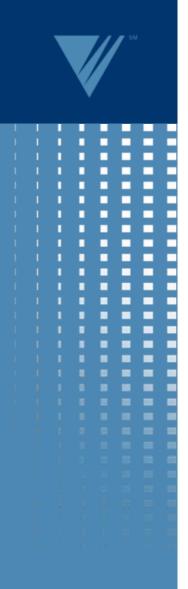**Westat**

3mc2008 – Proceedings ©

Collecting Health and Nutrition Data in a Multilingual Environment

The NHANES Experience with Interpreters in Respondent Homes and Examination Centers (1999-2007)

Pat Montalván, Westat
Brad Edwards, Westat
Yinong Chong, NCHS
Jacquie Hogan, Westat

3MC 2008

Overview/Presentation Goals

- Describe use of interpreters on U.S. National Health and Nutrition Examination Survey (NHANES)

- Review multi-year data on incidence, recruitment, and training

- Point out logistical challenges encountered

- Look at impact of interpreter use on NHANES unit and item nonresponse

- Review data quality issues associated with the use of interpreters

- Present future enhancements to NHANES interpreter protocol

Westat®

National Health and Nutrition Examination Survey (NHANES) Background

Sponsors: National Center for Health Statistics (NCHS)
Centers for Disease Control and
  Prevention (CDC)
Department of Health and Human
  Services (DHHS)

Objective: Assess health and nutritional status of
  U.S. population

Timeframe: 1960 – present
Ongoing since 1999

Data Collection Mode: CAPI interview and health examination

Population: Civilian, noninstitutional, all ages

Westat

National Health and Nutrition Examination Survey (NHANES) Background (continued)

Sample Type:	Area probability
Major Target Groups:	Children, Elderly, Blacks, Hispanics
Annual Size:	15 counties (primary sampling units)
	13,000-14,000 households screened
	5,200 sample persons interviewed in home
	4,900 sample persons examined in mobile examination center (MEC)
Size Since Inception:	150,000+ sample persons interviewed/examined

Unique Operational Features

- Survey travels across U.S. each year

- Typical field period in county 9-10 weeks

- Rigid schedule (no extensions to field period in any county, ever)

- Full time traveling data collection staff (75+ supervisors/interviewers/health professionals)

- Home health interview – 35 minutes average Exam – 2 to 4 hours depending on age

- Survey conducted in English or Spanish

- English/Spanish bilingual staff available for household interviewing and health exam

Westat

Presentation Focus
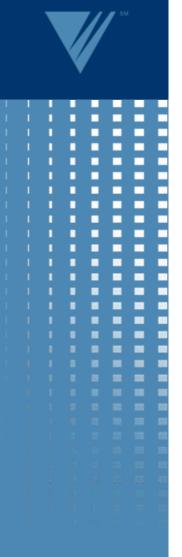
Primarily on home health interview

Some exam information included

Interpretation
Definition and Modes

- Interpreters work primarily with spoken language

- Modes of interpretation – simultaneous and consecutive

- NHANES uses consecutive mode when interpreting from standardized scripts (via sight translation), relaying respondent answers, and probing when cued by interviewer

Westat

Reasons for
Interpreter Use

- Increase of foreign-born in U.S. population

1970	4.7%
1980	6.2%
1990	7.9%
2000	11.1%

- Census 2000 data revealed 10.5 million people in U.S. (3.7% of population) spoke English "not well" or not at all

- Represent limited- and non-English/Spanish speaking persons in study

Westat

8

Reasons for Interpreter Use

- Maintain or improve (operational or unweighted) response rates achieved between 1999-2007

  - Home interview   81%
  - MEC examination   77%

- Collect self-reported interview data as a means of obtaining "objective" standardized measurement data

- Motivate field staff production by supporting argument that "every sample person counts"

Westat

Home Health Interviews by Language*

	#	%
English	39,753	85
Spanish	6,702	14
"Other" language using interpreter	367	1
Total	46,455	100

*1999-2007

Westat

Languages Used for Interpreted Home Interview*

- Interpreters have been used for 37 languages including sign language

- Top 10 languages of interpreted interviews (76 percent) were:

− Chinese (64 interviews)	— Arabic (23)
− Vietnamese (46)	— Bosnian (16)
− Russian (36)	— Urdu (15)
− Korean (27)	— Somali (14)
− Creole languages (24)	— Armenian (13)

Westat®

*1999-2007

- Age

  - 69% (252) ages 16+
  - 31% (115) ages 0-15*

- Race

  - 84% (307) white/other not Hispanic
  - 16% (60)   black

*1999-2007
**Interviews for persons age 0-15 are conducted with a parent/guardian

Westat

Interpreter Use for Home Interview by Type of Interpreter*   NHANES

	#	%
Paid	255	70
Living in Household	84	22
Neighbor or Friend	28	8
TOTAL	367	100

*1999-2007

Westat

Average Administration Length of Home Health Interview by Language*

	Minutes
English	35
Spanish	34
Interpreted	47

*1999-2007

Westat

MEC Examination Response Rates by Language/Interpreter Use*

	#	%
English	33,604	95
Spanish	5,532	96
Interpreted	315	86

* Unweighted--as a percent of sample persons interviewed 1999-2007

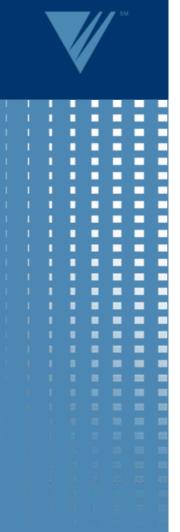Westat®

Interpreter Recruitment Process

- Generally, undertaken when language issues identified during 9-10 week field period unless large foreign-born pockets of population expected

- Conducted by field supervisors or interviewers

- Primary sources include:

    1) sample person family members, friends or neighbors
    2) local government entities
    3) colleges and universities
    4) community organizations
    5) employment agencies

- Generally, paid $15-20 per hour. Occasionally, paid up to $80 per hour when approved by government client

Westat®

16

Interpreter Requirements

- 18 years old or older

- Good English language skills

- Neutral appearance

- Willing to sign study non-disclosure and confidentiality agreements

- If not recommended by the sampled household, must be interviewed in-person by NHANES supervisor

Interpreter Recruitment Challenges/Problems

- Multiple languages

- Recruitment timeframe very short between identification of need and end of field period

- Budget constraints

- Finding interpreters willing to work evenings and weekends

- Coordinating encounter between interviewer, interpreter and respondent

- Wasted interpreter hours when respondents are not home/available

Westat

Interpreter Training by Type of Interpreter

Type	Training
Paid	**Prior to home interview:** 45 minute training by NHANES supervisor (study overview, interpreter protocol review)
	Prior to exam: 60 minute training at MEC (interpreter protocol review, MEC tour, more in-depth review of complex exams, e.g., respiratory health, ophthalmology)
Living in household, family members, friends, neighbor	**No formal training**

- Professionalism

- Confidentiality (must sign study non-disclosure and confidentiality forms)

- Accuracy

- Completeness

- Objectivity

- Cultural bridge

- Knowing limits

Westat®

- Introduce yourself

- Use positioning and eye contact

- Interpret directly from survey scripts or documents

- Interpret answers/comments in first person

- Avoid side conversations

Field Staff Training on Working with Interpreters

Interviewers   None

Health professionals (MEC staff)   60 minute training on how to work with interpreters

Periodic quality control – observation and feedback

Data Quality Review by Language and Interpreter Use

NHANES

- Look at selected home interview questions in terms of length, complexity, sensitivity, and missing data

- Compare home interview and exam data

- Response rates provided are unweighted

Westat®

Would you say {your/SPs} health in general is . . . ?

	Excellent, Very Good, Good		Fair, Poor		DK/RF	
	#	%	#	%	#	%
English	30,906	87	4,525	13	12	–
Spanish	4,198	73	1,535	27	7	–
Interpreted	216	75	71	25	0	–

*1999-2006 ages birth +

Home Interview: Hepatitis B Vaccine (62 words) by Language/Interpreter Use*

{Have you/Has SP} ever received the 3-dose series of the hepatitis B vaccine? This vaccine is given in three separate doses and has been recommended for all newborn infants since 1991. In 1995, it was recommended that adolescents be given the vaccine. Persons who may be exposed to other people's blood, such as health care workers, also may have received the vaccine.

	Yes, all 3 doses		Less than 3 doses		No doses		DK/RF	
	#	%	#	%	#	%	#	%
English	14,909	42	2,472	7	15,674	44	2,391	7
Spanish	2,280	40	434	8	2,385	42	641	11
Interpreted	83	29	17	6	139	48	48	17

*1999-2006 ages 2+

The next questions are about physical activities including exercise, sports, and physically active hobbies that {you/SP} may have done in {your/his/her} leisure time or at school over the **past 30 days**.

First I will ask you about **vigorous** activities that cause **heavy** sweating or **large increases** in breathing or heart rate. Then I will ask you about **moderate** activities that cause only **light** sweating or a **slight to moderate increase** in breathing or heart rate.

Over the **past 30 days**, did {you/SP} do any **vigorous** activities for **at least 10 minutes** that caused **heavy** sweating, or **large increases** in breathing or heart rate? Some examples are running, lap swimming, aerobics classes or fast bicycling. Here are some other examples of these types of activities. Please do not include house work or yard work that you have already told me about.

HAND CARD PAQ2

CODE 'UNABLE TO DO' ONLY IF RESPONDENT VOLUNTEERS

YES………………….…………….	1
NO…………….…………….…...…	2
UNABLE TO DO ACTIVITY.........	3
REFUSED …………....…………....	7
DON'T KNOW ……...…………..	8

Home Interview: Physical Activity in Leisure Time or School by Language/Interpreter Use*

	Yes		No		Unable to do activity	
	#	%	#	%	#	%
English	4,893	36	7,865	59	642	5
Spanish	407	25	1,190	73	40	2
Interpreted	19	14	95	72	16	12

*1999-2006 ages 16+

We also need {your/SP's} Social Security Number. The Department of Health and Human Services will use {your/his/her} Social Security Number to conduct health-related research by linking {your/his/her} survey data with vital statistics and other records, such as health registries. We may also use it if we need to recontact {you/him/her} or {your/his/her} family. Except for these purposes, the Department will not release {your/his/her} SSN to anyone, including any government agency. Providing this information is voluntary and is collected under the authority of the Public Health Service Act. There will be no effect on {your/his/her} benefits if you do not provide it. [Public Health Service Act is title 42, United States Code, section 242k.]

What is {your/SP's} Social Security Number?

CAPI INSTRUCTION:
REQUIRE DOUBLE ENTRY OF SOCIAL SECURITY NUMBER.

|___|___|___| |___|___| |___|___|___|___|
ENTER SOCIAL SECURITY NUMBER
or

DOES NOT HAVE SOCIAL SECURITY NUMBER……… 1
REFUSED ……………………………………....………... 7
DON'T KNOW……………………………….…………… 8

Home Interview: Social Security Number by Language/Interpreter Use*

NHANES

	Provided		Doesn't Have		DK/RF	
	#	%	#	%	#	%
English	27,523	78	1,219	3	6,705	19
Spanish	2,992	52	1,779	31	968	17
Interpreted	202	70	30	11	55	19

*1999-2006 ages birth +

Westat

Has a doctor or other health professional ever told {you/SP} that {you/she/he} had anemia?

	Yes		No	
	#	%	#	%
English	904	3	32,925	97
Spanish	127	2	5,188	98
Interpreted	5	2	268	98

* 1999-2006 ages 1 +

Westat

Exam Data: Anemia (Hemoglobin Test)*

	Yes		No	
	#	%	#	%
English	771	3	24,568	97
Spanish	81	2	3,742	98
Interpreted	5	3	168	97

* 1999-2006 ages 1 + who participated in the blood draw

Westat

Anemia Data: Interview vs. Exam by Language/Interpreter Use*

NHANES

	Interview Reported Anemia %	Exam Measured Anemia** %
English	3	3
Spanish	2	2
Interpreted	2	3

* 1999-2006 1 +
**Not all interviewees had the blood draw

{Have you/Has SP} ever been told by a doctor or other health professional that {you/have/{he/she/SP} has} diabetes or sugar diabetes?

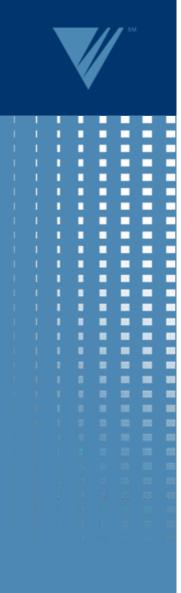|	Yes		No	
	#	%	#	%
English	2,074	6	31,756	94
Spanish	310	6	5,003	94
Interpreted	27	12	241	88

*1999-2006 ages 12 +

Diabetes Data: Interview vs. Exam by Language/Interpreter Use* (Hemoglobin A1c Test)   NHANES

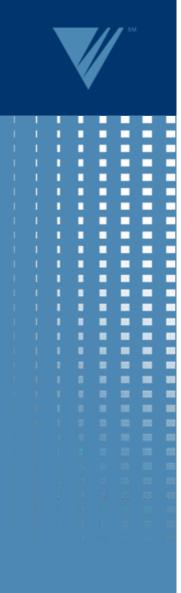|	% Interview Reported Diabetes/ Prediabetes	% Exam Measured Diabetes Marker (HbA1c value 7 or more)
English	6	4
Spanish	6	8
Interpreted	12	10

*1999-2006 ages 12 +

Westat

Conclusions
Interpreted Data Collection   NHANES

- Inclusion of linguistic minorities in surveys is important

- U.S. national surveys lack resources to conduct fully multilingual data collection

- Concerns continue to exist regarding the use of interpreters

- NHANES data appear plausible and reasonable

- NHANES should continue to examine data quality of interpreted interviews/exams

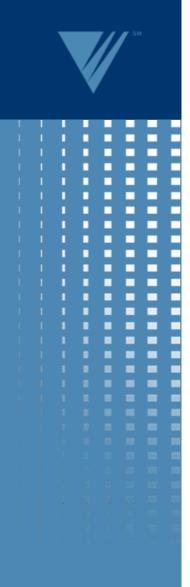- NHANES should take steps to improve survey procedures surrounding use of interpreters

Improving Interpreter Use:
Future Operational Steps   NHANES

- Enhance interpreter recruitment training

- Design interpreter "code of ethics and conduct"

- Train field interviewers on working with interpreters

- Train interviewers to train family, friend, neighbor interpreters/design short handout for these interpreters

- Add final home and exam disposition code – non-response/refusal due to language barrier

- Explore use of interpreter aides in frequently used languages

- Explore use of computer audio-recorded interviews (CARI) to monitor data quality

Improving Interpreter Use: Future Operational Steps

- Enhance interpreter recruitment training

- Design interpreter "code of ethics and conduct"

- Train field interviewers on working with interpreters

- Train interviewers to train family, friend, neighbor interpreters/design short handout for these interpreters

- Add final home and exam disposition code – non-response/refusal due to language barrier

- Explore use of interpreter aides in frequently used languages

- Explore use of computer audio-recorded interviews (CARI) to monitor data quality

Westat

Thank you

patmontalvan@westat.com