Enhancing Administrative Cooperation to reduce Nonresponse bias in a Household Survey

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Outline

- **Research Background**
- **High Noncontact Rates in Household Surveys**
- **Description of Study**
- **New Administrative Cooperation for Reducing nonresponse**
- **Results**
- **Conclusions**

Research Background

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- Nonresponse in face-to-face household survey has been a matter of concern for several decades in many countries.
- **Prevention or avoidance**, and the special estimation techniques are the most common methods that are used to solve the problem. This study focuses on the formal.
- In Korea, many housing units have “access impediments” that prevent strangers from contacting them.
- About 50% of all households live in high-rise apartment buildings with locked central entrances or security.

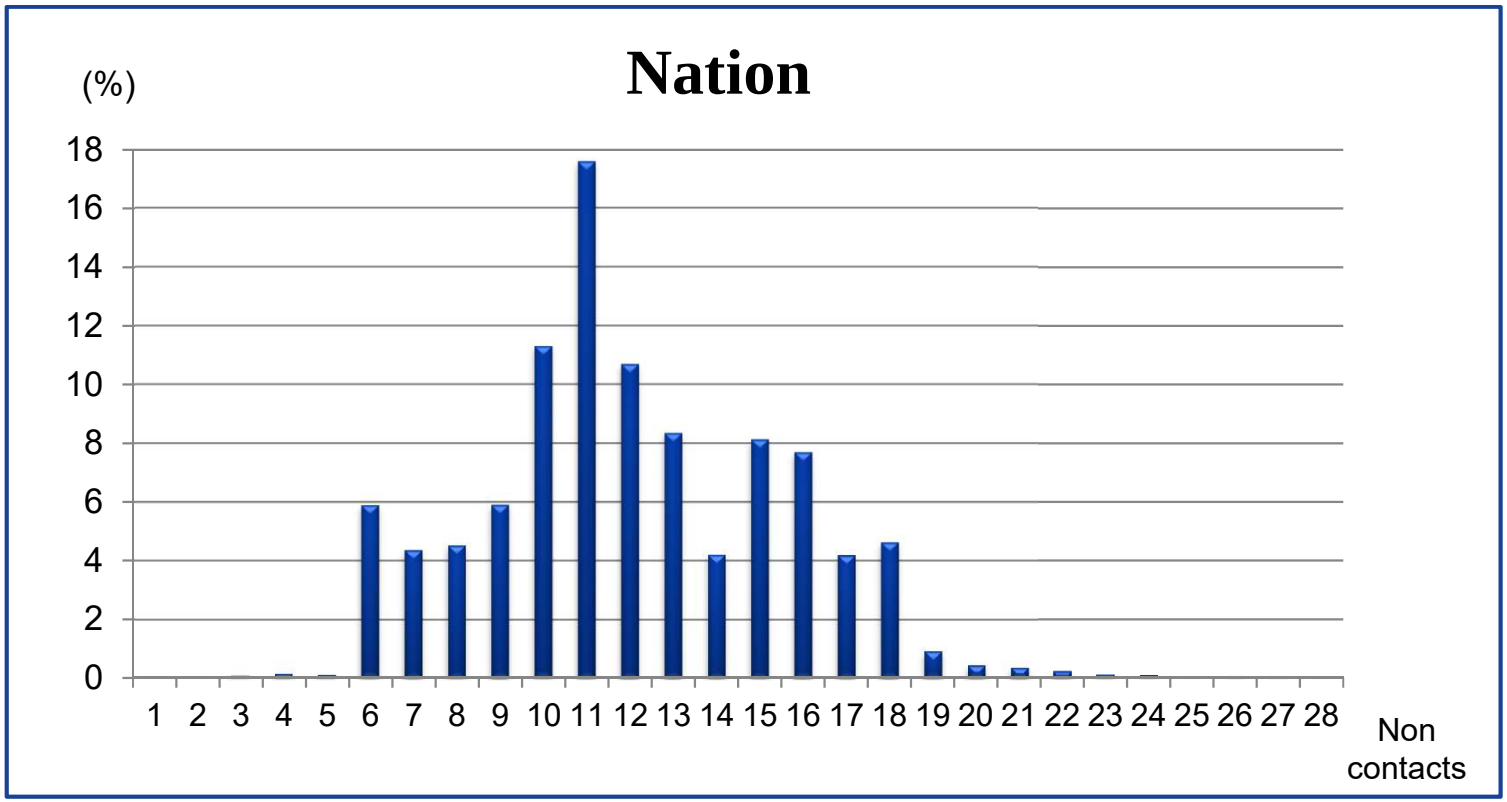
Research Background (Cont.)

- Moreover, the proportion of non-at-homes during the day or evening is very high and nearly a fourth of households have just one resident.
- We present how the sample households were contacted based on a new administrative cooperation to reduce nonresponse in a metropolitan household survey.
- Also, to assess the quality of data collected through such survey process, we explore the coverage changes across various subpopulations and the differences of responses according to the number of call-backs, as well as average number of calls per response required complete the survey.

Results from a National Household Survey : High Noncontact and Refusal Rates

High Noncontact Rates

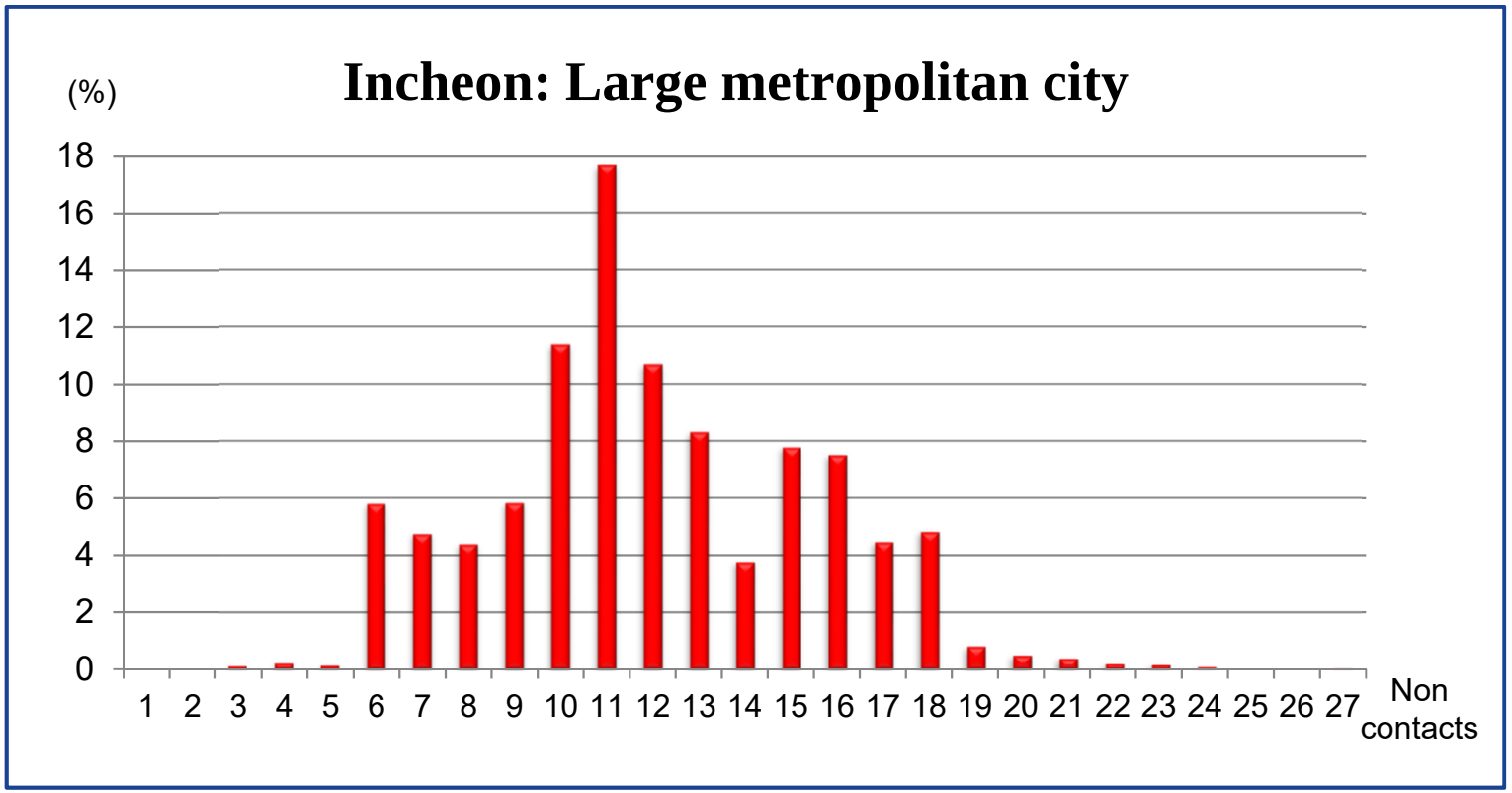
- **Number of Noncontacts per Enumeration District(ED)**



Note. Average Number of HHs in ED: 60

High Noncontact Rates (Cont.)

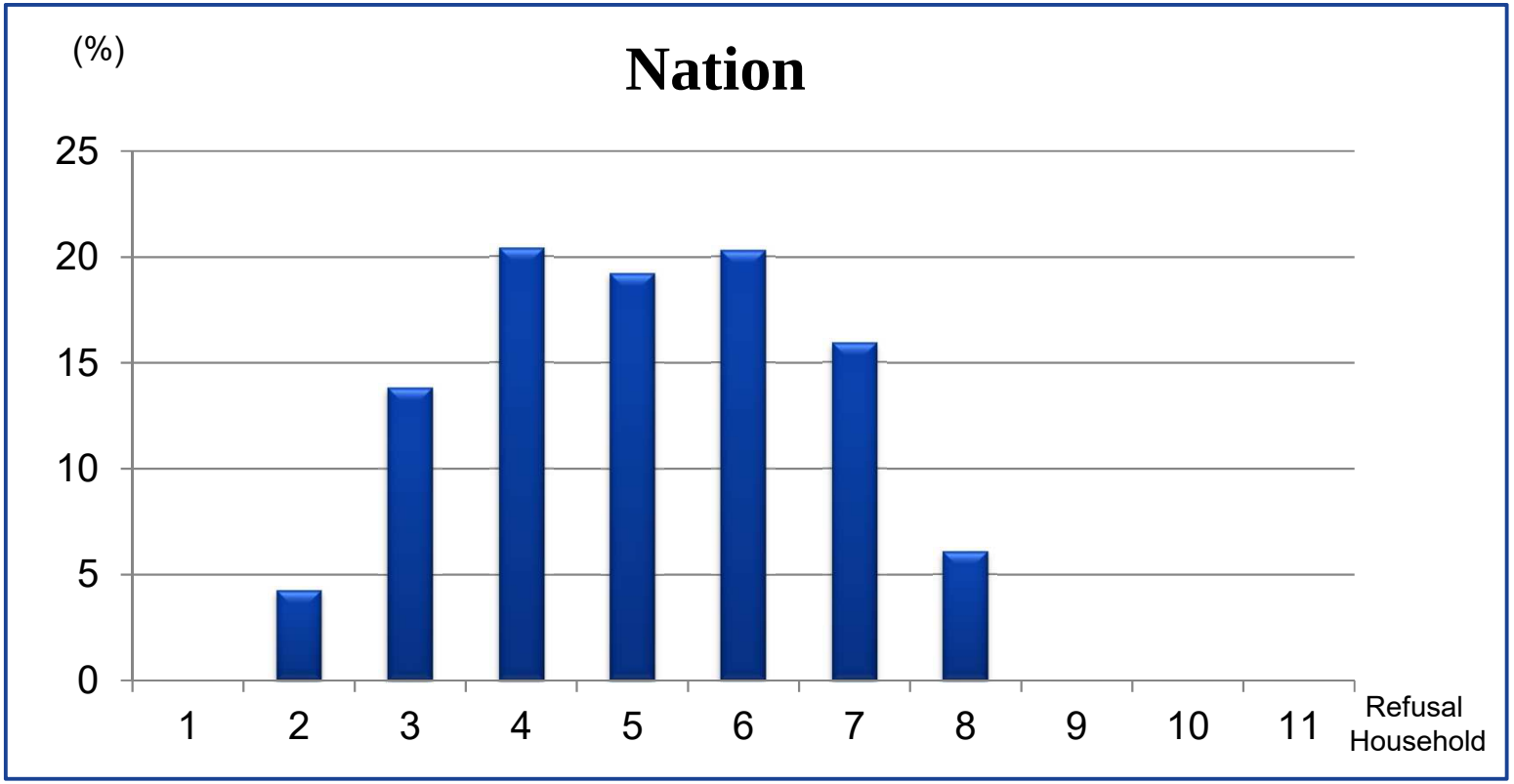
- **Number of Noncontacts per ED**



Note. Average Number of HHs in ED: 60

High Refusal Rates

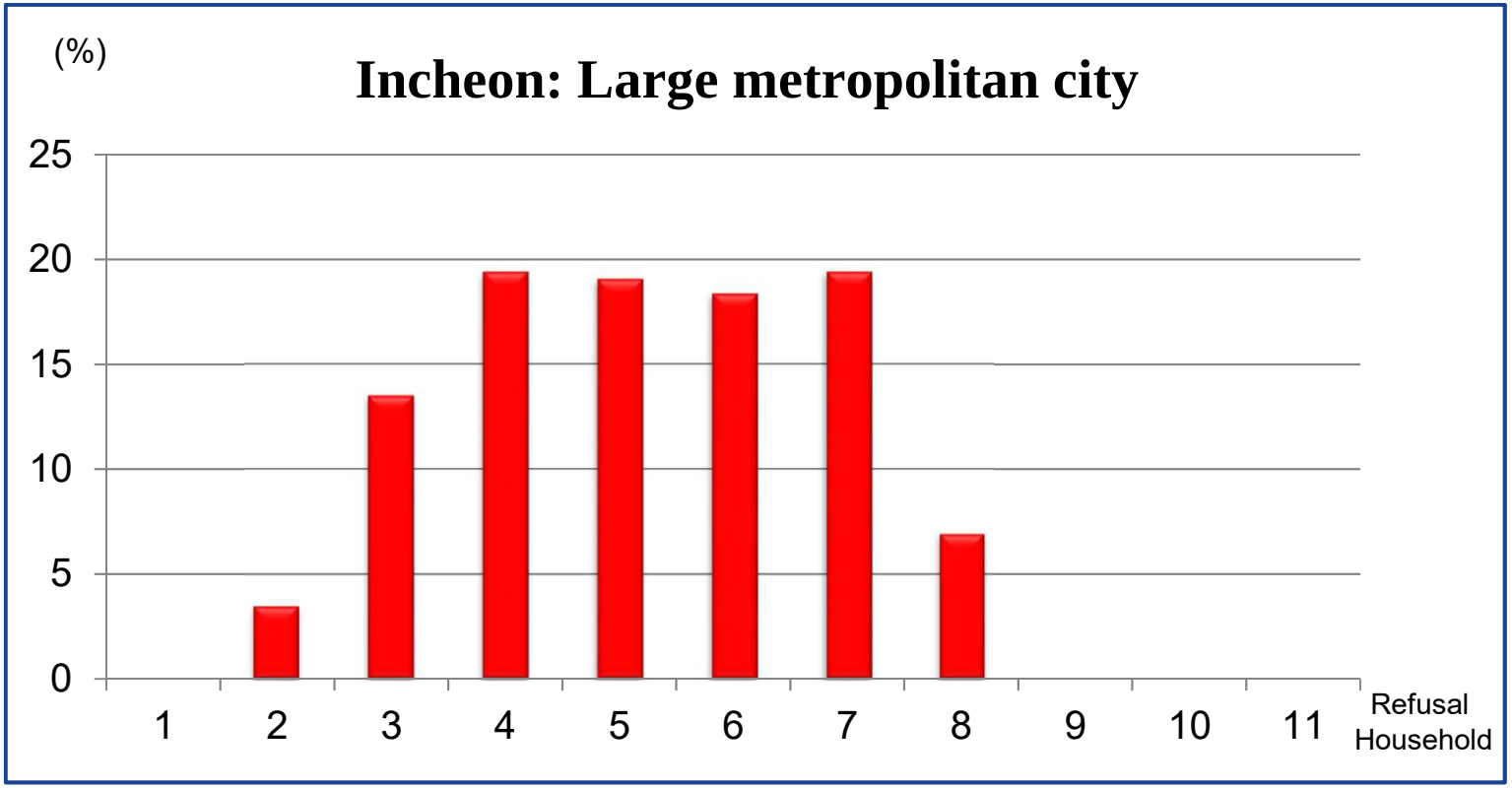
- **Number of Refusals per ED**



Note. Average Number of HHs in ED: 60

High Refusal Rates (Cont.)

- **Number of Refusals per ED**



Note. Average Number of HHs in ED: 60

Description of Study

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Metropolitan Household Survey of Environmental Health(MHSEH)

- Sponsor: National Institute of Environmental Research, South Korea
- Collector: Survey & Health Policy Research Center (SHPRC) , Dongguk University
- Purpose: To understand recognition of environmental health problem and real condition of environmental disease by using a scientific sample survey.
- Target Population: 199,328 households around the Incheon Industrial Complex
- Sample size: 606 households
- Sample design: Four stage Area Sampling, within household selection
- Data collection period: July and August , 2012
- Mode of Administration: CAPI (computer-assisted personal interviewing)

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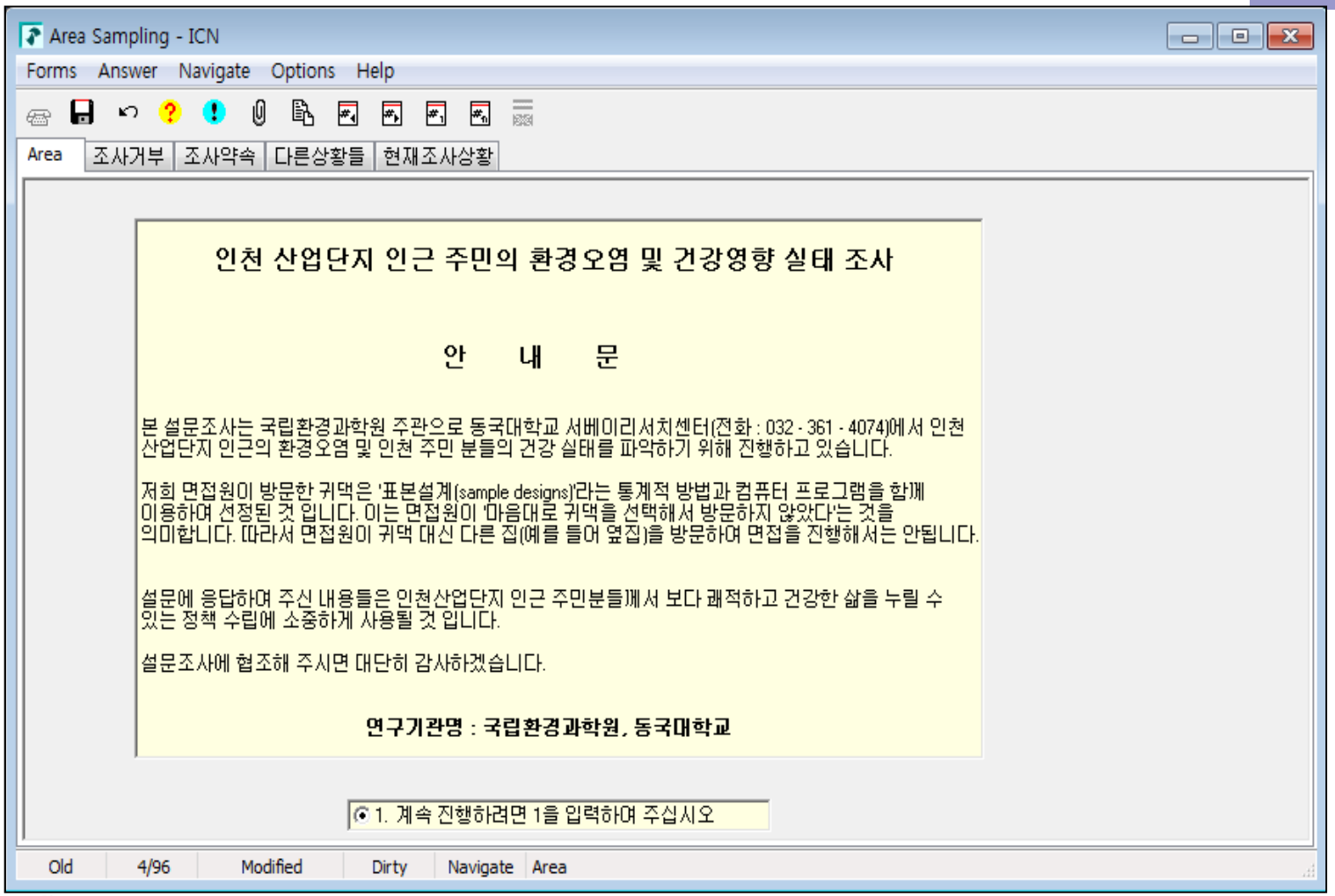
Description of Study (Cont.)



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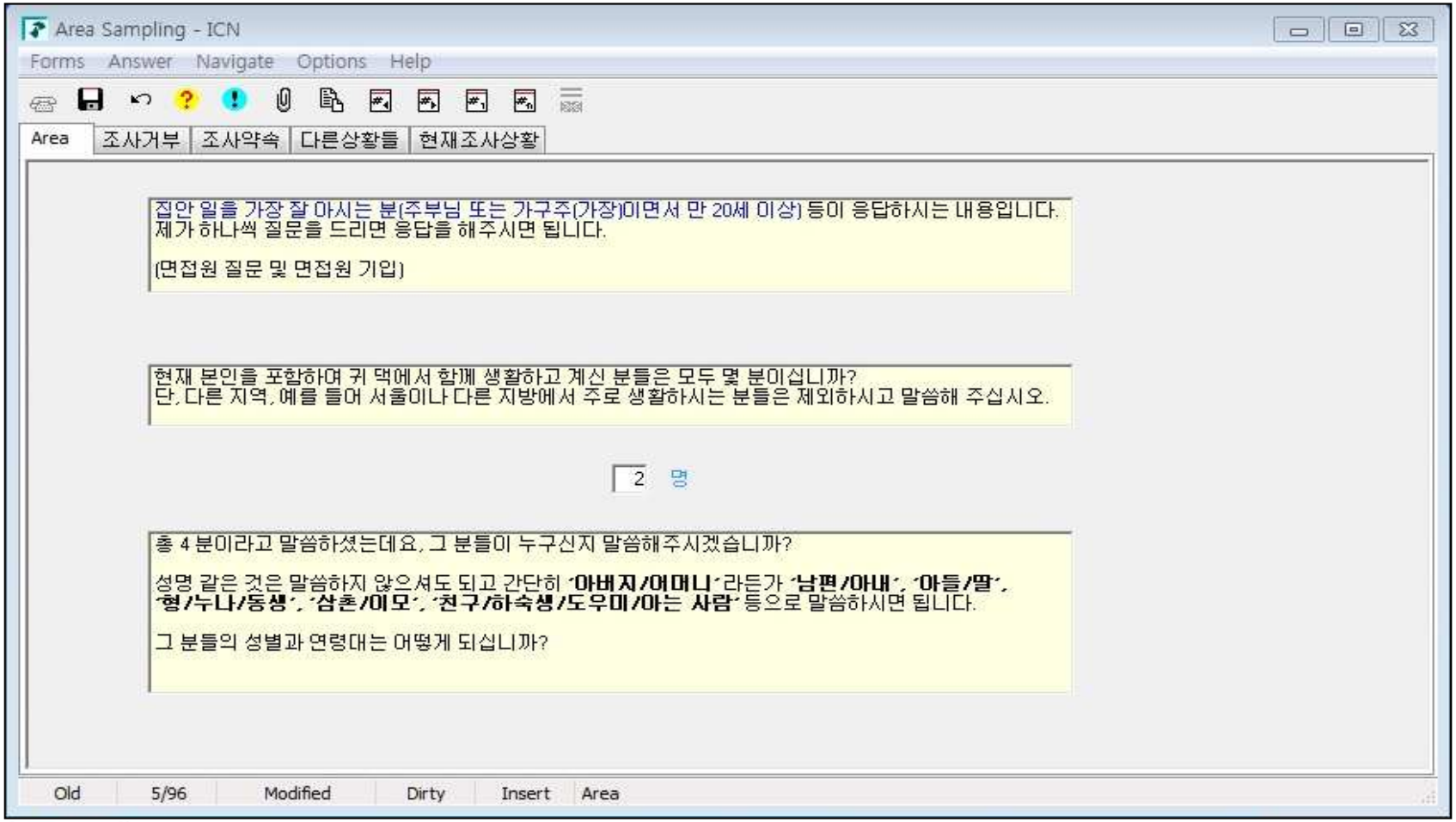
Description of Study (Cont.)

Household member listing and Random Sampling



New Administrative Cooperation for Reducing Nonresponse

Steps for Administrative Cooperation

- **Step1: Visits to City hall and “District (Gu)” offices**
  - We visited the City Hall and “District(Gu)” offices before we started survey in order to ask for their cooperation to conduct the MHSEH.
  - We asked them to send an official letter to the “Dong” offices, which are the lower level offices we visit within 2-3 days

Steps for Administrative Cooperation (Cont.)

- **Step2: Cooperation with Dong (Neighborhood) offices**
  - We visited the “Dong” offices to explain our survey and to ask contact information of head of tong.
  - We got the detailed information on the geographical boundaries of tongs, which are the smaller administrative units.

Steps for Administrative Cooperation (Cont.)

- **Step3: Cooperation with Head of the "Tong" (primary division of a "Dong"**
  - We contacted all heads of the "Tong" to which the sample households belong, and about 30 percent of them cooperated.
  - They had the information on telephone numbers of sample households.

Steps for Administrative Cooperation (Cont.)

- **Step3: Cooperation with Head of the "Tong" (primary division of a "Dong"**
  - If we were unable to cooperate with heads of "Tong", we pursued cooperation through different ways (e.g., apartment administration, neighborhoods, a women's society of the apartment community, etc.).

Steps for Administrative Cooperation (Cont.)

- **Step4: Arranging schedule for some sample households**
  - Some heads of “Tongs” gave the information on the appropriate time for contacting sample households

Steps for Administrative Cooperation (Cont.)

- **Step5: Sending Pre-Notification Letter**
  - An advanced letter for a sample household can generate higher cooperation rates.
  - Some heads of “Tong” can also notice the interviewer’s visit to households

Steps for Administrative Cooperation (Cont.)

- **Step6: Strategies for contacting households**

  - Number of attempts to access each sample household: at least 6
  - Days to access: weekdays(3 days), weekend(2 days)
  - Timing of attempts to access: Noon~8:00PM
  - Using CATI, if unable to do face-to-face interview.
  - Enough pre-interview rehearsal for interviewers

Results

Results

- **Number of visits for completed or uncompleted households**

	# of HHs	# of visits
Completed households	606	1,478
Uncompleted households	1,082	3,911
Total	1,688	5,389

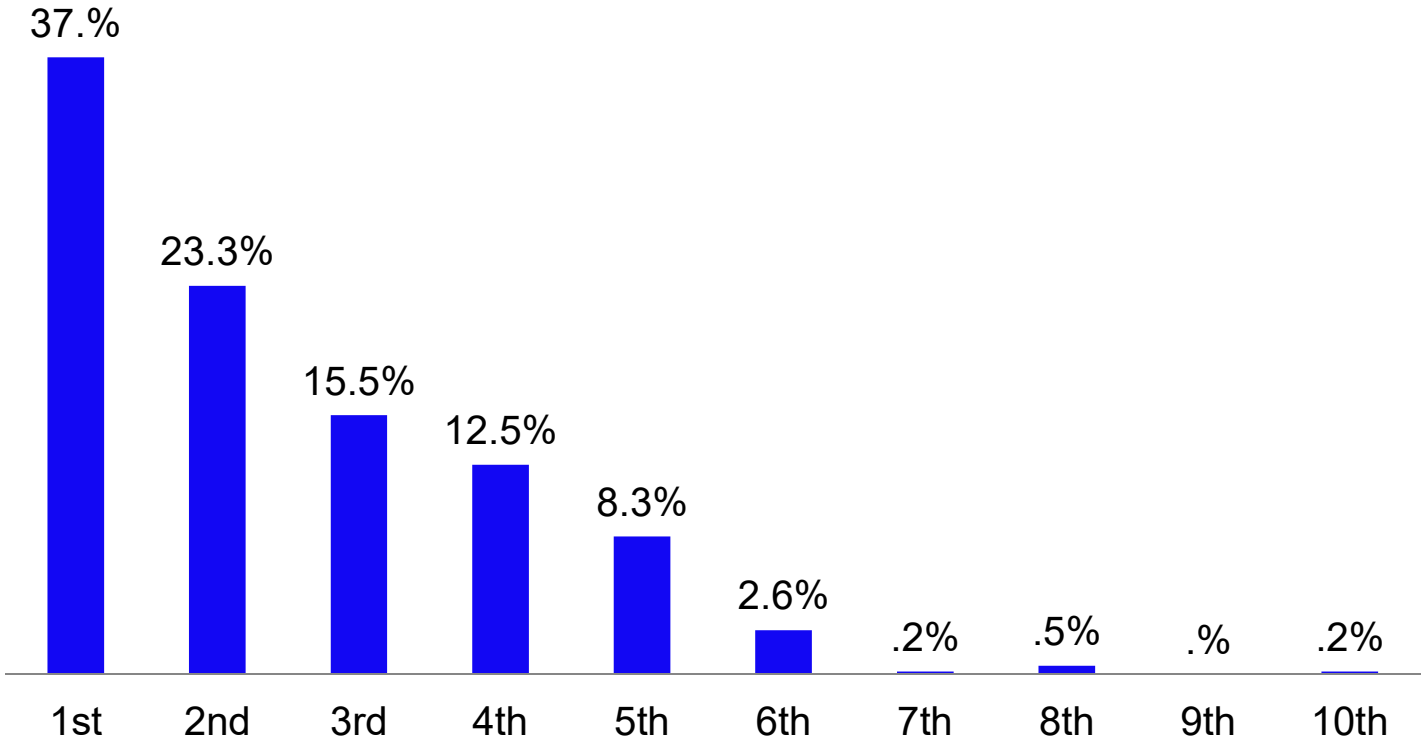
Results (Cont.)

- **Average number of visits per response to complete**

Completed households	Total number of visits for households	Average number of visits per response
606	5,389	8.9

Results (Cont.)

- **Distribution of visits for completed 606 households**



Results (Cont.)

- **Response Rates**

	Rates
RR1	36.1
COOP1	97.6
REF3	2.2

We can know that response rate and cooperation rate are high and refusal rate is low.

Results (Cont.)

- **Comparison between Population and Sample Distributions**
  - **Gender**

	Sample		Population	
	Frequency	Percent	Frequency	Percent
Male	376	49.7	308,195	50.1
Female	407	50.3	307,380	49.9
Total	783	100.0	615,575	100.0

Results (Cont.)

- **Comparison between Population and Sample Distributions**
  - **Age**

	Sample		Population	
	Frequency	Percent	Frequency	Percent
4-12	122	13.3	102,260	18.0
20-64	540	77.7	417,478	73.5
65 or higher	121	9.0	48,043	8.5
Total	783	100.0	567,781	100.0

Results (Cont.)

- **Differences of responses according to the number of call-backs**
  - **Gender**

	Calls						(%)
	1	2	3	4	5	6	> 6*
Male	47.2	47.5	48.4	49.4	49.5	49.5	49.7
Female	52.8	52.5	51.6	50.6	50.5	50.5	50.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Maximum call :10

Results (Cont.)

- **Differences of responses according to the number of call-backs**
  - **Housing Type**

	Calls						(%)
	1	2	3	4	5	6	> 6*
Detached house	9.8	7.1	7.2	7.6	7.3	7.3	7.4
Detached house (> 2 HHs)	12.0	13.0	11.5	11.2	10.5	10.3	10.2
Villa (multiplex house)	37.8	39.8	38.7	37.0	37.3	37.4	37.4
Apartment	39.8	38.5	41.1	42.1	42.9	43.0	42.9
Other buildings	0.6	1.6	1.5	2.1	2.0	2.0	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Maximum call :10

Results (Cont.)

- **Differences of responses according to the number of call-backs**
  - **Disease treated in the last 12 months**

	Calls						(%)
	1	2	3	4	5	6	> 6*
Asthma	0.92	0.98	1.08	1.21	1.12	1.09	1.08
Allergic Rhinitis	5.51	6.11	5.78	5.74	5.56	5.46	5.42
Allergic Conjunctivitis	4.09	3.44	3.18	2.82	2.61	2.54	2.52
Cardiovascular Disease	1.41	1.07	1.22	1.41	1.36	1.43	1.42
Atopic Dermatitis	1.57	1.31	1.47	1.51	1.56	1.59	1.58
Thyroid disease	0.90	0.69	0.72	0.61	0.89	0.95	0.95

* Maximum call :10
* Above table shows important variables

Results (Cont.)

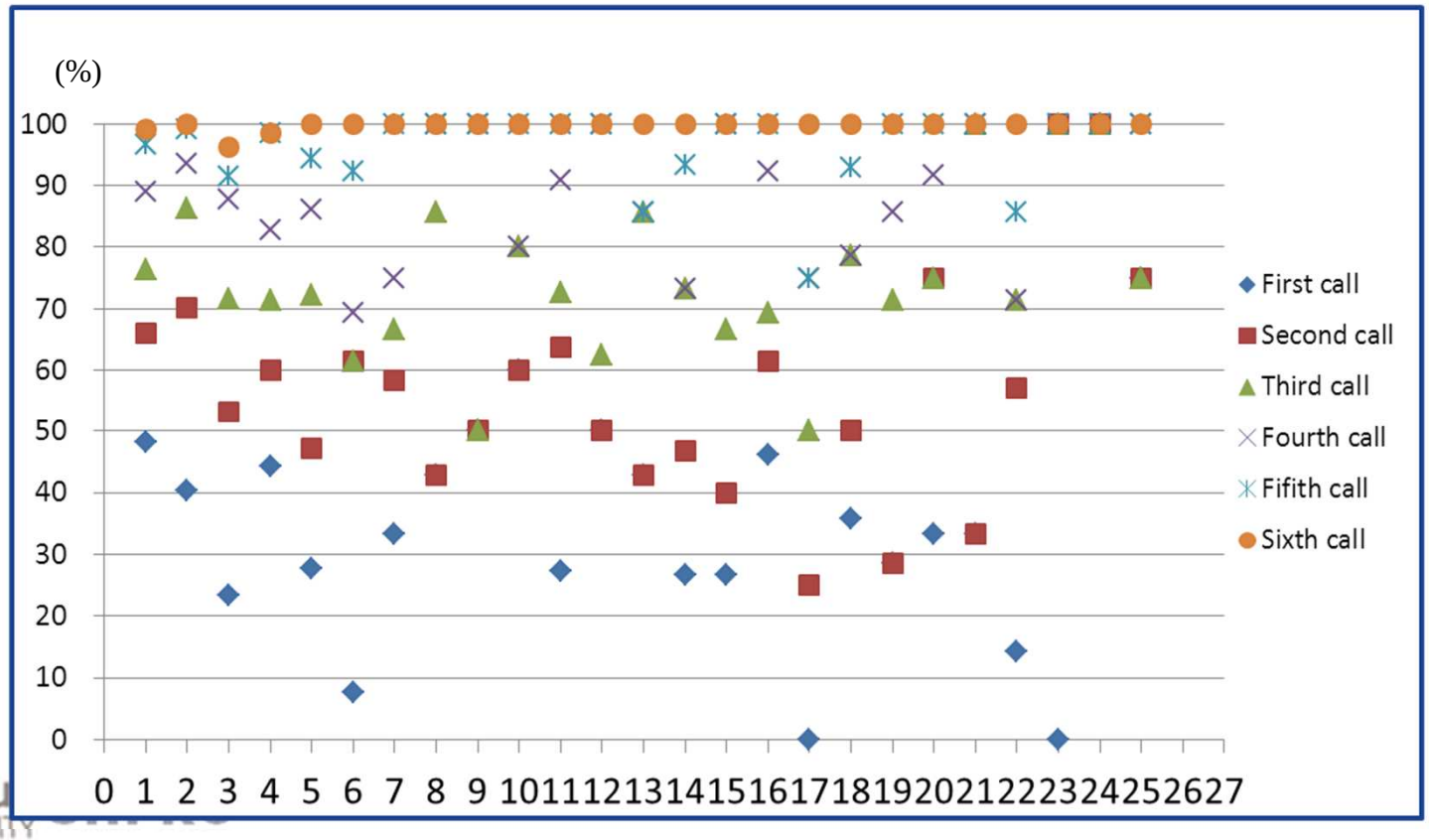
- **Differences of responses according to the number of call-backs**
  - **Average year of residence**

	Calls						
	1	2	3	4	5	6	> 6*
Average Year	10.7	10.3	9.9	9.5	9.4	9.4	9.4

* Maximum call :10

Results (Cont.)

- **Differences of responses according to the number of call-backs**
  - **Floors respondents live (Maximum call:10)**



Conclusions

Conclusions

- The results are from not only the administrative cooperation but also thorough interviewer training that is important in survey process.
- We confirmed that nonresponse of sample households can be decreased through administrative cooperation as well as sufficient call-backs (maximum 9).
- In order to complete 606 households, interviewers visited 8.9 per households on average.
- We can know that the quality of data is good because the demographic distributions between population and are very similar.

Conclusions (Cont.)

- There were small differences in responses according to the number of call-backs.
- Also, we can know that surveys with administrative cooperation may provide good response rates and cooperation rates.

THANK YOU!

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