Welcome to
“Findings from the Nutrition Services Program Process Study and Meal Cost Analysis”

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Facilitator: Magda Hageman

The webinar will begin at 3:30 p.m. Eastern Daylight Time

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Findings from the AOA Nutrition Programs Process Study and Meal Cost Analysis

National Evaluation Results Webinar
The National Resource Center on Nutrition and Aging

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Title III-C Nutrition Services Program (AOA Nutrition Programs)

• Adequate nutrition is critical for people of all ages, but especially important for older adults

• Title III-C Nutrition Services Program (AOA Nutrition Programs) plays a vital role in ensuring needs of older adults are met

• Nutrition services
  – Congregate and home-delivered meals
  – Nutrition screening, assessment, education and counseling

• Other types of services
  – Health promotion
  – Medical screening
  – Social or recreational activities
Administration of AOA Nutrition Programs

Overview of AOA Nutrition Programs

- Funding and administration
  - ACL awards grants to SUAs based on share of population aged 60 and older
  - AAAs administer programs within planning and service area (PSAs)
  - AAAs award grants/contracts to LSPs to provide services
  - Other funding (e.g., in-kind and participant contributions, and donations)
  - Congregate meals and services provided at LSP meal sites; home-delivered meals provided to homebound clients by meal sites, central kitchens, or other organizations

- Target population
  - People aged 60 and older and their spouses of any age
  - Those with greatest economic or social need
  - Low-income, minority, rural, limited English proficiency, at risk of institutionalization

- Program services
  - Congregate/home-delivered meals that comply with Federal nutrition standards
  - Nutrition screening, education, assessment, and counseling services
AOA Nutrition Programs Evaluation Objectives

1. Process study
   - Provide information to support program planning
   - Analyze program structure, administration, staffing, coordination, processes, and service delivery

2. Cost study
   - Estimate the average cost of a congregate and a home-delivered meal
   - Assess variation in costs by select characteristics of local providers
   - Provide information to make funding decisions

3. Client outcomes study (ongoing)
   - Assess program effectiveness using a variety of outcomes:
     • Diet quality based on 24-hour dietary recall
     • Food security, socialization, longer-term health and institutionalization

Process Study
### Study Design

- **56 SUAs responded (100% response rate*)**
  - Census of SUAs

- **333 AAAs responded (92% response rate*)**
  - Sample of AAAs

- **199 LSPs responded (85% response rate*)**
  - Sample of LSPs from Responding AAAs

*Response rate for web surveys; agencies also received fax-back surveys

### Survey Topic Areas

- Access to Services
- Budget and Fiscal
- Consumer Direction
- Emergency Services and Planning
- Facilities and Equipment
- Food Safety
- Funding/Resource Allocation
- Integration with Other Programs and Partnerships
- Medicaid Waivers
- Nutrition Counseling, Education, Assessments
- Organizational Structure
- Participant Contributions
- Prioritization of Services and Waiting Lists
- Program Characteristics
- Quality Assurance and Monitoring
- Referrals
- State and Area Plans
- Targeting
- Technology and Data
- Training and Technical Assistance

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**MATHEMATICA**

**Policy Research**
Analysis Methods

- Descriptive analysis: percentages, means, and medians
- Grouping agencies together
  - Statistics for SUAs include SUAs that also function as AAAs, where possible
  - Statistics for AAAs include AAAs that also function as LSPs, where possible
- Analysis weights
  - Weights not needed for SUA analysis
  - Weights used for AAA and LSP analyses
    - Based on weighted data, the AAA and LSP findings are nationally-representative of population of AAAs and LSPs
- Study limitations
  - Sampling error
  - Item nonresponse

Organizational Structure of National Aging Network

- SUAs
  - 56 SUAs: one in 50 States, DC, and 5 territories
  - SUAs oversee a median of 12 AAAs, with a low of 1 and high of 59
  - 80 percent have a Nutrition Program Administrator (NPA)
    - For many agencies, this is a registered dietitian or state-credentialed nutrition professional
- AAAs
  - 629 AAAs in Title III-C NSP, down from 668 in 1995
  - 62 percent are public organizations
  - Provide nutrition services to an average of 2,561 people per year (congregate nutrition) and 1,376 people per year (home-delivered)
- LSPs
  - 61 percent are private, nonprofit agencies, similar to 1995
  - Provide nutrition services to an average of 942 people per year (congregate nutrition) and 443 people per year (home-delivered)

Source: SUA survey; AAA survey and LSP survey, weighted data; Tables III.1, III.2, and III.3.
Congregate Meal Program Characteristics

**Percentage of LSPs Providing Congregate Meals**

- 95% in 1995
- 93% in 2015

**Number of Congregate Sites per LSP, 2015**

- 60% providing 1 site
- 23% providing 2 to 5 sites
- 9% providing 6 to 10 sites
- 8% providing 11 or more sites

Source: LSP survey, weighted data, Tables III.7 and III.8.

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**Congregate Meal Program Characteristics**

**LSP Provision of Congregate Meals on Weekends (Percentage)**

- 100% in 2015

**Percentage of Congregate Sites Offering Breakfast, Lunch, or Dinner, 2015**

- 100% offering each meal

Source: LSP survey, weighted data, Tables III.7 and III.8.
Home-Delivered Meal Program Characteristics

Percentage of LSPs Providing Home-Delivered Meals

- 1995: 80%
- 2015: 87%

Number of Days Per Week Deliveries Made to Clients’ Homes

- 1 to 4: 88%
- 5: 10%
- 6 or 7: 2%

Source: LSP survey, weighted data, Tables III.7 and III.11.

Number of Meals Provided to a Client at Each Visit

- 1: 80%
- 2 to 4: 7%
- 5: 4%
- 6 or more: 8%

Source: LSP survey, weighted data, Tables III.11 and III.12.

1 Percentages do not sum to 100 due to rounding.
2 Multiple answers allowed
Percentage of LSPs that Offer Special or Therapeutic Diets

<table>
<thead>
<tr>
<th>Diet Type</th>
<th>Percentage Congregate Meals</th>
<th>Percentage Home-Delivered Meals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetic</td>
<td>24</td>
<td>34</td>
</tr>
<tr>
<td>Low-sodium</td>
<td>42</td>
<td>10</td>
</tr>
<tr>
<td>Modified-texture</td>
<td>51</td>
<td>12</td>
</tr>
<tr>
<td>Vegetarian</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Kosher</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Any</td>
<td>63</td>
<td>79</td>
</tr>
</tbody>
</table>

Source: LSP survey, weighted data, Tables III.10 and III.12.

Other Nutrition and Non-Nutrition Services

- Nutrition services provided by LSPs
  - Nutrition education (77 percent)
  - Nutrition screening and assessment (52 percent)
  - Nutrition counseling (28 percent)
- Non-nutrition services
  - Transportation to and from meal sites (76 percent)
  - Health promotion and disease prevention activities (63 percent)
  - Social activities (62 percent)
  - Case management (53 percent)
  - Assistance with chores or housekeeping (34 percent)
  - Grocery assistance (28 percent)

Source: LSP survey, weighted data, Table III.7.
Clients’ Referrals to and From Congregate and Home-Delivered Meal Programs

<table>
<thead>
<tr>
<th>Referrals To Meal Programs (Percentage of AAAs)</th>
<th>Referrals From Meal Programs (Percentage of AAAs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family and Friends</td>
<td>Transportation Services</td>
</tr>
<tr>
<td>Information and Assistance System</td>
<td>Adult Protective Services</td>
</tr>
<tr>
<td>Self</td>
<td>Medicare Part D</td>
</tr>
<tr>
<td>Case Management System</td>
<td>Veterans Affairs</td>
</tr>
<tr>
<td>Hospital, Health Care Facility, or Discharge Planner</td>
<td>SNAP Low-Income Home Energy Assistance Program</td>
</tr>
</tbody>
</table>

Source: AAA survey, weighted data, Tables III.20, III.21, and III.22.

Quality of Program Services Provided

- **AAAs use variety of methods to ensure quality of nutrition education**
  - 58 percent of AAAs require credentialed nutrition professional to conduct education
  - 45 percent of AAAs conduct survey of program participant needs and use of evidence-based education programs
  - 68 percent use curricula from a reliable, science-based organization

- **Nearly all (96 percent) AAAs and LSPs require service personnel to have food safety and sanitation training**

- **Reported instances of food-borne illness are very rare**
  - 5 incidents total in past three years across all 333 AAAs in sample

Source: LSP survey, AAA survey, weighted data, Tables III.32 and III.33.
LSP Recommended Participant Contributions

- Congregate Meal Participants:
  - $0.00 to $1.50: 6%
  - $1.51 to $3.00: 24%
  - $3.01 to $4.50: 30%
  - $4.51 or more: 40%

- Home-Delivered Meal Participants:
  - $0.00 to $1.50: 8%
  - $1.51 to $3.00: 31%
  - $3.01 to $4.50: 39%
  - $4.51 or more: 22%

Source: LSP survey, weighted data, Table III.41. Percentages may not sum to 100 due to rounding. Meal contributions are voluntary.

Program Process Study Takeaways

- AoA nutrition programs provide a continuum of nutrition services, in addition to meals, to participants. This includes nutrition screening, assessment, education, and counseling.

- AoA nutrition programs are closely linked to other parts of the nation’s home- and community-based care system through cross-referrals and coordination of service delivery.

- From 1995 to 2015:
  - LSPs congregate meal provision has decreased slightly and home-delivered meal provision has increased
  - There has been an expansion in weekend meals by congregate meal providers
  - There has been an increase in the percentage of congregate meal and home-delivered meal providers that make “modified” meals available (e.g., low in fat, sodium, calories)
Meal Cost Analysis

Meal Cost Analysis Objectives

• Answer two key research questions:
  1. What is the average cost of a congregate and home-delivered meal provided under the AOA Nutrition Programs?
  2. Do these average costs vary by how meals are prepared or by other program characteristics?
• Enable providers to assess their own total costs for meals relative to similar providers
• Provide ACL with information about the cost effectiveness of meal preparation and service approaches
Meal Cost Analysis Sample

Collected LSP-level data from 103 LSPs that:
• Completed the LSP survey
• Provided information about their congregate and home-delivery distribution meal sites

1 congregate meal site from each of the 98 LSPs with a congregate meal program
1 home-delivery distribution site from each of the 94 LSPs with a home-delivered meal program
1 home-delivery route from each home-delivery distribution site

Final sample included LSPs (1) that used various meal preparation methods; (2) from different geographic regions; (3) served rural, suburban, and urban areas; and (4) that were both large and small

Meal Cost Analysis Methods

• Used a three-step “build up” approach:
  1. Identified a standard set of resources used to prepare, serve, and deliver meals (includes donated or in-kind resources)
  2. Collected data from each LSP on the cost of each resource
     – Most data collected at the LSP-level
     – Some data collected at the selected meal site- and route-levels
  3. Calculated, or “built up,” weighted estimates of the average cost of a congregate and a home-delivered meal

• Compared costs over time
• Analyzed costs by program characteristics
Resources Used to Prepare, Serve, and Deliver Meals

Purchased resources
- Paid labor
- Food
- Supplies
- Meal delivery (vehicles, gasoline, insurance)
- Vendor payments
- Facilities
- Equipment
- Other insurance
- Other

Donated or in-kind resources
- Volunteer labor
- Food
- Facilities
- Equipment
- Meal delivery (gasoline)

Average Total Meal Cost: Congregate Meal

Average total cost: $10.69  Average paid cost: $9.30

Component Cost, as Percentage of Total Cost
- Food: 35%
- Vendor payments: 8%
- Nonfood meal supplies: 5%
- Facilities: 52%
- Equipment: 8%
- Delivery to sites (vehicles, gasoline, car insurance): 3%
- Insurance: 0%
- Other resources: 0%

Breakdown of purchased nonlabor costs ($5.61):
- Food: $1.28
- Vendor payments: $3.06
- Nonfood meal supplies: $0.20
- Facilities: $0.69
- Equipment: $0.15
- Delivery to sites (vehicles, gasoline, car insurance): $0.02
- Insurance: $0.09
- Other resources: $0.12

Source: AOA Nutrition Programs Evaluation meal cost analysis, Table II1 and Figure II.1. Weighted data.
### Average Total Meal Cost: Home-Delivered Meal

**Average total cost:** $11.06  
**Average paid cost:** $9.00

**Component Cost, as Percentage of Total Cost**

- **Paid labor:** $3.05  
- **Purchased nonlabor:** $5.95  
- **Volunteer labor:** $1.57  
- **Donated nonlabor:** $0.49

**Breakdown of purchased nonlabor costs ($5.95):**
- **Food:** $1.14
- **Vendor payments:** $3.42
- **Nonfood meal supplies:** $0.22
- **Facilities:** $0.48
- **Equipment:** $0.14
- **Delivery to sites and homes (vehicles, gasoline, car insurance):** $0.33
- **Insurance:** $0.08
- **Other resources:** $0.14

**Source:** AOA Nutrition Programs Evaluation meal cost analysis Table II.1 and Figure II.1. Weighted data.

### Changes in Average Total Meal Costs Over Time

<table>
<thead>
<tr>
<th>Year</th>
<th>Congregate meal</th>
<th>Home-delivered meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>$8.07</td>
<td>$8.29</td>
</tr>
<tr>
<td>2015</td>
<td>$10.69</td>
<td>$11.06</td>
</tr>
</tbody>
</table>

**Source:** AOA Nutrition Programs Evaluation meal cost analysis, Table II.2; Ponza et al. (data collected in 1995, reported in 1996). Weighted data. Adjusted to 2015 dollars.
Average Total Meal Cost, 1995 and 2015

<table>
<thead>
<tr>
<th>Meal Production Method</th>
<th>1995 Costs</th>
<th>2015 Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congregate meal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid labor</td>
<td>$2.79</td>
<td>$3.69</td>
</tr>
<tr>
<td>Paid food and vendor</td>
<td>$2.72</td>
<td>$4.34</td>
</tr>
<tr>
<td>Purchased other</td>
<td>$1.47</td>
<td>$1.27</td>
</tr>
<tr>
<td>resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteer labor</td>
<td>$0.67</td>
<td>$0.90</td>
</tr>
<tr>
<td>Donated nonlabor</td>
<td>$0.44</td>
<td>$0.49</td>
</tr>
<tr>
<td>Home-delivered meal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid labor</td>
<td>$3.06</td>
<td>$4.56</td>
</tr>
<tr>
<td>Paid food and vendor</td>
<td>$2.68</td>
<td>$4.40</td>
</tr>
<tr>
<td>Purchased other</td>
<td>$1.40</td>
<td>$1.39</td>
</tr>
<tr>
<td>resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteer labor</td>
<td>$0.73</td>
<td>$1.57</td>
</tr>
<tr>
<td>Donated nonlabor</td>
<td>$0.41</td>
<td>$0.49</td>
</tr>
</tbody>
</table>

Source: AOA Nutrition Programs Evaluation meal cost analysis, Table II.2; Ponza et al., data collected in 1995, reported in 1996. Weighted data. 2015 dollars.

Average Total Meal Cost by Meal Production Method

<table>
<thead>
<tr>
<th>Meal Production Method</th>
<th>1995 Costs</th>
<th>2015 Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central or off-site</td>
<td>$8.88</td>
<td>$8.07</td>
</tr>
<tr>
<td>kitchen</td>
<td>$9.43</td>
<td>$9.46</td>
</tr>
<tr>
<td>On-site kitchen</td>
<td>$9.91</td>
<td>$9.46</td>
</tr>
<tr>
<td>Vendor or restaurant</td>
<td>$9.30</td>
<td>$9.00</td>
</tr>
<tr>
<td>All programs</td>
<td>$12.61</td>
<td>$12.57</td>
</tr>
</tbody>
</table>

Source: AOA Nutrition Programs Evaluation meal cost analysis, Tables III.1 and III.2; LSP and AAA process study surveys.
Average Total Meal Cost by LSP Service Area Urbanicity

Average Total Meal Cost by Geographic Region

Source: AOA Nutrition Programs Evaluation meal cost analysis, Tables III.3 and III.4; LSP and AAA process study surveys. Weighted data.
Meal Cost Analysis Takeaways

- AOA Nutrition Programs total meal costs have risen since 1995, in large part due to a rise in food costs.
- Program characteristics that appeared to have lower costs in 1995 still appear most cost-effective:
  - Central or off-site kitchen prepared meals cost less than other methods.
  - Meals in southern region have lowest cost, and meals in western region have highest cost.
  - Meals produced in large programs cost less than those produced in small programs.
  - Congregate meals cost less in urban service areas, while home-delivered meals cost less in rural service areas.

Note: 1995 data collected by Ponza et al. in 1995, but reported in 1996.
For More Information

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Thank you!

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