

NHANES III Plans: Issues and Approaches

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The National Health and Nutrition Examination Survey conducted by the National Center for Health Statistics (NCHS) is an expansion of the National Health Examination Survey, which was authorized under the National Health Survey Act of 1956 and fielded in 1960. The survey was designed to collect data by direct standardized examination of a sample of the U.S. civilian noninstitutionalized population.

Beginning in 1960, data from household interviews and extensive physical examinations were collected through the National Health Examination Survey. In 1971, responsibility for monitoring the nutritional status of the population was added and the National Health Examination Survey became the National Health and Nutrition Examination Survey (NHANES). The first National Health and Nutrition Examination Survey (NHANES I) was conducted during 1971-1975. The second NHANES (NHANES II) was conducted during 1976-1980. In 1982-1984, a special study was conducted to collect similar information on the U.S. Hispanic population. The Hispanic Health and Nutrition Examination Survey (HHANES) was conducted because the national surveys included too few Hispanics to enable adequate estimation of the health and nutritional status of this subpopulation.

The results of these surveys have been published in numerous NCHS publications and journals. In addition, computer data tapes have been released to the public through the National Technical Information Service.

The next national survey (NHANES III) is scheduled to begin in 1988. But before I tell you about the proposed plans for NHANES III, I feel it is important to make you aware of the kinds of issues that must be confronted before a new survey can be fielded. My comments will be limited to the nutrition component of the survey, and more specifically, the dietary component, since that is the focus of this conference.

NHANES dietary data have been put to four major uses: relating diet and demographic characteristics, relating diet and health characteristics, determining interactions of diet and nutritional status indicators, and monitoring trends in diet and nutrient intakes over time.

Since dietary intakes were calculated for population subgroups in NHANES I and NHANES II by means of the results from a single 24-hour recall, we had the opportunity to compare results over time; the fourth major use of the data as described previously. This appeared to be a straightforward simple operation until it came time to interpret the findings.

When we compared sodium intakes between the two survey periods, for example, we observed a large increase in all age-sex groups in NHANES II. In order to try to explain this difference we first listed possible sources for the change.

Even though the data collection procedures had remained the same, we identified four other possible sources that might explain the observed results:

1. the total intake, or quantity consumed, by all population subgroups could have increased,
2. the choice of foods eaten by the population could have changed,
3. the enrichment, fortification, or preparation of the foods by manufactures could have changed, or
4. the nutrient data base used to process the information could have changed.

In a worst possible case, it could be some or all of the above possible sources.

In this example, our analyses have led us to believe the most of the difference is likely due to changes in the nutrient data base between NHANES I and NHANES II. This may mean there has been no significant change in sodium intake between the two surveys. At the least, interpretation of any changes by the population will be difficult to determine. What this example shows us is that we must be very careful when comparing dietary results from two similar studies and even more cautious when comparing results between two different surveys. The implications of incorrect or inappropriate interpretation of the data may be far-reaching.

Any survey conducted periodically over time must contend with this kind of an issue. Is it more important to use the same methodology and data base over time to allow for comparability, or to adopt new, and probably improved, methodologies and information as it becomes available? This is not an easy or obvious decision to make. However, this type of decision must be confronted and dealt with when planning a new survey.

This brings me to the discussion of where we are now in our planning for NHANES III and more specifically the dietary component of NHANES III. We are still very early in the planning stages for the survey. The major health components won't be selected until early 1986. What we plan to do is to select dietary methodologies that will be most useful when related to the health components selected and at the same time maintain some degree of comparability with past NHANES.

We hope that NHANES III will be conducted over six years with a total of about 60,000 examined persons. In addition, each two year cycle of the survey would be a nationally representative sample of the population. We would like to automate the data collection to the extent possible and to build into the sample design a longitudinal component. These will take a lot of planning and appropriate budgets to execute and complete. Only the future will tell how successful we will be.