

# **Operational and Quality Issues with Computer Assisted Interviewing for ADAM**

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# *Application of Technology for ADAM*

- Computer Assisted Personal Interview (CAPI).
  - Use of laptop by Interviewer to administer the questionnaire
  - Use of notebook/PDA
- Computer Assisted Self-Interviews
  - Without Audio (CASI)
  - With Audio (ACASI)
  - On telephone (IVR)

# *Implications of Switching to Computer Assisted Interviewing (CAI)*

- Cost
- Data quality/accuracy
- Timeliness
- Survey Management
- Logistics

# *Cost of Computer Assisted Interviewing*

- Lower costs
  - More efficient interviewer operations
  - Data entry
  - Data transmission
  - Data editing
- Higher costs
  - Hardware investment
  - Programming and testing
  - Training and field maintenance

# *Cost - Evidence and net effects*

- No good empirical evidence on “apples to apples” comparisons of cost
- ADAM related considerations
  - Data entry and editing with paper version
  - Data transmission
  - Programming and testing
  - Repeated applications allow amortization

# *Data Quality*

- Greater control over the data collection process
- Collection of sensitive data (CASI; ACASI; IVR)
- Online edits

# *Data Quality - Greater Control*

- Interviewers are forced to move through all screens
- Skip patterns are controlled by the computer
  - This could be significant for ADAM, given current paper version
- Increased monitoring capability – collection of para-data

# Example of a list to be read

## Secondary Drug Use

0=NO  
1=YES

Now I'd like to ask you about your use of other drugs, including prescription drugs. As I read down the list, please tell me if you used any of these drugs in the past 3 days.

**MUGB.** In the past 3 days, did you use any:

**DRUG:**

a)	Methadone;	
b)	Amphetamines like Benzedrine, Dexedrine, or Ritalin, sometimes called "bennies" or "dex," not including methamphetamine;	
c)	Barbiturates like Seconal, sometimes called "blues" or "reds";	
d)	Tranquillizers or sedatives like Xanax, Valium, Rohypnol, sometimes called "trangs" or "roofies";	
e)	Any of the following painkillers: Codeine, Dilaudid, Vicodin, OxyContin, or Percocet;	
f)	Darvon;	
g)	Demerol, Fentanyl;	
h)	Ecstasy, MDMA;	
i)	PCP, Angel Dust;	
j)	LSD, Acid;	
k)	Any other hallucinogen like mescaline or magic mushrooms;	
l)	Inhalants like glue, paint, aerosols, "poppers";	
m)	Anti-depressants like Zoloff, Prozac, or Paxil; or,	
n)	Any other drugs?	
	OTHER [SPECIFY] _____	

# Example of ADAM Skip Patterns

**ASK BOTH MU2 AND MU3 FOR EACH DRUG OBTAINED BEFORE ASKING MU4**

The next several questions deal with drugs that you paid cash for in the last 30 days.

Think about the last time you paid any cash for [drug]. This could include any you were fronted to sell or received on credit, and paid for at a later time.

**MU2** [0=NO, 1=YES]  
In the past 30 days, did you pay any cash for [drug]?

**MU3**  
In the past 30 days, did you get any [drug] without paying cash for it?  
 (IF MARIJUANA) This could include Marijuana you grow yourself.  
 (IF CRACK OR ROCK COCAINE) This could include making it yourself.  
 (IF CRYSTAL METH) This could include making it yourself.

**MU4**  
Did you pay cash only, or did you pay cash and something else?  
 1=CASH  
 2=COMBINATION  
 (IF MU4=1, SKIP TO MU5)

**MU5**  
What else, besides cash, was exchanged or traded the last time you bought [drug]? Did you also:  
 1= Get it on credit and will pay cash later;  
 2= Get it fronted to sell;  
 3= Trade other drugs;  
 4= Trade property/merchandise;  
 5= Transport drugs;  
 6= Steal the drug;  
 7= Trade sex, or;  
 8= Trade Chemicals?  
 9= OTHER [SPECIFY]  
 10= MULTIPLE [SPECIFY]

**MU6**  
That last time you bought [drug], did you:  
 1= Buy it directly yourself; or,  
 2= Give someone the cash to buy it for you?  
 (IF MU6=1, SKIP TO MU5)

**MU7**  
Is the person you gave the cash to:  
 1= Someone working with a dealer, or;  
 2= Someone not working with a dealer?  
 (IF MU7=2, SKIP TO MU12, TURN PAGE)

**MU8**  
Is the person you bought it from:  
 1= Your regular source;  
 2= An occasional source; or,  
 3= A new source for [drug]?

**MU9**  
The last time you bought [drug], how did you contact the person you bought from? Did you first:  
 1= Send a text message or page the person;  
 2= Call the person on a phone and speak with the person directly;  
 3= Go to a house or apartment;  
 4= Approach the person in public such as on the street, in a store, or park;  
 5= Were you with the person already at work or in a social setting; or,  
 6= On the internet or in a chat room?  
 7= OTHER [SPECIFY]

**MU10**  
That last time you bought [drug], at what type of place did you get it?  
 1= In a house or apartment;  
 2= In a public building such as a store, bus station, gas station, or restaurant;  
 3= In an abandoned building;  
 4= On a street, alley, or road;  
 5= Other outdoor area such as a park, or;  
 6= Got it delivered;  
 7= OTHER [SPECIFY]

**MU11**  
Did you buy it:  
 1= In the neighborhood where you live; or,  
 2= Outside your neighborhood?

Drug	Obtained	MU2	MU3	MU4	MU5	MU6	MU7	MU8	MU9	MU10	MU11
MARIJUANA OR HASHISH	Cash	MA2		MA4	MA5	MA6	MA7	MA8	MA9	MA10	MA11
	Noncash	MA3			OTHER SPECIFY				SPECIFY	SPECIFY	
CRACK OR ROCK COCAINE	Cash	CC2		CC4	CC5	CC6	CC7	CC8	CC9	CC10	CC11
	Noncash	CC3			OTHER SPECIFY				SPECIFY	SPECIFY	
POWDER COCAINE	Cash	PC2		PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11
	Noncash	PC3			OTHER SPECIFY				SPECIFY	SPECIFY	
HEROIN	Cash	HE2		HE4	HE5	HE6	HE7	HE8	HE9	HE10	HE11
	Noncash	HE3			OTHER SPECIFY				SPECIFY	SPECIFY	
METHAMPHETAMINE LIKE CRYSTAL METH	Cash	ME2		ME4	ME5	ME6	ME7	ME8	ME9	ME10	ME11
	Noncash	ME3			OTHER SPECIFY				SPECIFY	SPECIFY	

# *Applications of CAI with Event History Calendar*

- Belli (2007) used calendar for CATI application
- Other surveys have used calendar for CAPI applications
  - Census Bureau is currently implementing it for the Survey of Income and Program Participation

# Example of CATI Screen

The screenshot displays the 'Event History Calendar - [Residence]' window. It features a calendar grid with years 195-199 and months 0-12. A callout box highlights the 'John Kennedy Assassination' event on 11/22/63. Below the calendar are sections for 'Landmarks', 'Residence', 'Children and Marriage', and 'Main Employer'. A second calendar grid is labeled 'Address Data Entry Window'. The bottom section includes a tabbed interface with 'Residence' selected, and fields for 'SampleID: 6666-666-6', 'Date of Birth: 2/1/1953', 'Name:', 'Start Month', 'Move in Year: 1971', 'End Month', 'Move out Year: 1977', 'Address: 123 Nice Place', 'City: Lincoln', 'State: NE', and 'Zip-Code'. Buttons for 'OK', 'Cancel', and 'Delete' are also present.

Belli, R.F., Smith, L.M., Andreski, P.M. and S. Agrawal (2007) "Methodological Comparisons Between CATI Event History Calendar and Standard Conventional Questionnaire Instruments." Public Opinion Quarterly 71: 603-622

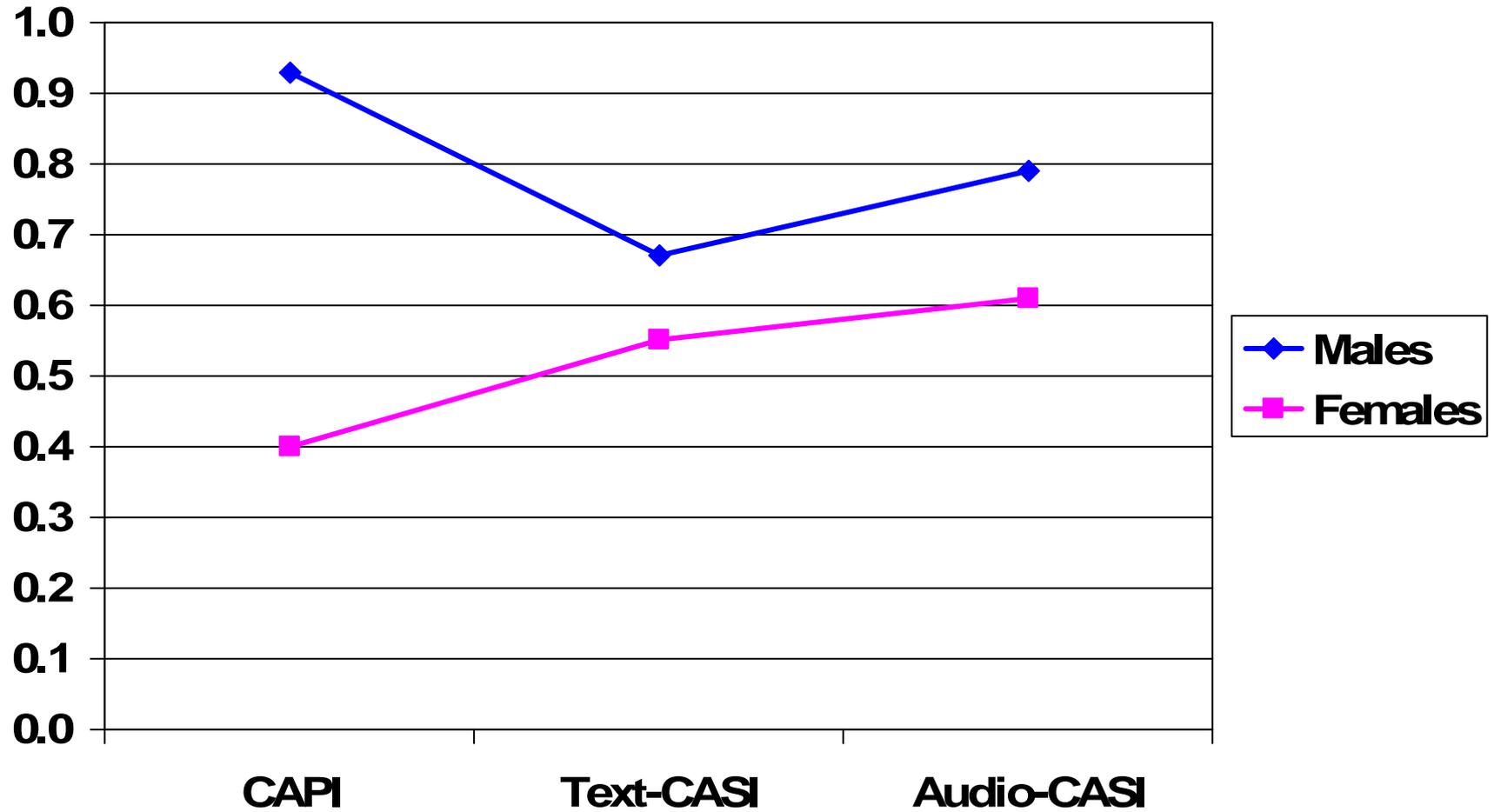
# *Collection of Para-data*

- Para-data – Information about the survey process. Examples include:
  - Number of attempts to complete the interview
  - The amount of time to complete interview (and sections of interview)
  - Audit trails – what keystrokes were used?
- Provides ability to:
  - Assess interviewer performance (provides feedback/added control)
  - Pinpoint troublespots of the questionnaire

# *Collection of sensitive information*

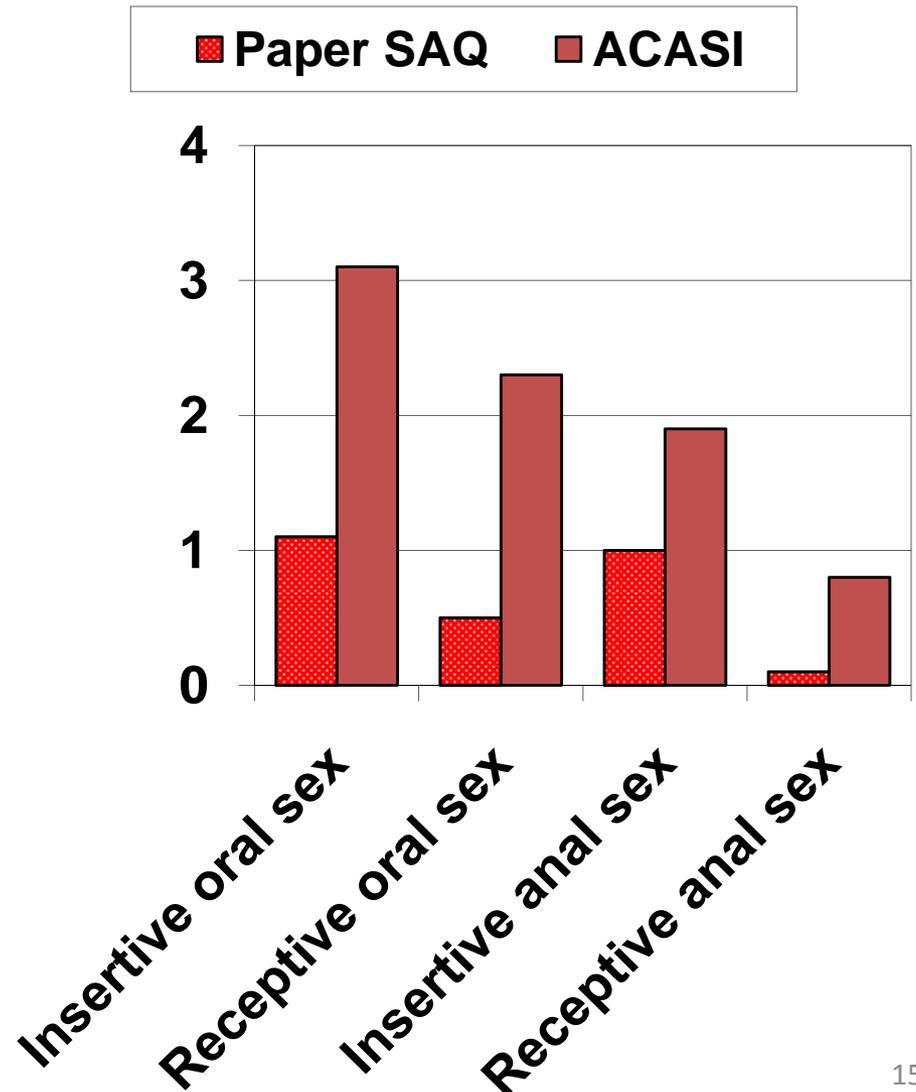
- Self-administration collects superior data for sensitive information (Tourangeau and Smith, 1998).
  - No tests for arrestees
- Some evidence that computer is better than paper (but not strong)
- CASI-related methods provide much more flexibility than paper, self-administered

# Mean Number of Opposite-Sex Sex Partners in Past Year (Log Transformed)



# Effect of Audio-CASI on Substantive Responses

- Turner et al. (1998)
- National Survey of Adolescent Males
- Percent reporting male-male sexual contact by self-administered method



# *Can CASI be used for ADAM?*

- Significant development is needed if event history calendar is used (Cotugno, 2010)
- Without EHC, application is more realistic
  - National Inmate Survey (NIS)
  - National Survey of Youth in Custody
- Do results generalize to arrestees?
- How important is higher reporting vs use of EHC for details?

# *Data Quality – Online Edits*

- Data entry is very accurate (Dielman and Couper, 1995; Lepkowski, et al., 1998)
- Range checks for implausible values
- Cross question checks to assess consistency of answers

# *Timeliness*

- Interviewers transmit data on a regular basis (e.g., daily)
  - Protocol is easy to implement
  - Interviewers have to be trained and to troubleshoot (e.g., call help line)
  - Security of transmission
- Data are available for analysis quickly
- Ability to review data received and provide feedback to interviewer/supervisor

# *Survey Management*

- Sample and case management
- Provides flexibility for bringing in other data/applications
  - Bring in data for pre-fills (ADAM facesheet)
  - Use lists or other data-bases while interviewing (drug lists)
- Allows designer to modify and disseminate new modules quickly

# *Logistics*

- Facility acceptance
- Sampling process
- Security of machines
- Power source
- Ability to set up machine
- Other?

# *Similar applications?*

- CSAT use for Substance Abuse Need for Treatment among Arrestees (SANTA)
- SYRP and NSYC
- NIS
- Others?

*Thank-you*  
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