

FINNISH NATIONAL HEALTH INTERVIEW SURVEY USING BLAISE CATI

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1. Conversion from personal interviews to CATI

From the early sixties onwards a series of nationwide health surveys have been carried out in Finland to monitor the health status, the use of health services and other important health-related aspects of the population (Social Insurance Institution 1964, 1968, 1976, and 1987). These studies have required a great deal of resources; they are based on large samples (in the order of 15.000 persons), trained nurses work as interviewers, and the personal interviews take one and a half hours on average to complete. Even in better economic times such expensive large-scale health surveys based on personal interviewing are feasible only every 5-10 years, and the publication of the main findings lays 2-3 years after the field work.

The CATI collection method seems to offer a fast and cost-effective instrument for an annually executed health survey covering all the main health status and health services indicators for which data exist also in the previous health surveys. Reduced costs were a strong argument in favor of the new data capture approach. The period of economically difficult adjustments through which Finland is now going, and which is reflected in the changing utilization patterns of health services, calls for a relatively inexpensive survey run on a yearly basis. A well-executed CATI data collection system would seem to be suitable for the monitoring of the rapid shifts in the use of health services.

Several reasons speak for a CATI application in health services research:

- (1) In Finland 93% of the households have access to telephone; therefore, undercoverage due to non-telephone households is manageable (however, unlisted numbers plus the difficulties of matching sample persons with respective household telephone numbers present complications).

- (2) The usual arguments for the adoption of CATI techniques, timeliness, improved data quality, reduced costs, and sample management by the CATI program apply equally to the collection of health survey data.
- (3) Blaise CATI offers several facilities, which enable the researcher to do things he could not do with the Paper&Pencil method: On-line automatic coding of diseases, use of the computer's clock for fixing reference periods for retrospective questions on health services use, and internal consistency checks on services utilization questions.

2. Finnish Health CATI

The first Finnish "Health CATI" was undertaken in the fall of 1991 and will be repeated yearly. Statistics Finland which is responsible for the data-collection phase of the research process has a CATI unit in Helsinki with 10 microcomputers in a Token Ring/Novell based network. In this experimental stage of the institution's CATI activities volunteers from the interviewing personnel of Statistics Finland were recruited for the health study.

Data were collected on perceived health, long-standing illnesses, and the use of health services (medical, preventive and dental services, physiotherapy, occupational health services, medicines). In addition, opinions on health care fees and the coverage of personal doctor services were asked.

A total of 2274 persons (aged 25-79) were interviewed in 1991 which represents 72% of the original sample. 15% of the sample persons either had no household telephone number, had an unlisted number or had a number which could not be found while matching sample information with a telephone directory. Refusal was the outcome in 6% of the cases, and 7% of the sample could not be reached by phone during the six weeks of field work. The participation rate in this survey is approximately 10 percentage points below the level for personal interview surveys conducted by Statistics Finland. Methodological work is underway to study in more detail the effects the non-response has on survey estimates. Participation varies according to age, household size, sex and geographical location.

The sample persons were notified beforehand by mail about the upcoming interview, which helps considerably the initial contact; also a good portion of the non-telephone group send their telephone numbers to our office.

Average interviewing time was 16 minutes; the interviewers spent more time on the phone with older people who have more health-related episodes, but senior citizens are also more interested in telling about their illnesses. The interviewers had no difficulties whatsoever to establish a good rapport over the phone with the respondents, which was of some concern to us at the outset of the study, since a good rapport is vital for the success of a health survey and earlier health interviews in Finland had used a different approach to data collection: trained nurses made face-to-face interviews in people's homes. According to our observations, health status indicators are sensitive to the mode of collecting information about chronic illnesses or symptoms, and methodological work is needed to sort out these differences in more detail. Comparing personal interview data with CATI results has to be done with great care.

3. Difficulties in reaching people by phone

In telephone surveys, in contrast to personal interviews, no possibility exists to come up with additional information which would help in contacting the target person (e.g., consulting neighbours). If the outcome is "no answer" after several dials, we are groping in the dark as to how to contact the target person. In Finland we can use population register information, such as age, occupation and geographical location to improve the probability of contact. Optimal call scheduling based on call history should be developed, as well.

One-person households pose special problems in this respect. The following table gives the participation rates in the 1991 Health CATI by sex, age and the household composition (one-person vs. other households):

Finnish National Health Interview Survey using Blaise CATI

Women						
Age	25-44		45-64		65+	
Household size	1 p.	2+	1 p.	2+	1 p.	2+
Participation (%)	45	71	72	79	79	82
Men						
Age	25-44		45-64		65+	
Household size	1 p.	2+	1 p.	2+	1 p.	2+
Participation (%)	49	65	47	80	54	86

The figures in the table show clearly that one-person households pose a real problem in a CATI study. For instance, living in a one-person household pushes the participation rate down 12 percentage points among men. Age is also important in determining the probability of successful outcome.

4. How many re-dials are needed?

Possibilities to focuss on “no answer” cases would increase, if we had a better way to control the scheduling of re-dials in the Blaise program. Let’s say we have decided to have up to eight re-dials per target person. If we get two rings with no answer on two successive afternoons, we might want to dial next time in the morning, and if necessary, postpone the remaining dials until a week or two from the last unsuccessful ones. In the course of time optimal call scheduling strategies should be devised for different population groups.

In the Finnish study a good many dials were made for experimental purposes before giving up a case (too many dials for cost reasons!). 95.5% of the interviewed sample was reached with at most five dials; a maximum of nine dials raised this figure up to 99.5%, and the remaining half percent required over nine dials. Thus, it seems that in the Finnish population a minimum of five dials is recommended, but this number could be raised to 6-10 dials depending on time and cost constraints.

5. Training for Blaise CATI

The Blaise program functioned fully to the interviewers' and the researcher's satisfaction in the Finnish Health CATI study. For the questionnaire designer Blaise's facility for producing neat-looking paper questionnaires is very valuable; for instance, in our CATI survey we went through five versions in an expert group before reaching the final one.

Although the interviewer can see only one question at a time in the upper part of the screen, the lower part gives her a good enough overview of the context in which the particular question is embedded (it is a good idea to have descriptive question names to give a hint about the question contents).

According to our experiences, training regarding the Blaise program should include the following points:

- (1) The interviewer should be comfortable in using key combinations, erasing and making changes in responses, and going through the questionnaire, especially in skipping back to check earlier answers.
- (2) The CATI questionnaire should be designed such that it is "transparent" from the point of view of the interviewer because her main responsibility is good interviewer performance. The interviewer must trust the CATI instrument and be proficient in its use but apart from this, she should pay only marginal attention to the instrument itself. Since computer-aided interviewing programs tend to segment questionnaires in small fragments (although Blaise's design is better in this respect than that of most other programs), the questionnaires should be designed keeping the interviewer's work in mind; for instance, it is imperative that when a study question appears on the screen the interviewer is able to comprehend it quickly and that the screen provides the interviewer with all the necessary information. Blaise would certainly serve the interviewer better if she had easy access to context-sensitive help screens giving supplementary background information about survey items. Our experience is that when problem situations occur in the course of the interview, the respondents do not mind delays if they know why they occur, but the interviewers themselves experience these situations as embarrassing.

- (3) The Blaise calendar is a useful tool for making appointments, but the interviewing staff needs to be trained to use it properly. Messages that our interviewers wrote to the persons who picked up next an unresolved case left much to desire. A smooth management of a case in a CATI unit presupposes that the interviewer when making an appointment in the calendar gives exact information about the date and time of the contact, who was on the phone, what was agreed upon and all other useful information concerning the case. Then the next interviewer can easily pick up the case from the point where it was left during the previous contact.

A small unit like ours does not need a full-time supervisor to keep an eye on interviewer work. An experienced interviewer with enough training in Blaise and network functions has been trusted with the care of the day-to-day chores (running the day batch, overseeing interviewer performance, taking backups, bringing problems to the researcher's attention etc.). One researcher carries a cellular phone with him at all times (I once got a call from the CATI center while I was mixing with people in an art exhibition!).