Adapting the US Automated Self-Administered 24-Hour Dietary Recall (ASA24) for Use in Multiple Populations

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ASA24 Automated Self-administered 24-hour Recall
Automated Self-Administered 24-Hour Dietary Recall (ASA24)

- Low-cost means to obtain high-quality dietary recall data in surveillance, epidemiologic, intervention, and clinical research

- Motivation: short term instruments are more precise than long term instruments
  - Use as main instrument in large-scale dietary research
  - Culturally neutral

- Why consider adapting ASA24?
  - Avoid duplicating efforts
  - System designed to make this possible
ASA24 System

- **Respondent site**
  - Fully automated, web-based, self-administered 24-hour recall
  - Complete system for probing (detailed questions), coding, and calculation of respondent intakes
  - Based on recalls collected in NHANES using USDA’s Automated Multiple Pass Method (AMPM)

- **Researcher site (poster by Nancy Potischman)**
  - Study registration: Adaptable to a variety of designs and applications
  - Monitor data collection
  - Obtain and analyze data
Researcher Website

Register study and load respondent IDs

Monitor recall status

Obtain analysis

- Assignment of food & supplement codes
- Databases:
  - FNDDS 4.1
  - MPED (unofficial)
  - NHANES DSD

Nutrient & food group output

Respondent Website

Complete recalls

- Databases:
  - ASA24 food terms
  - AMPM probe questions
  - BCM probe questions
  - NHANES supplement terms

Response data

*AMPM: Automated Multiple Pass Method
BCM: Baylor College of Medicine
DSD: Dietary Supplement Database
FNDDS: Food and Nutrient Database for Dietary Surveys
MPED: MyPyramid Equivalents Database
NHANES: National Health and Nutrition Examination Survey
Respondent site

Demonstration version at: asa24demo.westat.com/
Food groups, detail questions, and images

- 25 food groups (e.g., cereals and energy bars)
- 240 food subgroups (e.g., cold cereals)
- 5211 food terms (e.g., Cheerios)
- 822 unique probes/detail questions (e.g., What kind of Cheerios? How much did you have? Did you add anything?)
- 7765 USDA food codes (e.g., Cheerios, 2% milk)
- 9730 images
Optional modules

- Location of meals
- With whom meals were eaten
- TV and computer use during meals
- Vitamin, mineral, other dietary supplement intakes
Analytic output files

- **My Selections**: list of foods and details as reported
- **Nutrients**
  - From each food reported
  - From all foods reported per recall day
- **Food groups (MyPyramid Equivalents)**
  - From each food reported
  - From all foods reported per recall day
- **Supplements**
  - Nutrients from each supplement reported
  - Nutrients from all supplements reported per recall day
  - Nutrients from all foods and supplements reported per recall day
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Population-specific versions

Researcher Website
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    - ASA24 food terms
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Population-specific versions

- Require documentation of output files to reflect changes
- Consideration of how to make the tool available to the research community
  - Hosting
  - Update and maintenance
  - User support
Population-specific versions

- Can modify or translate:
  - User interface text (e.g., button labels, instructions)
  - Character voice recordings
  - Portion images and labels (up to 8 images per food)

- Require funding and nutrition expertise
  - Likely to be more cost- and time-efficient than developing a new system
Examples of adaptations
Detalles de las comidas
Anote los detalles de la primera comida o refrigerio sobre el cual quiere informar.

Comida o refrigerio:
Selezione una comida o un refrigerio

Hora de la comida o refrigerio

Lugar:
Selezione el lugar

Uso de la televisión y el ordenador, mientras come y bebe:
Selezione una respuesta:

¿Comió con alguien más? Sí No No sé
Children’s version (in development)
Tom Baranowski (Baylor College Medicine)

- Based on testing in children 8-13 years
  - Only children ≥10 years had cognitive abilities for the task

- Adaptation
  - Simplified and shortened list of food terms
  - Fewer follow-up probes/detailed questions

- Funding
  - NCI cooperative agreement grant
    - Subcontract to Westat

- Availability:
  - ASA24 website: expected summer 2012
Canadian version (in development)
Isabelle Massarelli (Health Canada)

- Adaptation
  - Canadian-specific food terms and associated detailed questions
  - Canadian-specific nutrient database

- Funding
  - Health Canada
    - Contract with Westat

- Availability: to be determined

Poster on this today from 12:30 – 14:30
British web-based recall
Janet Cade (University of Leeds)

- Considering use of design elements from ASA24
- Funding:
  - Grant from UK, Medical Research Council

Poster on this today from 12:30 – 14:30
Comparison and validation studies underway

- Comparison of data from ASA24 to standard interviewer-administered 24-hour recalls (AMPM) (n = 1000)

- Feeding study to assess accuracy of ASA24 and AMPM compared to truth (weighed intake) (n = 96)

- Multi-Cohort Eating and Activity Study for Understanding Reporting Error (MEASURE) to assess structure of measurement error in self-report diet and physical activity instruments in multiple large cohorts (n = 2300)
The impact of ASA24

- ASA24 enhances the feasibility and cost-effectiveness of collecting high-quality dietary data
- Beta version available since 2009
  - ~244 registered studies, >45,000 recalls completed
  - Supported until June 2012
- Version 1 available since fall 2011
  - ~169 registered studies, >8,500 recalls completed
- Opportunities for adaptation for other countries and population subgroups
More information on ASA24

- riskfactor.cancer.gov/tools/instruments/asa24

- Links to:
  - FAQs
  - Demo version of respondent site
  - Researcher instructions and researcher website for registering a new study
  - ASA24 Researcher Portal
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