Archana J. McEligot, PhD
Nutrition for a Changing World
Overview and Introduction
Multidisciplinary Field

- The field of nutrition as it relates to childhood obesity today is truly multidisciplinary and involves various disciplines from:
  - Food Science (Technical aspects of foods)
  - Biochemistry and chemistry
  - Psychological aspects
  - Genetic aspects
  - Personal
  - Sociocultural
  - Economic
  - Political
“I HAVE TO BE VERY CAREFUL WHEN I EAT... MY MOTHER SNEAKS CARROTS INTO EVERYTHING.”
"Our menu is divided into three sections: Cancer causing foods, artery clogging foods, and foods that are being boycotted for political or environmental reasons."
Changes in USDA’s Recommendations

- 1940s
- 1950s-1960s
- 1970s
- 1992
- 2005

Food for Young Children

1916
CHEESEBURGER

20 Years Ago

333 calories

Today

590 calories

Calorie difference: 257 calories
SPAGHETTI AND MEATBALLS

20 Years Ago

500 calories
1 cup spaghetti with sauce and 3 small meatballs

Today

1,025 calories
2 cups of pasta with sauce and 3 large meatballs

Calorie difference: 525 calories
BAGEL

20 Years Ago

- 140 calories
- 3-inch diameter

Today

- 350 calories
- 6-inch diameter

Calorie Difference: 210 calories
Demographics have changed as well

From left: Shauna Winston, Archana J. McEligot, Ka'ala Pang, Juliet McMullin, Louise Bone and Rebekah Ngewa
Demographics have changed as well

California Population

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Share of Population</th>
<th>Change from 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites:</td>
<td>40%</td>
<td>-5%</td>
</tr>
<tr>
<td>Blacks:</td>
<td>6%</td>
<td>-1%</td>
</tr>
<tr>
<td>Hispanics:</td>
<td>38%</td>
<td>+28%</td>
</tr>
<tr>
<td>Asians:</td>
<td>13%</td>
<td>+31%</td>
</tr>
<tr>
<td>Native Americans:</td>
<td>0%</td>
<td>-9%</td>
</tr>
<tr>
<td>Multiracial:</td>
<td>3%</td>
<td>+7%</td>
</tr>
<tr>
<td>Other groups:</td>
<td>1%</td>
<td>+22%</td>
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</table>

2010 Population: 37,253,956

Change from 2000: + 10.0%
• How does change in demographics affect nutrition?
• How do changes in demographics affect childhood obesity?
• How does changes in demographics affect education and how should it affect education?
NCW Requirements

• 1. Enroll in the nutrition course (HESC 350) for Spring 2012.
  • Concepts of nutrition as they relate to nutritional needs, practices, and problems throughout the life cycle.

• 2. Enroll in a new childhood obesity and nutrition in immigrant populations course for Fall 2012.
  • The course will provide students an understanding of the social, cultural, and environmental framework that influences childhood and adult obesity, particularly in diverse immigrant populations.

• 3. Enroll in an experiential learning course (HESC 495) for Spring 2013.
  • Internships related to childhood obesity and nutrition will be completed, with either local, regional, or national organization.

• 4. Attend a one weekend symposium hosted by UC Davis and CSUF faculty.
  • In partnership with UC Davis faculty, the symposium will consist of current research and projects on childhood obesity and nutrition. Also, career opportunities, graduate opportunities, and linkages between UC and CSU systems will be discussed. September 22nd and 23rd, from 8:30 – 2:00pm.
Theoretical Background

- Social contextual: Macro and microinfluences on health and health disparities (Pasick 2009).
- It includes familial, demographic, economic, political, legal, organizational, physical environmental, and cultural factors that affect the resources available to individuals throughout their lives.
- At the individual and societal level, issues of acculturation and broader economic and physical environmental influences that may affect, prevent and combat childhood obesity in the immigrant population, will be integrated in the curriculum.
Nutritional Biology Topics Relevant to Issues of Obesity in Diverse Populations

- Maternal & child nutrition issues in low-income populations and developing countries
- Fetal origins of chronic disease
- Biologic consequences of obesity and development of chronic disease in children and adults (Diabetes, Cardiovascular disease, and Metabolic syndrome)
- Fruits and vegetables, phytonutrients and health promotion: Food Patterns (MyPlate & more)

Behavioral & Cultural Influences and Nutritional Interventions

- Behavioral interventions to decrease early childhood obesity in the WIC population
- Acculturation, parental feeding strategies and childhood nutrition in the Hispanic bi-national (US – Mexico) population and Asian-Pacific Islander population
- Nutrition curricula and garden-based learning in the K-12 schools
- Food insecurity, food assistance programs, diet quality and body weight

Nutrition Literacy and Community Health

- Youth science literacy – impact on nutrition and health
- Fact and Fiction in nutrition, food and agricultural topics
- Career pathways and opportunities in nutrition and community health
### Working Group

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archana McEligot, PhD</td>
<td>CSUF, HESC</td>
<td>Nutritional epidemiology, specifically nutrition assessments and interventions</td>
</tr>
<tr>
<td>Francene Steinberg, PhD, RD</td>
<td>UC Davis</td>
<td>Registered dietician and nutritional scientist</td>
</tr>
<tr>
<td>Jie Weiss, PhD</td>
<td>CSUF, HESC</td>
<td>Evaluating health behaviors in low-income Hispanic populations through decision-making model</td>
</tr>
<tr>
<td>Debra Patterson, PhD</td>
<td>CSUF Kinesiology</td>
<td>Physical education in elementary schools</td>
</tr>
<tr>
<td>Tu-Uyen Nguyen, PhD</td>
<td>CSUF Asian American Studies</td>
<td>Developing and implementing community-based service-learning courses</td>
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<tr>
<td>Laura Chandler, PHDc</td>
<td>CSUF, HESC</td>
<td>Student advisement, outreach, and internship coordination and placement</td>
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<tr>
<td>Student Advisor</td>
<td>CSUF, various departments</td>
<td>Student engagement</td>
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### Faculty Advisory Board

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<thead>
<tr>
<th>Name</th>
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<th>Role and Responsibilities</th>
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</thead>
<tbody>
<tr>
<td>Dr. Maria Linder</td>
<td>CSUF Biochemistry</td>
<td>Designing and implementing high quality student research experiences</td>
</tr>
<tr>
<td>Dr. Carl Keen</td>
<td>UC Davis</td>
<td>Developmental nutrition</td>
</tr>
<tr>
<td>Dr. Lucia Kaiser</td>
<td>UC Davis</td>
<td>Childhood obesity in the Hispanic population</td>
</tr>
<tr>
<td>Dr. Sheri Zidenberg-Cherr</td>
<td>UC Davis</td>
<td>Nutrition education for youth and adults</td>
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### Community Advisory Board

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Maridet Ibanez, RD</td>
<td>Orange County Health Care Agency</td>
<td>Orange County Nutrition Services/WIC program</td>
</tr>
<tr>
<td>Jane Ka’ala Pang</td>
<td>PHPIP</td>
<td>Pacific Islander community health, community organizing</td>
</tr>
<tr>
<td>Kat Soltanmorad, RD</td>
<td>Orange County Dept. of Education</td>
<td>K-12 school-based nutrition programs</td>
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<tr>
<td>Jackie Tran &amp; Mary Foo</td>
<td>OCAPICA</td>
<td>Asian Pacific Islander community health, community organizing, intern supervision</td>
</tr>
<tr>
<td>Alejandro Espinoza, MPH</td>
<td>Latino Health Access</td>
<td>Latino community health, community organizing, and intern supervision</td>
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### External Evaluator

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<tr>
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<tbody>
<tr>
<td>Dr. Natalie Tran</td>
<td>CSUF Elementary &amp; Bilingual Education</td>
<td>Program evaluation</td>
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• Thank you and Questions?