

# Inter-Professional Competencies in Nutrition and Physical Activity for Healthcare Professionals

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# Status Of Medical Nutrition Education in US

- Integration of nutrition in medical education has been an uphill, largely unsuccessful battle
- Most medical schools do not require any nutrition course
- Small and decreasing percent of medical schools meet the goal of 25 hours of nutrition in 4 year curriculum
- Recent changes in curricula are thought to represent a new opportunity

# Objectives

## Part I – *what we need to do*

- Distinguish competency based from structure (objectives) based learning
- Review competency framework developed by AAMC for health professional training

## Part II – *how we might do it*

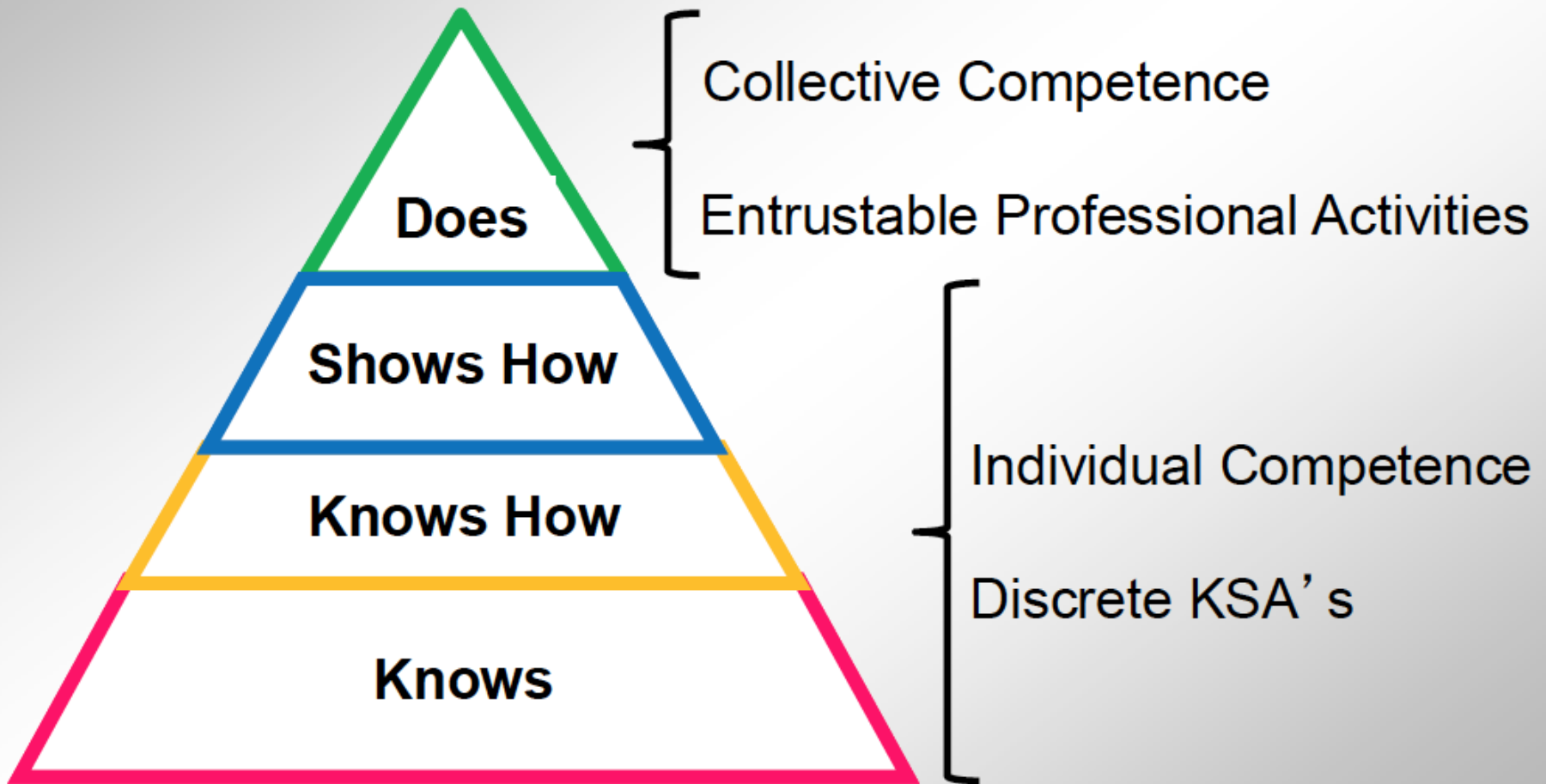
- Review existing nutrition and physical activity competencies in existing HP curriculum
- Provide examples of successful competency based IPE
- Make recommendations for next steps in the development of fundamental milestones

# A Comparison of Educational Programs

	<b>Structure-based</b>	<b>Competency –based</b>
Driving force for curriculum	Content – knowledge acquisition	Outcome – knowledge application
Driving force for process	Teacher	Learner
Path of learning	Hierarchical (teacher ---> student)	Non-hierarchical (teacher <---> student)
Typical assessment tool	Single subjective measure	Multiple objective measures (“evaluation portfolio”)
Assessment tool	Proxy	Authentic (mimics real tasks of the profession)
Setting for evaluation	Removed (gestalt)	“In the trenches” (direct observation)
Evaluation	Norm-referenced	Criterion-referenced

# Miller's<sup>1</sup> Pyramid of Clinical Competence

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<sup>1</sup>Miller, GE. Assessment of Clinical Skills/Competence/Performance. *Academic Medicine (Supplement)* 1990. 65. (S63-S67)

van der Vleuten, CPM, Schuwirth, LWT. Assessing professional competence: from Methods to Programmes. *Medical Education* 2005; 39: 309–317

# Competency Domains for Health Professionals

- Patient Care
- Knowledge for Practice (Medical Knowledge)
- Practice-Based Learning and Improvement
- Interpersonal and Communications Skills
- Professionalism
- Systems-Based Practice
- Inter-Professional Collaboration
- Personal and Professional Development

# The Outcome Project

1999 - Outcome Project Begins

- General Competencies Defined
- Increasing emphasis on educational outcomes (vs. process)

2001- Quadrads (Board, PD, RRC, Res) Convened

- Translate core competencies into specialty-specific competencies
- Portfolios were the next big hope

2002-2008 – Implementation of 6 Competency Domains

- Residency programs expected to develop instructional and assessment methods for integrating the competencies in their curricula
- ACGME assessment “toolbox” developed

# Milestone Project Goals

- Milestones provide a more explicit definition of the knowledge, skills, attributes, and performance that is expected of our trainees



# Levels of Expectation

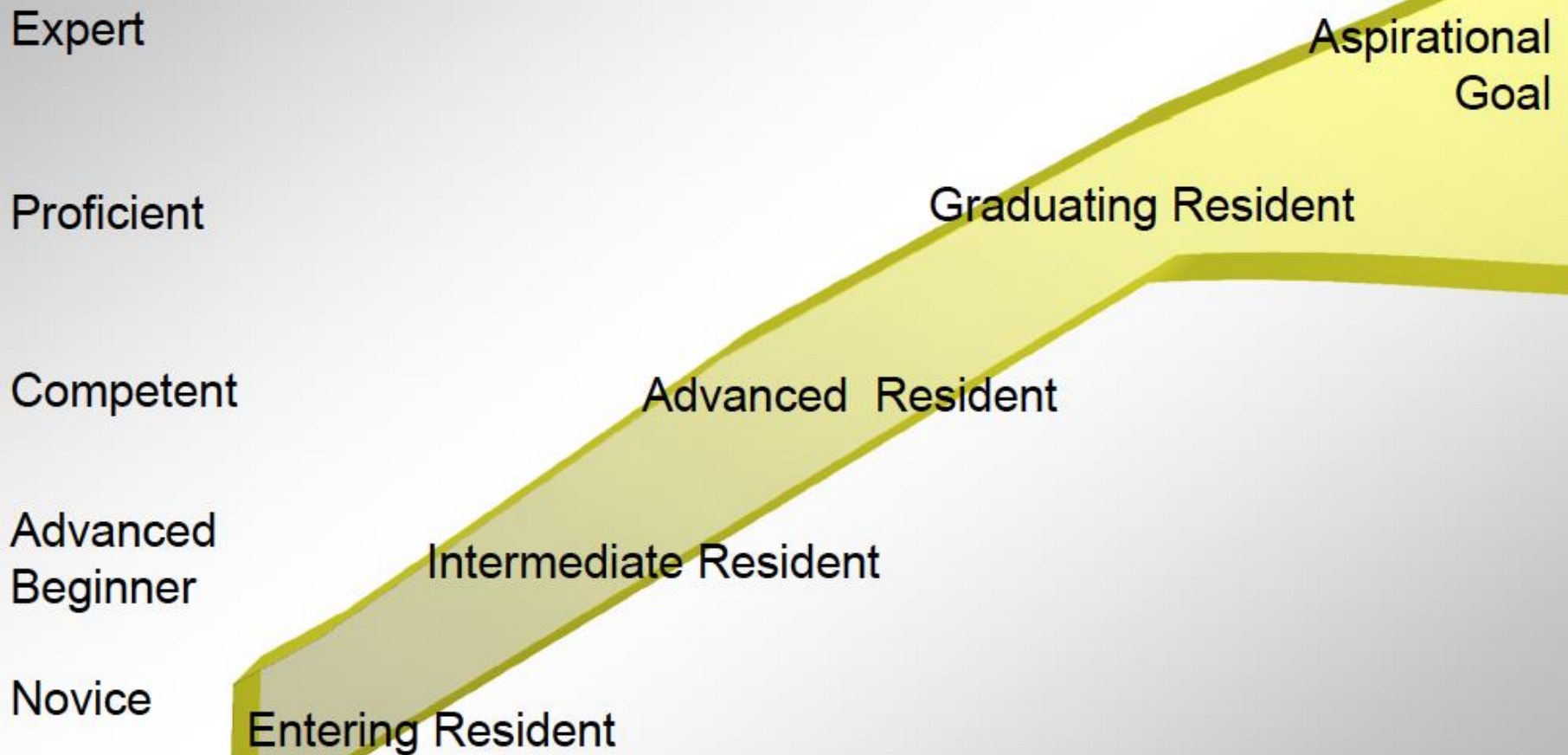
Level 1

Level 2

Level 3

Level 4

Level 5



# Milestone Template

Competency and Sub-competency described

**Milestone Description: Template**

Level 1	Level 2	Level 3	Level 4	Level 5
What are the expectations for a beginning resident?	What are the milestones for a resident who has advanced over entry, but is performing at a lower level than expected at mid-residency?	What are the key developmental milestones mid-residency?  What should they be able to do well in the realm of the specialty at this point?	What does a graduating resident look like?  What additional knowledge, skills & attitudes have they obtained?  Are they ready for certification?	Stretch Goals – Exceeds expectations

**Comments:**

# Expected Benefits of Milestone Assessment

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## Benefits for the Program

- Guide curriculum development
- Guide accreditation requirement revision
- **Earlier identification of under-performers**

## Benefits for the Public

- Better definition of what a physician can do at the completion of training
- Use for program accreditation
- Possible use for board certification

# The Outcomes Project



- All specialties to be completed by 12/2012
- Pilot testing ongoing

- Large scale implementation of milestones for testing
- New accreditation system launch July 2013 ~ staggered approach (e.g. initial 7 specialties – EM, IM, Peds, Urology, Ortho, Neurosurgery)
- Remainder of specialties launch July 2014

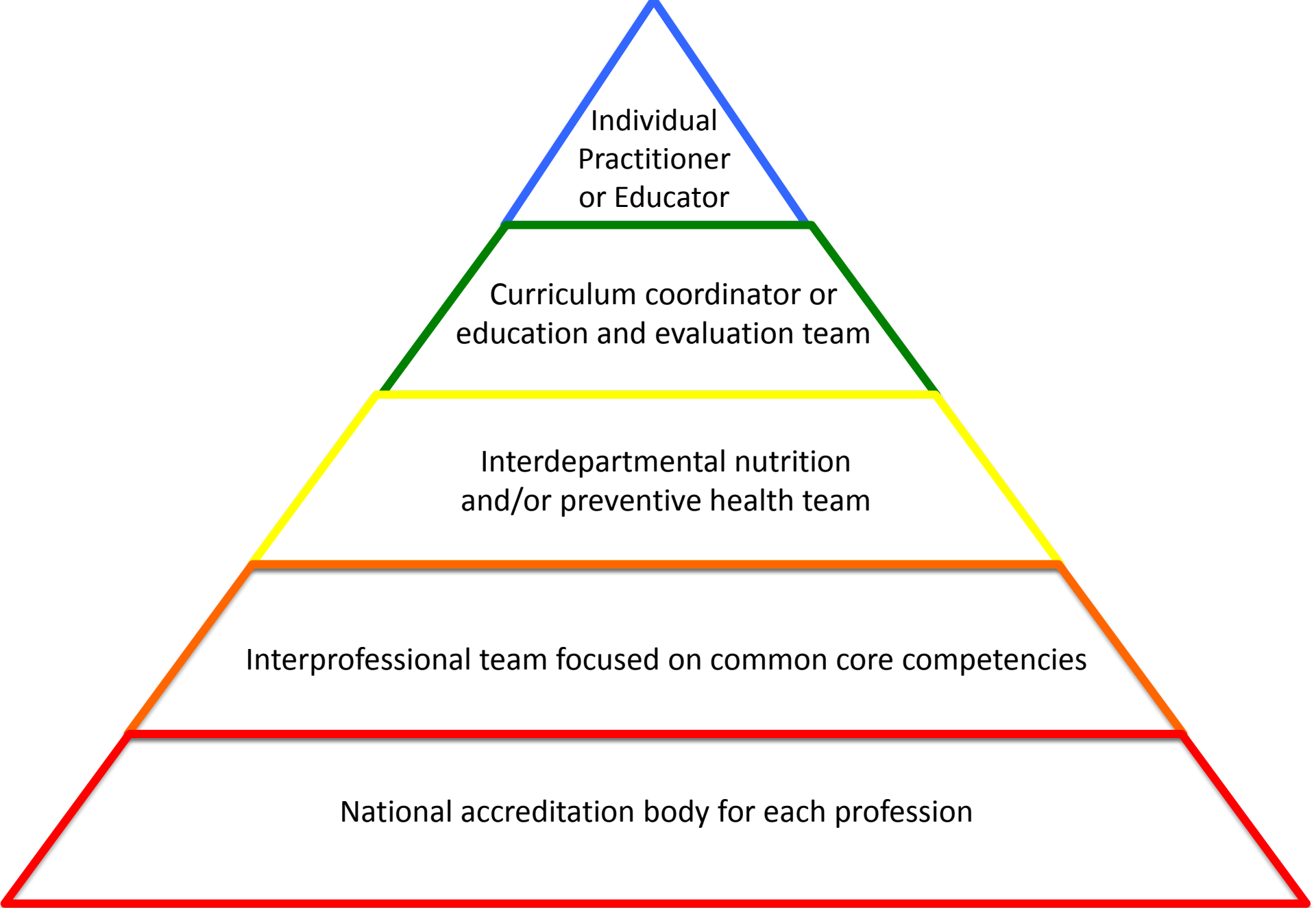
# Competencies Relevant to Nutrition for Select Advanced Practice Nursing Roles

- **Assesses** the impact of an acute, critical, and/or chronic illness or injury and the health promotion needs using age, gender, and culturally appropriate standardized assessment instruments or processes in relation to **nutrition**.
- **Plans diagnostic strategies** to screen for and prevent sequelae of acute and critical illnesses and iatrogenic conditions.
- Provides for **promotion of health and protection from disease** by assessing risks associated with care of complex acute, critical, and chronically-ill patients, such as: physiologic risk, including immobility, **impaired nutrition**, fluid and electrolyte imbalance, and adverse effects of diagnostic/therapeutic interventions.
- **Implements care** to prevent and manage geriatric syndromes such as falls, loss of functional abilities, dehydration, delirium, depression, dementia, **malnutrition**, incontinence, and constipation.
- **Prescribes, monitor** the effect of therapies such as physical therapy, occupational therapy, speech therapy, home health, hospice, and **nutrition therapy**.

# Part II – How might we do it?

*Given the competency and milestone based approach, what are the implications for the development of inter-professional competencies in nutrition and physical activity for healthcare professionals?*

- Review existing nutrition and physical activity competencies in existing HP curriculum
- Provide examples of successful competency based IPE
- Make recommendations for next steps in the development of fundamental milestones



Individual  
Practitioner  
or Educator

Curriculum coordinator or  
education and evaluation team

Interdepartmental nutrition  
and/or preventive health team

Interprofessional team focused on common core competencies

National accreditation body for each profession



#### Year 1

### Nutrition

#### Science Basic to the Practice of Medicine

Neural Science

Clinical Practice

Human Development

Gross Anatomy

Psychiatric Medicine

#### Year 3

Surgical Subspecialties I

Surgical Subspecialties II

Primary Care

Medicine

Ob/Gyn

Psychiatry

Surgery

Neurology

Pediatrics

### Nutrition Competencies

- 1) Explain the role of nutrition in optimizing health throughout the lifecycle.
- 2) Explain the role of nutrition in the prevention, etiology, progression and treatment of diseases.
- 3) Take and interpret a complete dietary history from patient.
- 4) Explain the types of foods that comprise normal, restricted and supplemented diets.
- 5) Perform nutrition assessment based on physical findings and laboratory results.
- 6) Educate healthy and medically compromised patients about diet adequacy.
- 7) Being able to evaluate "fad diets" and popularized dietary recommendations.
- 8) Answer frequently asked questions about nutrition.

Cases	FAQ
Dietary Assessment Tools	
Guidelines	Faculty
Question of the Month	
Web Links	About Us

#### Year 2

Pathophysiology

Pharmacology

Clinical Practice II

Radiology

Physical Diagnosis

Psychiatric Medicine II

#### Year 4

Electives



# Example: Institute of Human Nutrition Health Professionals MS in Nutrition

- Executive program to train HPs in nutrition
- In the past two years, 40 Health professionals completed or currently enrolled (~2% dental hygienists, 5% dietitians, 20% nurses or nurse practitioners, 60% physician, 5% physician assistants, ~8% other).
- Integration of nutrition and physical activity knowledge with intensive training (1/4 of the curriculum) in approaches to behavior change (cognitive behavioral therapy, harm reduction, health literacy, motivational interviewing, psychodynamic approaches).
- Qualitative and quantitative evaluation in progress

# A Comparison of Clinical Practice Approaches

	<b>Structure-based</b>	<b>Competency –based</b>
Driving force for curriculum	Content – knowledge acquisition	Outcome – knowledge application
Driving force for process	Teacher <b>Practitioner</b>	Learner <b>Patient</b>
Path of learning	Hierarchical (teacher ---> student) <b>(HP -→ patient)</b>	Non-hierarchical (teacher <---> student) <b>(HP ←→ patient)</b>

Adapted from Carraccio C, et al. Acad Med 2002;77:361

# Consistency of IPE and Competency Approach with ACA and Chronic Care Model

## *Chronic Care Model (CCM) Core Elements*

<b>Core Element</b>	<b>Focus</b>
Healthcare Delivery System Redesign	<i>Plan and manage</i> to facilitate preventive care; redefine roles for the clinical team to implement CCM elements.
Healthcare Organization Support	<i>Organization-level leadership and resources</i> for CCM (e.g., organization leadership to sustain CCM).
Expert-Informed Decision Support	Provision of <i>expert input to generalist clinicians</i> to help manage cases without need for separate specialty treatment.
Improving Clinical Information Systems	<i>Track and coordinate care</i> , facilitate information flow among clinical sources, the clinical team and patients.
Fostering Patient Self-management	<i>Coaching &amp; problem solving</i> to help patients self-manage disease and to participate in clinical decision making
Linking Patients to Community	Enhance <i>access to community resources</i> (e.g., peer support groups, exercise programs, housing, home care programs).

Adapted from Bodenheimer, Wagner & Grumbach. 2002 JAMA. 2002;288:1909-14.

# Conclusions

## Next Steps for Nutrition and IPE

In partnership with stakeholder organizations:

- Endeavor to select the published competencies that are relevant to nutrition
- Assist in the development of nutrition related milestones for healthcare professionals
- Recommend how milestone evaluation can be integrated into the accreditation process
- Determine cost impact of improved patient care

# Proposed core nutrition competencies for medical students (I)

## Level 1 (years 1 and 2: preclinical)

- 1) Micronutrients and macronutrients—DRIs
- 2) Energy metabolism—  
calculating BMR, body composition
- 3) Nutrition assessment—  
BMI, weight gain/loss, nutrient deficiencies
- 4) Nutrient requirements throughout the life cycle
- 5) Taking a diet/physical activity history,  
prescription for physical activity
- 6) Stages of change—5 A's of counseling patients

Reference

# Proposed core nutrition competencies for medical students (II)

Level 2 (yrs 3 & 4: clinical clerkships, transition to residency)

- 1) Nutrition in health promotion and disease prevention—  
US Dietary Guidelines and Healthy People 2020
- 2) NIH guidelines for prevention and treatment of  
obesity, diabetes, HBP, CHD, CA, osteoporosis—  
ATPIII, DASH, etc
- 3) Outpatient and inpatient nutrition management—  
medical nutrition therapy for acute and chronic disease
- 4) Critical care—enteral and parenteral nutrition
- 5) Referral to an RD for nutrition consult

# Student Centered Activities

- Self-Assessment (Behavior Change)
- Community Service Projects
- Student Run Clinics
- Join School Health Programs
- Join Environmental Groups
- Focus on Waste in School Cafeterias

# Suggested Reading

Carraccio C, et al. Shifting Paradigms: From Flexner to Competencies. Acad Med. 2002;77:361-7

Englander R, et al. Toward a Common Taxonomy of Competency Domains for the Health Professions and Competencies for Physicians. Acad Med. 2013;88:1088-94

Frank RA, et al. Competency-based Medical Education: Theory To Practice. Med Teach. 2010;32:638-45

Caverzagie KJ, et al. The Internal Medicine Reporting Milestones and the Next Accreditation System. Ann Int Med. 2013;158:557-9

Smith SC, et al. A Multisite, Multistakeholder Validation of the Accreditation Council for Graduate Medical Education Competencies. Acad Med. 2013;88:997-1001



# IHN Approach

- Weekend Certification Program
- $\frac{3}{4}$  time focused on didactic core
  - Biochemistry and Physiology of Nutrition
    - Macro and Micronutrients
  - Growth and Development
  - Clinical Nutrition
  - Essentials of Nutrition Counseling
  - Analysis of Medical Literature

# IHN Approach Continued

- ¼ time spent on counseling and complexity of behavior change
- Motivational Interviewing
- Cognitive Behavioral Psychology
- Harm Reduction
- Psychodynamic Aspects of Changes
- Health Literacy