1987 NATIONAL MATERNAL AND INFANT HEALTH SURVEY: PRETEST RESULTS

Gloria A. Simpson and Paul J. Placek, National Center for Health Statistics
Gloria A. Simpson, 3700 East West Highway, Hyattsville, Maryland 20782

KEY WORDS: response rates, survey methods, infant health

A National Maternal and Infant Health Survey (NMIHS) is being conducted by the National Center for Health Statistics (NCHS) concerning vital events occurring in calendar year 1988. The NMIHS consists of three components: a natality survey based on a sample of certificates of live birth; a fetal mortality survey based on a sample of reports of fetal death; and an infant mortality survey based on a sample of infant death certificates.

The objective of the NMIHS is to collect, in a combined effort, the data needed by Federal, State, and private researchers to study factors related to infant health including: low birthweight; infant death; prenatal care; effects of smoking and drinking on pregnancy outcome; effects of drug use on pregnancy outcome; STD (sexually transmitted disease) testing during pregnancy; AIDS (acquired immune deficiency syndrome) testing during pregnancy; and use of public programs such as WIC.

The NMIHS has been designed by the National Center for Health Statistics (NCHS), and the data collection is being done by the Bureau of the Census.

It is being co-sponsored by 13 federal agencies and has been endorsed by nine major medical professional associations including the American College of Obstetrics and Gynecology (ACOG) and the American Hospital Association (AHA).

Special features of the 1988 NMIHS include: contacting unmarried mothers; using the mothers' signed consent statements to obtain information; oversampling low birthweight, very low birthweight, and black births; and use of ICD-9-CM coding for medical diagnoses and procedures.

The NMIHS involves contacting mothers, hospitals, and prenatal care providers. Pretest mothers received a 30-page mail questionnaire, a brochure explaining the survey, and a self-addressed stamped return envelope. If the mothers did not respond, followup attempts included a second mailing of the questionnaire, then contact by a Bureau of the Census interviewer for a telephone or personal interview.

Hospitals and prenatal care providers received one mailing of a 25 and 13 page questionnaire, respectively, and telephone reminders for nonresponse.

This paper will discuss some of the findings from the NMIHS Pretest which was conducted from October 1987-January 1988.

The pretest was conducted in four States--Arkansas, Michigan, Tennessee, and Wisconsin, and included:

MOTHERS	575
Live births	247
Fetal deaths	127
Infant deaths	201
HOSPITALS	96
PRENATAL CARE PROVIDERS	187

Hospital and prenatal care providers were included if the mother responded to the first mailing of the mother's questionnaire.

The purpose of the pretest was to evaluate questionnaires and procedures in light of the following: adequate response rates; sensitivity issues and/or difficulties in completing questionnaires; and an experiment to test a special "blind" questionnaire for unmarried mothers.

RESPONSE RATES - There was special concern about obtaining adequate response rates because the NMIHS includes unmarried mothers, an oversampling of black births, and an oversampling of low birthweight infants. These groups generally include a high proportion of younger and less educated mothers who traditionally have low response rates. There was also concern about obtaining responses from mothers who may be grieving an infant death or fetal loss. NCHS has not done an infant mortality survey for 20 years so there is no recent model or guidelines to follow in dealing with these mothers. Another issue was the length of the questionnaire. At 30 pages, the mother's questionnaire required 30 minutes or longer to complete. Long questionnaires have usually been shown to hinder response rates.

Several techniques were used to maximize response rates. One idea that was developed included utilizing a special brochure for mothers, which emphasized the importance of participation in the survey. This brochure was reviewed by several mothers from a support group who had miscarriages, infant deaths, or stillbirths. These mothers provided suggestions and insight to make the brochure and mother's questionnaire more sensitive to other mothers who had experienced an infant loss. This questionnaire was also reviewed by mothers participating in the USDA's Women, Infants, and Children (WIC) program to avert difficulties these women would have understanding it. In addition to the brochure, it was decided to offer mothers a selection of free health reports as an incentive to respond. These reports ranged in topic from prenatal care to Sudden Infant Death Syndrome to dealing with grief.

TABLE 1: MOTHERS RESPONSE RATES

Live birth mothers	(N = 247)	85.8%
Stillbirth mothers	(N = 127)	82.7%
Infant death mothers	(N = 201)	82.1%

The mothers' response rates, as shown in Table 1, were satisfactory. While we have no method of measuring the impact of the brochure, or free reports on mothers' response rates, we know that a minimum of 18% of the mothers requested free reports. A total of 898 free reports were distributed. For hospitals, a questionnaire (along with an informative

brochure) was mailed directly to the hospital medical record director. The brochure not only emphasized the importance and sponsors of the NMIHS, but also listed the endorsements of the medical professional associations. A letter explaining the NMIHS was also sent to the hospital administrator. Prenatal care providers also received a mail questionnaire and brochure. Nonresponding prenatal care providers were followed up with a telephone reminder from a Bureau of the Census interviewer. Followup attempts to hospitals also included a telephone reminder from a Census Bureau interviewer. If hospitals still did not respond, they were then sent to the American Medical Record Association (AMRA) for additional telephone followups. It was theorized that the influence of a medical professional association could persuade hospital medical directors to respond.

AMRA was highly successful in persuading nonrespondent hospitals to respond. After one mailing and one telephone reminder by Census, response rates were:

MEDICAL SOURCE RESPONSE RATES

Hospitals	75.2%
Prenatal care providers	74.8%

After hospital nonresponses were turned over to AMRA for additional followups, the response rate was:

Hospitals	93.0%

AMRA's involvement in the NMIHS is discribed more fully in an article in the Journal of AMRA (Simpson, et al.).

QUESTIONNAIRE DATA - Respondents apparently were able to answer most questions without difficulty. There had been concern about asking mothers questions regarding marijuana and cocaine use. Although some respondents may have denied using the drugs, not one complained about being asked the questions. Pretest questionnaires were brought to a locked office at NCHS and inspected by researchers from NCHS and NMIHS cosponsoring agencies. The resulting consensus was a high level of satisfaction with the data.

EXPERIMENT WITH "BLIND" AND "DIRECT" APPROACHES - Two mother's questionnaires were tested in the Pretest. The methodology of the NMIHS must adhere to the restrictions and/or laws of the 52 U.S. vital registration areas (50 States, New York City, and Washington, D.C.). Some States impose restrictions on contact with unmarried mothers. In order to satisfy some of these restrictions, a "blind" questionnaire, which asked the mother if she had a delivery, was tested. This gave the mother the option of denying that she had had a delivery. The other mother's questionnaire used a "direct" approach, and requested her to provide information on a specific birth, giving both the name and date of birth of the child. This information was taken from the State vital record. The direct technique had been used in the previous natality surveys, but previous surveys excluded contact with unmarried mothers. The two questionnaires differed only in the wording of the cover letters as follows:

"Direct" Approach: "Information is needed from mothers who had a live birth, a stillbirth, or an infant death in 1987. We need more information about your pregnancy and about the birth which occurred on the date shown below. (The baby's name and date of birth printed here.)"

"Blind" Approach: "If you had a live birth, a stillbirth, or an infant who died before 1 year of age in 1987, you can help by filling in this questionnaire and sending it back... Please fill in the date of your most recent delivery and the name of your baby:
Date of Delivery: _____
Name of Baby: _____
(If you did not have a live birth, stillbirth, or an infant death in 1987, please mark (X) this box ( ) and send your questionnaire back to us.)"

All married mothers and 125 of the 260 unmarried mothers received the "direct" questionnaires. The "blind" questionnaire was used with 135 of the 260 unmarried mothers. In the "blind" approach, two mothers denied that they had births. The overall response rates were:

TABLE 2: UNMARRIED MOTHERS

"Direct" (N = 125)	84.0%
"Blind" (N = 135)	80.0%

However, there was a greater difference in response rates between these groups to the mail questionnaire.

TABLE 3: RESPONSE RATES AFTER TWO MAILINGS

Livebirth:		
	Married "direct"	42.3%
	Unmarried "direct"	35.8%
	Unmarried "blind"	24.6%
Fetal Death:		
	Married "direct"	47.9%
	Unmarried "direct"	33.3%
	Unmarried "blind"	15.8%
Infant Death:		
	Married "direct"	43.7%
	Unmarried "direct"	28.3%
	Unmarried "blind"	15.3%
TOTALS:	"direct"	41.1%
	"blind"	19.3%

The "blind" approach resulted in substantially lower mail response rates when compared to the "direct" approach. One may theorize that the "direct" approach, naming the infant and date of birth, made the NMIHS appear to be "official". In the "blind" approach, the mother may have felt that if "they" don't know I had a baby, it's not that important." Therefore, it made it easy for her not to respond.

The final response for the "blind" approach unmarried mothers was only 4% lower than that of the "direct" approach unmarried mothers. The deficit in the "blind" low mail response was

made up in field interviews. Since interviews are more expensive than mail questionnaires, the utilization of the "blind" approach will be more expensive. For this reason, the "direct" approach will be the one recommended to the State and vital registration areas.

CONCLUSION - The 1988 NMIHS is scheduled to start in late 1988. Samples from vital records will include: 6,000 infant death certificates; 10,000 birth certificates; 4,000 reports of fetal death.

For mothers, we will continue to include the informative brochure and offer free health reports. Most States have approved the "direct" approach, which gives the name and date of birth of the infant, and we will continue to have the Bureau of the Census interviewers contact non-responding mothers for telephone or personal interviews. Most States have approved the inclusion of unmarried mothers using the "direct" approach. For medical sources, we have decided to do a followup mailing before attempting followup telephone calls. We hope to continue working with AMRA. AMRA will publish an article in their professional journal about their support and involvement in the NMIHS. We expect that, as in the Pretest, AMRA's involvement in the 1988 NMIHS will have the same positive effect on the NMIHS response rates as it did in the Pretest.

A variety of data users including policy makers, medical researchers, State health planners, surveillance specialists, health care providers, epidemiologists, demographers, and low birthweight prevention work groups will benefit from NMIHS results. The 1988 NMIHS will be extensively used, and we are grateful for the NMIHS cosponsorship of the following agencies:

National Institute for Child Health and Human Development/NIH
Food and Nutrition Service/USDA
Bureau of Maternal and Child Health and Resources Development/HRSA
Office of Minority Health/OASH
National Institute on Drug Abuse/ADAMHA
Center for Food Safety and Applied Nutrition/FDA
Office of Planning and Evaluation/PHS
Assistant Secretary for Planning and Evaluation/OASH
Center for Prevention Services/CDC
National Institute on Alcohol Abuse and Alcoholism/ADAMHA
Center for Devices and Radiological Health/FDA
Agency for Toxic Substances and Disease Registry/CDC
Center for Health Promotion and Education/CDC
National Institute of Mental Health/ADAMHA

REFERENCE

Simpson, G., P. Placek and J. Banach. "The American Medical Record Association's Role in the 1988 National Maternal and Infant Health Survey". Journal of AMRA: October, 1988.