories and protein through the use of nutrient-dense foods to prevent further weight loss and eventually promote weight gain.

NCP EXAMPLE #2

Nutrition Intervention

- Diagnosis 2: Inadequate oral food and beverage intake
 - While in the hospital JW will include nutrient-dense foods in his diet, especially when his appetite is limited.
 - Following discharge JW will attend a local senior center for lunch on a daily basis to help improve his socialization and caloric intake.

NCP EXAMPLE #2

Monitoring and Evaluation

- Monitoring will include weekly weight measurements and nutrient intake analyses while he is in the hospital and biweekly weight measurements at the senior center or clinic when he is back at home.
- If nutrition status is not improving, such as JW's weight records and goals not being met, JW needs to be reassessed and develop new goals and create plans for new interventions.

NCP EXAMPLE #2

American Dietetic Association. *Frequently Asked Questions Regarding the Nutrition Care Process and Model* (2008). Retrieved November 2, 2009 from www.eatright.org

Bueche, J., Charney, P., Pavlinac, J., Skipper, A., Thompson, E., & Myers, E. (2008). Nutrition care process and model part I: The 2008 update. *Journal of the American Dietetics Association*, 113-117. Retrieved November 13, 2010 from <http://www.eatright.org/HealthProfessionals/content.aspx?id=7077&terms=NCP>

Calhoun, J., Goukasian, C., Siritiranukul, j., & Young, R. Nutrition Care Process. November 2010. Retrieved November 2012

Leidys, L., Louisa, B., & Noura, A., & Star, E. Nutrition Care Process. November 2010. Retrieved November 2012.

REFERENCES

Mahan, L.K., & Escott-Stump, S. (2008). *Krause's Food & Nutrition Therapy* (12th ed.). Philadelphia: Saunders.

Nutrition Care Process: Diagnosis, Intervention, Evaluation, and Monitoring. Retrieved from www3.uakron.edu.

Nutrition Care Process Step 4: Nutrition monitoring and evaluation. On-line, *International Dietetics & Nutrition Terminology Reference Manual - Third Edition* Retrieved November 13, 2010 from http://www.adancp.com/topic.cfm?ncp_toc_id=1124

Nutrition Diagnosis Snapshot (2009). In *Pocket guide for International dietetics & nutrition terminology (IDNT) reference manual* (pp. 137-141). Chicago, IL: ADA

Nutrition Diagnosis Snapshot (2010). In *Pocket guide for International dietetics & nutrition terminology (IDNT) reference manual*, ed. 3rd. (pp. 313- 314). Chicago, IL: ADA

REFERENCES

THANK YOU!
NOVEMBER 21, 2012

