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Preface - As a result of recommendations from the Phase 2 Future Practice and Education Task force, the Commission on Dietetic Registration (CDR) approved funding to the Academy of Nutrition and Dietetics’ Foundation to provide support for the establishment of advanced-practice residency programs across the spectrum of dietetics practice. The goal of developing these residencies is to foster advanced practice and to provide a career ladder for Registered Dietitians as outlined by the Career Path Guide developed by the Council on Future Practice. The following committee was charged with preparing guidelines outlined in this document:

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The guidelines for Advanced Practice Residencies are still in development, so your comments are very important to us. Please take a few moments to tell us about your experience using the ACEND Guidelines for Advanced Practice Residencies using the survey link below. Your ideas will be considered as we continue to develop and refine the guidelines. Thank you!

http://www.surveymonkey.com/s/APRGuidelines
Background

Recently, the Academy of Nutrition and Dietetics’ Council on Future Practice developed standardized terms for three levels of dietetics practice (Appendix 1 – Council on Future Practice Dietetics Career Development Guide). As dietitians grow professionally, they layer new knowledge, skills and experiences onto an existing foundation. This growth allows dietitians to move from competent practitioners as they enter the field, to proficient practitioners, and finally to advanced level practitioners.

In July 2008, the final report of the Phase Two Task Force for Future Practice and Education recommended that the Academy’s leadership focus on defining, educating and recognizing the advanced level practitioner. The task force also cautioned that not all dietitians should be required to attain advanced practice credentials because employment demand will exist for all levels of practice. According to an unpublished report from the 2011 Commission on Dietetic Registration (CDR) Workforce Demand Study, Dietetics Supply and Demand: 2010-2020, “if current supply factors and limitations persist, there will be a shortfall between demand for services and the capacity of the dietetics workforce. By 2020, a projected shortfall of about 18,000 full time workers (or more) may exist” (p 2).

The following guidelines describe an advanced practice, dietetic residency program. This program structure is applicable to all dietetic practice areas including nutrition support, foodservice management, clinical nutrition management, oncology, pediatrics, etc.

To design an educational structure for advanced practice residencies, an ACEND board member was selected to lead the project. Other committee members were selected to represent educators and practitioners from a broad range of focus areas. This document is the result of the work completed by this committee.
Goal & Features of an APR Program

To provide a comprehensive, systematic, evidence-based approach to advanced level practice education and training for registered dietitians meeting established pre-requisites, advanced practice residency programs will be expected to have both didactic and experiential components. Institutions/organizations intending to apply will need to provide sufficient evidence that they can provide advanced level education, training and mentoring in practice areas. Potential sites for APR programs are ones that are housed within an organization that has resources available to provide both the didactic and supervised practice experience at an advanced level. Advance Practice Residency programs are not limited to academic institutions or to the clinical practice area. Programs may use more than one organization to achieve both didactic and supervised practice.

Figure 1. Advanced practice residencies must have both a didactic and supervised practice experience component.

To be consistent with other program types, the following areas need to be described by any program developing an APR based on ACEND guidelines: I. Programmatic Goals and Evaluation, II. Program Curriculum and III. Program Management.
I. Programmatic Goals & Evaluation

A. Similar to the ACEND standards for education programs training dietitians at the competency level; programs developing an APR based on ACEND guidelines will be required to declare a program goal and expected outcomes for that goal. At the competency level of dietetics, training is broad across many aspects of the field and thus programs at this level need two goals. At the advanced level of training, such as for an APR, training is more focused and therefore only one goal is required. An APR based on ACEND guidelines must demonstrate the following:

1. A minimum of one programmatic goal.
2. A minimum of one focus area of content.
3. One outcome requiring the program to define the number of graduates who will contribute to the advancement of the profession through leadership, contribution to the body of knowledge, and mentoring after one year.

   **Example** 70% of graduates will contribute to the advancement of the profession through leadership, contribution to the body of knowledge, and mentoring within 1 year of completing the program.

4. A minimum of two corresponding, measurable, expected programmatic outcomes defined by the program. The expected outcomes selected should reflect how effectively the program is meeting the program goal. A cut point or “threshold” should be established and stated within the expected outcome indicating achievement of the expected outcome. For example, if the goal is to develop a residency program that will educate and train advanced dietitians in Sports Nutrition, an expected outcome might be written as follows:

   **Expected Outcome:** 80% of the participants in the sports nutrition residency will pass the Board Certification as a Specialist in Sports Dietetics (CSSD) within 1 year of graduation from the program.

B. Program pre-requisites: To enter an APR, students must meet the following pre-requisites a) a master’s degree and/or pass a comprehensive portfolio review conducted by the program, and 2) have a specified number of years in dietetic practice. The number of years of practice should be determined by the program, however, at least eight years is suggested (1). The program must determine its own criteria for acceptance into its APR using the following options:

1. Applicants who do not have a Master’s degree may complete a portfolio review and the program will use the portfolio to consider the applicant for acceptance, or
2. Applicants must have a Master’s degree and complete a portfolio review to be considered for acceptance, or
3. Applicants must have a Master’s Degree to be considered for acceptance and no portfolio review is done.

**Figure 2.** Criteria for program admission. Number of years to be determined by the program (recommendation = 8 years of exp). If the program chooses, a master’s degree can be substituted for a comprehensive portfolio review or the program can require both a master’s degree and a portfolio review. The criteria for the portfolio should be established by the program to meet its individualized needs.
C. Program evaluation: The program must demonstrate systematic, ongoing evaluation based on programmatic outcomes data.

1. Internal evaluation:
   The evaluation of activities done by those involved in program learning experiences, such as the program director, program faculty, program administrators, preceptors, mentors, students and graduates (2).

2. External evaluation:
   The evaluation of activities done by those not directly involved in program learning experiences, such as employers of graduates, other registered dietitians or dietetic technicians, registered, professionals from other disciplines and communities of interest (2).

D. Based on programmatic data analysis, discuss programmatic strengths, opportunities for improvement, and provide detailed strategies for maintaining or improving program effectiveness.
The program curriculum is based on both competencies and performance objectives (see glossary for definitions). To be consistent with the terminology developed by the Council of Future Practice, terms and criteria used to develop the competencies are from the advanced practice definition. Thus, upon completion of an APR the participant will have achieved or had experience in the activities which define advanced practice. It is the responsibility of the APR program to ensure the didactic information and experiences are at an advanced level.

1. Competencies and Performance Objectives

Each APR program must meet all of the following competencies (see table 1) through an individually designed curriculum which comprises performance objectives linked to the program focus, goal(s), resources, and timeline. It is important for the APR program to individualize the curriculum by:

A. developing curricular activities that allow the student to gain the skills and knowledge related to demonstrating mastery of the chosen programmatic focus and goal, and

B. by creating performance objectives under each competency that are achievable within the framework of the program. It is possible that some of the performance objectives may be met 1) using educational methods such as on-line learning activities, or 2) using projects that can be accomplished prior to or after the student attends the APR program. It is recommended that the program establish a method for assuring that the student will accomplish all competencies prior to completion of the program. For example, a declaration of intent to complete all competencies could be developed for the students to sign prior to beginning the program.

Although the program must demonstrate that it is providing distinct learning experiences for each competency the emphasis (i.e. the breadth and depth of the experiences) will vary by the focus area and goal of the individual program. Thus, a program with a focus area in Pediatric Nutrition will have very different performance objectives when compared with the performance objectives of a program with a focus area in Sports Nutrition or Food Systems Management.

The performance objectives are individual learning activities completed by students during the APR. Therefore, the performance objectives are a) the framework of the curriculum for the program, b) unique to the program, and c) designed to provide the student with experiences that will advance the student from a proficient practitioner to an advanced practitioner. Additionally they should be measurable and linked to advance practice. It is important to remember that an advanced practitioner must be able to translate knowledge and skills into practice in complex situations. Therefore, the performance objectives should be designed to allow participants to develop this level of practice during the APR. The competencies are the skills and knowledge the student has mastered and is able to perform upon completion of the APR.

2. Curriculum: Length and Organization

Program length is dependent upon the amount of time needed for the participant to complete the competencies. Again, not all competencies need to be completed at the physical location of the program. Some may be completed at the facility where participant works or online. The program can individualize the curricular experiences to meet the learning needs of its participants and to meet program goals.

Sample Structure 1:
Sample Structure 2:

**Participant's Home Facility:**
Complete some competencies using online activities

**Program Facility:**
Complete competencies with “hands-on” experiences

**Participant's Home Facility:**
Complete final program competencies

APR is complete!

**Figure 3.** Possible curricular organization patterns. *It is the responsibility of the program to determine the best curricular organization to meet its goals and to meet the needs of its participants.*
Table 1: Domains and Competencies to be addressed by the program

<table>
<thead>
<tr>
<th>Domain</th>
<th>Advocacy/Public Policy</th>
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<tbody>
<tr>
<td>Competency</td>
<td>Influences decision makers related to public policy, resources and services.</td>
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<table>
<thead>
<tr>
<th>Domain</th>
<th>Education and Mentoring</th>
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<tbody>
<tr>
<td>Competency</td>
<td>Designs, develops, directs and implements education and training at an advanced level</td>
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<td></td>
<td>in the focus area.</td>
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<thead>
<tr>
<th>Domain</th>
<th>Application of Knowledge and Skills</th>
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<tbody>
<tr>
<td>Competencies</td>
<td>Performs effectively and efficiently in focus area with a high level of autonomy.</td>
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<td></td>
<td>Applies “decision science” principles in practice.</td>
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<td></td>
<td>Demonstrates expertise in the focus area to others in and outside of the profession.</td>
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<td></td>
<td>Translates and applies evidence based research into advanced level practice.</td>
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<table>
<thead>
<tr>
<th>Domain</th>
<th>Content area/knowledge</th>
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<tbody>
<tr>
<td>Competencies</td>
<td>Demonstrates content expertise in the focus area.</td>
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<td></td>
<td>Is elected or appointed to leadership position in professional organizations within the</td>
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<td>focus area.</td>
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<td></td>
<td>Directs the development and use of professional standards and evidence based practice</td>
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<td>guidelines within the focus area.</td>
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<tr>
<th>Domain</th>
<th>Scientific Inquiry</th>
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<tbody>
<tr>
<td>Competency</td>
<td>Conducts a systematic review of the literature that identifies the weight of evidence</td>
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<td>including areas of consensus, inconsistency, and opportunities for further research.</td>
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<td></td>
<td>Designs, develops and evaluates an advanced level outcomes-based research project that</td>
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<td>will enhance practice.</td>
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<tr>
<th>Domain</th>
<th>Communication</th>
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<tbody>
<tr>
<td>Competency</td>
<td>Uses innovative, appropriate communication techniques and the most effective formats</td>
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<td></td>
<td>for the intended audience.</td>
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<tr>
<th>Domain</th>
<th>Business Skills</th>
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<tbody>
<tr>
<td>Competencies</td>
<td>Designs and directs operational systems to ensure effective and efficient outcomes.</td>
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<td></td>
<td>Applies appropriate quantitative models to improve operational effectiveness and</td>
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<td></td>
<td>efficiency.</td>
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*Competencies were derived from the Council on Future Practice criteria of an Advanced Practitioner (1).
3. Capstone Project

It is recommended that capstone activities be intertwined or embedded throughout the program. However, whether combined or separate, each student must be engaged in a capstone project as part of the residency. Per the Council on Future Practice’s definition on Advance Practice, an advanced practitioner, “…exhibits a set of characteristics that include leadership and vision and demonstrates effectiveness in planning, evaluating and communicating targeted outcomes.” Given this definition, the APR guideline committee determined that advanced level training for dietitians must include activities that promote planning, evaluating and communicating targeted outcomes. For this reason, the capstone project is required by all APR programs.

Capstone guidelines:

A. To successfully complete an APR program, a student must complete a capstone project.

B. The capstone project must be at an advanced level.

C. The capstone project must be either:
   1. A research project, or
   2. A quality improvement project (QIP).

D. The capstone project must reflect advanced skills, critical thinking and scholarly work as defined by the focus area.
   1. **Suggested considerations** for accomplishing the capstone project:
      a. Hypothesis, aims, and methodology development OR clinical/operational problem identification
      b. Skill set needed
      c. Collaborators needed
      d. Resource evaluation and plan to acquire needed resources
      e. Communication of the results including, but not limited to 1) abstract submission with (oral or poster) presentation at a national meeting, or 2) manuscript submission to a peer reviewed journal or professional publication such as practice group newsletters, etc.

4. Curriculum: Components

Each program is required to create and describe a program curriculum and develop performance objectives using the advanced level competencies listed in Table 1:

A. Three areas that must be described in detail are:
   1. Didactic curriculum
      a. Performance objectives should be established that reflect how the program will provide focus area knowledge and content.
      b. A description of the didactic activities required to provide complete performance objectives.
      c. Didactic hours required for achieving performance objectives.
   2. Practice
      a. Practice based performance objectives should be established.
      b. The number of hours spent in supervised practice with an advanced practice preceptor/mentor should be stated and the rationale for this time in terms of meeting the performance objectives.
   3. Program focus area
      a. Specific skill requirements, specific population exposure, involvement or interaction with other disciplines, study development and execution
      b. A description of how the student will acquire knowledge and skills in focus areas.
Figure 4. Example of performance objectives from a competency on cystic fibrosis (CF).

5. Curriculum Evaluation

A. The program must annually evaluate the curriculum to determine whether competencies and performance objectives are being achieved.

B. The program must have systematic monitoring of curricular outcomes.

C. The program must establish cut-points or thresholds for all expected competency outcomes based on performance objectives. These thresholds will be used to monitor curricular quality and achievement of competencies.

D. The program should clearly describe the plan for:
   1. data collection of expected curricular outcomes,
   2. data analysis
   3. data evaluation - to determine whether the expected competency outcomes have been met,

E. The Program must discuss the action plan for improvement of expected competency outcomes not meeting the established thresholds.
III. Program Management

Each program must demonstrate that it has the resources to support its program goal(s):

A. Facilities, equipment, financial support

1. The program must demonstrate that it is financially stable through documentation of income and expenditures.
2. The program must demonstrate it has sufficient resources to support advanced level of learning for the participants.
3. The program must have established policies and procedures for all activities in the program.

B. Director and faculty (including preceptors)

1. Program Director
   a. Must meet advanced practitioner criteria (see glossary)
   b. Must be a registered dietitian
   c. Must have sufficient administrative time and resource support to manage the program.

2. Primary preceptors/faculty mentoring students within the APR programs must demonstrate content matter expertise at the advanced practice level within the area they are mentoring.
   a. Primary preceptors supervise, evaluate, and verify achievement of competencies required for a specific practice experience,
   b. Model code of ethical practice

3. Primary Preceptors/Faculty:
   a. Within each program site, there must be a sufficient number of either primary preceptors or faculty with documented qualifications to instruct and supervise all students at that location.
   b. The faculty and primary preceptors must:
      i. Devote sufficient time to the educational program to fulfill their responsibilities, and demonstrate a strong interest in the education of the students, and
      ii. Administer and maintain an educational environment conducive to educating students in the competencies that they are teaching.
      iii. Documented qualifications include:
         - Board or profession-specific registration or certification in focus area. For example, preceptors for a residency in Renal Nutrition should be Registered Dietitians who are also Certified Renal Specialists (CSR).
         - Licensed as required by the state in which the site is located, if applicable. For example, an RD CSR who is precepting in the state of Ohio should also be a Licensed Dietitian (LD) by the Ohio Board of Dietetics.
         - Participation at the institution in discussions, rounds, journal clubs, and conferences unique to the focus area on a regular basis. For example, the RD, CSR, LD would regularly participate in grand rounds at the facility.
References

1. Definition and Criteria for Advanced Practice, Final Approved by Council on Future Practice, 11/4/10

2. 2008 Eligibility Requirements and Accreditation Standards. Approved by the Accreditation Council for Education in Nutrition and Dietetics on Accreditation for Dietetics Education, 1/2008


Appendix

Council on Future Practice: Dietetics Career Path Guide

Dietetics Career Path Guide

Advanced Practice
Highest level of knowledge, skills & behaviors beyond entry level including leadership and vision

Expert
Mastery in required practice, knowledge and skills

Proficient
Operational skills obtained and adeptly practiced long term. May begin to acquire specialist credentials

Competent
Start of practice (First three years of practice)

Beginner
Supervised practice

Novice
Didactic Education

CP
Coordinated Program

DI
Dietetic Internship

DTP
Dietetic Technician Program

RD Pathways
Focus Area

Education for entry into career
Associate, Baccalaureate or Advanced Degree

16 – ACEND Guidelines for Advanced Practice Residencies
Acronyms and Definitions

**Acronyms**

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<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AND</td>
<td>Academy of Nutrition and Dietetics</td>
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<td>ACEND</td>
<td>Accreditation Council for Education in Nutrition and Dietetics</td>
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<tr>
<td>APR</td>
<td>Advanced Practice Residency</td>
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<td>CDR</td>
<td>Accreditation Council for Education in Nutrition and Dietetics on Dietetic Registration</td>
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<tr>
<td>CP</td>
<td>Coordinated Program in Dietetics</td>
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<tr>
<td>DI</td>
<td>Dietetic Internship Program</td>
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<tr>
<td>DPD</td>
<td>Didactic Program in Dietetics</td>
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<tr>
<td>DSCA</td>
<td>Dietetics Structured Competency Assessment</td>
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<tr>
<td>DTP</td>
<td>Dietetic Technician Program</td>
</tr>
<tr>
<td>FNCE</td>
<td>Food and Nutrition Conference and Exposition</td>
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<tr>
<td>HOD</td>
<td>House of Delegates</td>
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<tr>
<td>NCHCA</td>
<td>National Accreditation Council for Education in Nutrition and Dietetics for Health Certifying Agencies</td>
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**Definitions**

**Advanced Practitioner**
A registered dietitian who demonstrates a high level of skills, knowledge and behaviors. The individual exhibits a set of characteristics that include leadership and vision and demonstrates effectiveness in planning, evaluating and communicating targeted outcomes (1).

**Programmatic Goal**
General statements of what the program must achieve in order to accomplish its mission; the ends toward that program efforts are directed (2).

**Focus Area**
Area of dietetics practice that requires focused knowledge, skills and experience. Some examples are food system management, renal, sports nutrition, pediatrics, neonatal intensive care (3). Further, a person could be at the Proficient or Expert level in his or her focus area of practice but be Competent or even a Beginner in an unfamiliar focus area. Regardless of focus area, a dietitian can attain increasing levels of knowledge and skill throughout a career.

**Programmatic Outcome**
Established criteria for determining a program’s ability to meet its stated goals and the extent to which the program meets that criterion; objective measures of the result or change. Outcomes are typically related to expectation for graduate success in relationship to program completion, employment or professional advancement (2).

**Portfolio Review**
As part of the application process a program may require a portfolio submitted by the applicant. This portfolio is a review of written documentation reflecting a potential participant’s knowledge, skills and/or abilities obtained prior to entering an Advanced Practice Residency (APR). The purpose of having a portfolio review is to allow the applicant to demonstrate they are currently proficient in dietetics and therefore eligible to begin progressing to an advanced level of practice. The criteria for a portfolio review would be established by the program to meet its individual needs.

**Competency**
A statement that defines what a participant will be able to do in a particular area, e.g. content knowledge or business skills upon completion of the program (4).

**Performance Objective**
A set of expected-learning outcomes that, in the aggregate, describe the actions that learners exhibit when they meet a competency.

**Capstone Project**
A culminating experience that includes conducting either an advanced quality improvement project or a research project and encompasses the program’s concentration area.

**Primary Preceptors**
Individual in the supervised practice facility who oversees the practical experience and training provided to an APR participant for a particular rotation(s), maintains appropriate...
contact with the program director and APR participant to coordinate planned learning experiences and assignments and conducts the participant evaluation. This person does not have to be a registered dietitian but does have to be at the advanced level in their focus area (2).

**Faculty**

Teaching staff for didactic instruction and supervised practice (2)