

# Information the General Citizenry Needs during a Health Crisis : What Quality Health Crisis Information should be Collected and What Meaningful Information should be Shared with the Public?

Motonobu MIYAZAKI, Takuya IMATOH, Yoko URYU and Hiroshi UNE

*Department of Hygiene and Preventive Medicine, Fukuoka University School of Medicine.*

**Abstract :** There have so far been no surveys of the general citizenry related to information that local residents need during a health crisis. The purpose of this study was to investigate what information the general citizenry most needs. We conducted a mail-based survey. The efficacy of Internet surveys for gathering health crisis information was also investigated. In the case of food poisoning, influenza, severe acute respiratory syndrome (SARS), and chemical substances, the location and extent of an outbreak, symptoms seen, routes of infection, and the diffusion paths of a chemical substance were all important health crisis information needed by the general citizenry. Regarding pharmaceuticals, interest was high in the name of the offending pharmaceutical, sequelae, the mortality rate, and the medical institutions where it was administered. As for an Internet-based survey, some items in an Internet survey were 0.1 or 0.2 points higher than the same items in a mail survey, but there was no large discrepancy between the results of the Internet survey and the results of the mail survey. This result suggests that Internet-based surveys can thus be used to survey the general population about health crisis information.

**Key words :** Health crisis, Information, General citizenry, Infectious disease, Chemical substance contamination, Drug reaction

## Introduction

The outbreak of *Escherichia coli* (*E. coli*) O-157 : H7 that mainly occurred in children in Sakai City, Osaka Prefecture, in July 1996 was an unprecedented case of mass food poisoning. Over 8,000 people were symptomatic and about 400 people were hospitalized.<sup>1)</sup> This incident overturned the notion that Japan was safe from infectious diseases. In fact, it provided the Japanese Ministry of Health and Welfare and local governments the opportunity to reorganize their measures and policies regarding how they will respond and what measures have to be taken in the event of a health crisis.<sup>2)</sup>

There is a wide range of accidents that can pose a

risk to health, from chemical substance contamination and spread of infectious diseases to adverse drug reactions and terrorism. A variety of relevant information is issued when these health crises occur.<sup>3)</sup> Local residents are an important source of information.<sup>4)</sup> However, it cannot be denied that health crisis information includes everything from the truth to vague information and over false information. In other words, governmental agencies require the capability to accurately assess the outbreak of a health crisis and its trends and select information that is highly credible from among a large amount of health crisis information.<sup>3)5)</sup> At the same time, selecting information that the general citizenry needs from among information obtained and feeding back relevant health crisis information to local residents are indispensable.

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Correspondence address ; Motonobu MIYAZAKI, M.D.  
Department of Hygiene and Preventive Medicine, School of Medicine, Fukuoka University.  
7-45-1 Nanakuma, Jonan-ku, Fukuoka-City 814-0180, Japan  
Tel) +81-92-801-1011 ext3301, Fax) +81-92-863-8892 e-mail) motonobu@cis.fukuoka-u.ac.jp

Top-priority health crisis information that is needed must be shared with local residents.<sup>6)</sup> However, in the area of transmission and utilization of health crisis information, there have been no surveys to target the general citizenry regarding what information needed by local residents should be preferentially selected and shared from among the large amount of health crisis information obtained.

The purpose of this study was to evaluate what kind of information is needed most by the general citizenry in the event of a health crisis in Japan, e.g., the large-scale spread of an infectious disease or contamination caused by release of a chemical substance. An additional purpose was to evaluate the efficacy of Internet surveys, which are now frequently being used recently, as they relate to health crisis information by comparing the results of a mail survey with the results of an Internet survey.

### Materials and Methods

We conducted a mail-based survey and an Internet-based survey of the general citizenry. The number of people and the areas surveyed in the mail-based survey were 400 people in Sendai City, Miyagi Prefecture, 1,000 people in Setagaya Ward, Tokyo, 400 people in Osaka City, Osaka Prefecture, and 400 people in Fukuoka City, Fukuoka Prefecture. The respondents to the mail-based survey were selected at random from the Basic Resident Register. The survey period was the four-week period from March 12 to April 9, 2004, for the 1,000 people in Setagaya Ward and the four-week period from November 2 to November 30, 2004, for a total of 1,200 people in Sendai City, Osaka City, and Fukuoka City.

As for the Internet-based survey, the respondents were persons who were registered with an organization that specializes in conducting Internet surveys. The survey period was the three-day period from November 15 to November 17, 2004.

The contents of the questionnaire was health crisis information in five areas: outbreak of food poisoning (food poisoning), influenza and other infectious diseases (influenza), severe acute respiratory syndrome (SARS) and other unknown infec-

tious diseases, chemical and toxic substance spills (chemical substances), and pharmaceuticals. With respect to the contents of the mail questionnaire, each area had at least 20 items, and the basic survey content was the same for each area. We surveyed information on time of emergence, outbreak location, number of people affected, offending bacteria, causative agent, route of infection, route for moving people affected, medical institutions, and preventive measures, etc. (Appendix 1). Respondents were asked to circle the answer for one of the following: "Want to know without question," "Want to know," "Not very necessary," and "Unnecessary." They were also asked to enter a double circle for the information they believed to be most important. Sex, age, occupation, academic background, income, and telecommunications equipment were also surveyed as general information.

The content of the Internet questionnaire was 15 items on health crisis information in each area. For each item, respondents were asked to enter a circle for one of the following: "Want to know without question," "Want to know," "Not very necessary," and "Unnecessary." Both the mail survey and the Internet survey were anonymous surveys, therefore, respondents did not give their name and address. Regarding informed consent, all persons who responded to the survey were judged to have given their consent for this study.

Each health crisis-related survey item was assigned a numerical value. In the mail survey, "Want to know without question" was 4 points, "Want to know" was 3 points, "Not very necessary" was 2 points, and "Unnecessary" was 1 point. In addition, an item with a double circle, thus indicating that it to be most important factor, was 5 points. In this study, items with an average score of 4.0 or higher were defined as necessary important information, and items with an average score of less than 3.0 were defined as information that is unnecessary for the most part. In the Internet survey, "Want to know without question" was 4 points, "Want to know" was 3 points, "Not very necessary" was 2 points, and "Unnecessary" was 1 point. A Statistical Analysis System (SAS Institute, Cary, NC) was used for the statistical analysis. A *p*-value less than 0.05 was considered to be a significant difference.

**Results**

Excluding questionnaires that were returned marked address unknown, the number of responses in the mail survey was 112 for Setagaya Ward (11.6% response rate), 74 for Sendai City (19.6%), 58 for Osaka City (15.4%), and 85 for Fukuoka City (22.4%). Overall, there were 329 total responses (143 males, 178 females, and 8 unknown) for a response rate of 15.7%. The number of responses in the Internet survey was 1,088 (526 males and 562 females). The number of people who responded to the mail survey or the Internet survey and their percentage are shown in Table 1 by sex, age, and highest level of education attained. Comparing the people who responded to the mail survey with those who responded to the Internet survey, a significant difference ( $p=0.049$ ) was seen in the age distribution of the junior high school graduates, but no statistical difference was seen in terms of sex and age distribution according to the academic background.

Table 2 is a summary of items with an average

response of 4.0 or higher. The items dealt with health crisis information in five areas: food poisoning, influenza, SARS, chemical substances, and pharmaceuticals. The item concerning how to respond when symptoms occur was common to all areas. The location and extent of an outbreak, symptoms seen, routes of infection, and the diffusion paths of chemical substance were important health crisis information needed by the general citizenry in all areas except for pharmaceuticals. Regarding pharmaceuticals, interest was high in the name of the offending pharmaceutical, sequelae, the mortality rate, and the medical institutions where it was administered.

Table 3 is a summary of items with an average response of less than 3.0. The items dealt with health crisis information in five areas: food poisoning, influenza, SARS, chemical substances, and pharmaceuticals. As for information considered to be almost totally unnecessary, there were many items related to food poisoning. Information related to patients initially affected by food poisoning was considered to be almost totally unnecessary. Regarding chemical substances and pharmaceuti-

**Table 1** Comparison of respondents to mail survey and Internet survey by sex, age, and highest level of education attained

Education	Junior high school graduate		High school graduate		Junior college graduate		College graduate									
	MS		IN		MS		IN									
	n	%	n	%	n	%	n	%								
<b>Sex</b>																
Male	8	5.6	17	3.2	43	30.1	137	26.0	21	14.7	57	10.8	69	48.3	314	59.7
Female	8	4.5	21	3.7	55	30.9	184	32.7	66	37.1	191	34.0	45	25.3	165	29.4
			$p=0.772$		$p=0.907$				$p=0.883$				$p=0.328$			
<b>Age (years)</b>																
20-29	0	0	8	4.5	17	36.2	36	20.2	16	34.0	55	30.9	14	29.8	79	44.4
30-39	1	1.7	8	4.4	11	19.0	42	23.1	20	34.5	61	33.5	25	43.1	71	39.0
40-49	0	0	1	0.5	22	31.9	54	24.5	20	29.0	52	23.6	26	37.7	113	51.4
50-59	3	4.7	4	1.9	17	26.6	67	31.9	19	29.7	34	16.2	25	39.1	104	49.5
60 and over	14	16.3	17	5.7	32	37.2	122	40.9	12	14.0	46	15.4	24	27.9	112	37.6
			$p<0.05$		$p=0.314$				$p=0.389$				$p=0.387$			

Pearson's chi-squared test

MS : mail survey, n=329

IN : Internet survey, n=1,088

Junior high school graduate : junior high school graduates, elementary school and higher elementary school graduates under the old system

High school graduate : high school graduates, junior high school and higher girls' school graduates under the old system

Junior college graduate : junior college graduates, technical college graduates, high school and vocational school graduates under the old system

College graduate : college and graduate school graduates

Respondents were excluded when the information was unknown

cals, no items were considered to be unnecessary.

Table 4 is a comparison of the average response scores calculated from the results of the Internet survey and the results of the mail survey for the same items. The items dealt with health crisis information in five areas : food poisoning, influenza, SARS, chemical substances, and pharmaceuticals. Several items in the Internet survey were 0.1 or 0.2 points higher, but there was almost the same between the results of the Internet survey and the results of the mail survey.

### Discussion

The range of health crises is wide including infectious diseases, food poisoning, chemical and toxic substances, pharmaceuticals and even terrorism involving nuclear, biological, chemical, and radioactive threats. However, it is no exaggeration to say that it is almost impossible to predict a health crisis in everyday life. Since it is very difficult to predict such things as the location and time of a health crisis, damage is minimized by establishing a response and structural plans before a crisis

**Table 2** Important health crisis information needed according to results of mail survey of citizen needs

	Food poisoning	Influenza	SARS	Chemical substances	Pharmaceuticals
Where is it happening (area affected)?	4.4	4.0	4.3	4.3	
What kinds of symptoms occur ?	4.4	4.3	4.5	4.5	
After - effects and mortality rate					4.3
What is the offending food product, pathogen, or causative agent ?	4.3				4.6
What are the route of infection and diffusion path ?	4.0	4.0	4.2	4.1	
At what restaurant did it occur or at what medical institution was it administered ?	4.0				4.1
What areas are expected to be at risk ?				4.0	
How do I respond when symptoms occur ?	4.0	4.0	4.1	4.2	4.1

Scores were rounded off to one decimal place, and those 4.0 and higher were included.

Food poisoning : information related to outbreak of food poisoning

Influenza : information related to influenza and other infectious diseases

SARS : information related to severe acute respiratory syndrome (SARS) and other unknown infectious diseases

Chemical substances : information related to chemical and toxic substance spills, etc.

Pharmaceuticals : information related to pharmaceuticals

**Table 3** Health crisis information not considered to be needed very much according to the results of mail survey of citizen needs

	Food poisoning	Influenza	SARS	Chemical substances	Pharmaceuticals
How many people were initially affected ?	2.9	2.9			
Sex of people initially affected	2.1		2.5		
Age of people initially affected	2.5		2.7		
Movement routes of people initially affected	2.7				
Transportation used by people initially affected	2.5				
Place of residence of people initially affected	2.8				
Where people initially affected had been and at what times	2.6				
Developments after declaration that a crisis has ended		2.9			

Scores were rounded off to one decimal place, and those less than 3.0 points were included.

Food poisoning : information related to outbreak of food poisoning

Influenza : information related to influenza and other infectious diseases

SARS : information related to severe acute respiratory syndrome (SARS) and other unknown infectious diseases

Chemical substances : information related to chemical and toxic substance spills, etc.

Pharmaceuticals : information related to pharmaceuticals

occurs. Making a mistake in the selection and use of various information that pours in during the early stages of a crisis makes adequate decisions regarding the status of an outbreak unclear, and causing mistakes to be made in the selection of priority information to be fed back to the affected area.<sup>7)</sup> Handling of this accurate information is crucial to the subsequent response.<sup>8)9)</sup> Namely, the most important element in the management of a health crisis, including that before an outbreak, is to collect information on the health crisis from the area as promptly and over as wide an area as possible and to accurately ascertain and judge the current situation based on the information.<sup>5)10)</sup> Additional elements are the utilization of accurate in-

formation to protect a further extent of outbreak and sharing of necessary top-priority information with relevant parties. Accurate information is indispensable for estimating possible damage. Those with whom information will be shared include not only municipalities and public health centers but also the target local populace and the media. Sharing adequate information with local residents is important for preventing needless confusion,<sup>6)</sup> and the use of news organizations cannot be avoided because of their ability to convey accurate information to many people.<sup>11)</sup>

Information gathering requires the participation of people from various occupational categories.<sup>12)13)</sup> Collection of health crisis information in Japan is

**Table 4** Comparison between the Internet survey and mail survey

Survey item	Food poisoning	Influenza	SARS	Chemical substances	Pharmaceuticals
	IN/MS	IN/MS	IN/MS	IN/MS	IN/MS
When did it occur ?	3.5/3.6	3.1/3.3	3.6/3.5	3.7/3.6	3.3/3.3
Where did it happen (area affected)?	3.7/3.8	3.5/3.6	3.8/3.8	3.8/3.7	3.3/3.4
How many people were initially affected ?	2.9/2.9	2.7/2.8	3.2/3.1	3.1/3.0	3.0/3.0
How many people are currently affected ?	3.2/3.3	3.1/3.1	3.5/3.3	3.4/3.2	3.2/3.3
How many people initially died ?	3.1/3.1	2.9/2.9	3.2/3.1	3.1/3.0	3.0/3.0
How many people have died so far ?	3.3/3.4	3.2/3.2	3.5/3.3	3.4/3.2	3.3/3.3
What kinds of symptoms occur ?	3.8/3.8	3.7/3.6	3.8/3.8	3.9/3.8	3.7/3.7
What is the mortality rate ?	3.5/3.4	3.3/3.2	3.6/3.4	—	—
After-effects and mortality rate	—	—	—	3.7/3.6	—
What proportion of people are affected ?	—	—	—	—	3.4/3.2
What food causes it ?	3.8/3.7	—	—	—	—
What is the name of the microorganism that causes it ?	—	3.1/3.1	3.6/3.4	—	—
What is the name of the causative agent ?	—	—	—	3.5/3.3	3.8/3.8
What is the route of infection ?	3.7/3.6	3.6/3.6	3.8/3.8	—	—
By what paths does it spread ?	—	—	—	3.8/3.6	—
What areas are expected to be at risk ?	3.6/3.3	3.6/3.4	3.8/3.5	3.8/3.6	—
Names of medical institutions that administered it	—	—	—	—	3.7/3.7
Doses at which symptoms occur	—	—	—	—	3.7/3.5
How to respond in the case of infection	—	3.7/3.5	3.9/3.7	—	—
How to respond when affected by a chemical substance	—	—	—	3.9/3.7	3.8/3.6
Information on medical institutions capable of responding	3.7/3.5	3.6/3.5	3.8/3.6	3.8/3.6	3.7/3.6
Preventive measures (protective measures)	3.7/3.5	3.5/3.4	3.8/3.6	3.8/3.6	3.7/3.4
Contact information for crisis-related inquires	3.4/3.2	—	—	—	—
Contents of declaration that a crisis has ended	3.5/3.2	3.3/3.1	3.5/3.3	3.6/3.3	3.4/3.1

IN : Internet survey (15 items)

MS : mail survey (the same 15 items as those in the Internet survey were excerpted)

Food poisoning : information related to outbreak of food poisoning

Influenza : information related to influenza and other infectious diseases

SARS : information related to severe acute respiratory syndrome (SARS) and other unknown infectious diseases

Chemical substances : information related to chemical and toxic substance spills, etc.

Pharmaceuticals : information related to pharmaceuticals

— indicates that it is not included in the question

carried out with the Ministry of Health, Labor and Welfare playing a central role, but it is still hardly adequate. One reason for this is that it is extremely difficult to predict the outbreak of a contamination incident involving a chemical substance, the spread of an infectious disease that produces a wide range of patients, or a terrorist attack with a toxic substance such as sarin. In addition, there have been no comprehensive studies from the perspective of social science that have looked at the priority and necessity of information and handling of personal information as they relate to the collection, analysis, utilization, application or sharing of information. There is a pressing need for extensive improvement and strengthening of the response by the Ministry of Health, Labor and Welfare, municipalities, and public health centers to health crises under the current situation in which a system has not yet been sufficiently established, as indicated above.<sup>14)</sup>

The information that local residents determine they want to receive will likely differ depending on the type of health crisis that is involved. In the case of an infectious disease, there may be a difference in the information required by local residents depending on whether the infection is a known one or a new one or on differences in the mode of infection. Comparing influenza and SARS, in the case of SARS, people are expected to seek detailed and accurate information related to the movements of infected persons such as over what routes they are being moved, how they are being moved, and where they are staying. In the case of influenza, people will likely require information on vaccination and prevention of infection since it is an infectious disease that goes around every year. In the event of an accident involving a toxic substance, people will likely need such information as the cause of a spill, evacuation sites, the extent of the area affected, and medical institutions that can respond. A hypothesis like the above was framed for each type of crisis, and the content of the questionnaire was considered before conducting the present field survey.

In the present study, we expected information on medical institutions able to cure and information on preventive measures to receive very high scores, but they were only 3.5 to 3.8 points in both the mail

survey and the Internet survey. However, in the survey of people in Setagaya Ward, information on medical institutions received a score of 4.0 in the case of food poisoning and influenza, and preventive measures received a score of 4.0 in the case of SARS. It is conjectured that the timing of the survey, i.e., it was conducted after influenza and SARS had gone around, was a factor behind this result. Why information on medical institutions capable of responding to a crisis and preventive measures were not deemed important information needs to be elucidated in the future. We speculate that identifying information on health crises that local residents need results in more adequate health crisis information being fed back to the citizens, municipalities, and the media. The pertinent collection of needed health crisis information allows for speedier and more efficient health crisis management measures, and it additionally serves as the basis for improving feasibility related to predicting the future.

One purpose of this study was to evaluate whether or not differences existed between the results of a mail survey and an Internet survey. It is said that there is a hypothesis that bias in responses may occur because only those who have registered beforehand can respond to Internet surveys.<sup>7)</sup> However, if no differences are found between Internet surveys and mail surveys, utilization of Internet surveys instead of mail surveys, which have a low response rate and take time, becomes possible. Unlike general information for daily life, health crisis information is closely related to health hazards faced by citizens. Therefore, greater utilization is expected in the future if Internet surveys are found to be effective.

Mail surveys that target the general citizenry have the drawback of a low recovery rate.<sup>15)</sup> The recovery rate of the mail survey in this study was 15.7%. The target number of respondents for the Internet survey conducted for this study was 700 in three days, but we ended up receiving responses from over 1,000 people. In the present fact-finding survey, we compared the results of items collected using an Internet survey with the results of the same items collected by mail survey. Regarding persons who responded to the two surveys, a significant difference ( $p < 0.05$ ) was seen between

the ages only in junior high school graduates. No statistical differences were seen in the composition by age and sex for the remaining academic backgrounds, and no significant differences were seen in the results obtained. This suggests that Internet surveys can be used in place of mail surveys, which have heretofore been conducted. We demonstrated that Internet surveys, the results of which can be obtained in a short time, can be used in the future as an effective means of conducting questionnaire surveys targeting the general citizenry, compared with mail surveys, which take more time and effort.

One limitation of this study was the fact that few people responded to the mail survey. It is undeniable that a more accurate examination would have been possible if the same number of people had responded to the mail survey as had responded to the Internet survey. As for the fact that some items we expected beforehand to be cited as important crisis information were not, there are some problems that remain to be solved such as the timing of surveys. We, therefore, need to analyze the results of this study in detail, carry out a thorough investigation of the reasons for this, and make use of the results in further research.

## Conclusion

Whether health crisis-related information is needed by local inhabitants depends on whether the health crisis information is directly related to each individual. In other words, local inhabitants without fail ask government agencies for information on the outbreak location, the route of infection, the diffusion path, symptoms, and what to do if symptoms occur. We found that Internet surveys are an effective means of surveying health crisis information. As a result, they can be fully utilized as a means of conducting future surveys in the field of public health.

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## Appendix 1

### HEALTH CRISIS INFORMATION NEEDS SURVEY

**A. Information related to food poisoning (outbreaks)**

Assume that food poisoning has occurred on a massive scale near where you live and many people have been taken to the hospital. What types of information do you think you would want to have under these circumstances? For each of the following items, enter a circle in the box that best describes the necessity of the information. Enter a double circle for up to five items if you think the information is especially important.

	Want to know without question	Want to know	Not very necessary	Unnecessary
1. When did it occur? (example entry)	○			
2. Where is it happening (area affected)? (example entry)	◎			
1. When did it occur?				
2. Where is it happening (area affected)?				
3. How many people were initially affected?				
4. How many people are currently affected?				
5. How many people initially died?				
6. How many people have died so far?				
7. What kinds of symptoms occur if I get the food poisoning?				
8. What is the mortality rate if I get that food poisoning?				
9. Name of bacterium that caused food poisoning				
10. Food that caused food poisoning				
11. Routes by which people are infected by food poisoning				
12. How did the bacterium get attached to the food that caused the food poisoning				
13. At what restaurant did the food poisoning occur, or what product sold at what store caused it?				
14. Date the food/product that causes symptoms was manufactured				
15. Possibility of secondary infection				
16. Sex of people initially affected				
17. Age of people initially affected				
18. Movement routes of people initially affected				
19. Dates and times of transportation used by people initially affected				
20. Place of residence of people initially affected				
21. Dates and times of places visited by people initially affected				
22. Areas expected to be at risk for food poisoning				
23. Means to check whether or not I got food poisoning				
24. What should I do if I show symptoms of the food poisoning?				
25. Information on hospitals and medical institutions that can treat the food poisoning				
26. Measures to prevent the food poisoning				
27. Contact information for inquires about the food poisoning outbreak				
28. Declaration that the crisis has ended				
29. Developments after declaration that the crisis has ended				



**B. Information related to infectious diseases (influenza, etc.)**

Assume that an infectious disease such as influenza has spread on a massive scale near where you live. What types of information do you think you would want to have under these circumstances? For each of the following items, enter a circle in the box that best describes the necessity of the information. Enter a double circle for up to five items if you think the information is especially important.

	Want to know without question	Want to know	Not very necessary	Unnecessary
1. When did it occur? (example entry)		○		
2. Where is it happening (area affected)? (example entry)	◎			
1. When did it occur?				
2. Where is it happening (area affected)?				
3. How many people were initially affected?				
4. How many people are currently affected?				
5. How many people initially died?				
6. How many people have died so far?				
7. Symptoms that occur if I get the influenza				
8. How contagious is it?				
9. What is the mortality rate if I get influenza?				
10. Name of the bacterium or virus causing influenza				
11. Route of infection of influenza (contact infection, air-borne infection)				
12. Animals that spread the offending virus or bacterium				
13. Possibility of secondary infection				
14. Areas expected to be at risk				
15. Means to check whether or not I have influenza				
16. What should I do if I get influenza?				
17. Information on hospitals and medical institutions that can treat influenza				
18. Measures for preventing influenza				
19. Contact information for inquiries concerning spread of influenza				
20. Declaration that the crisis has ended				
21. Developments after declaration that the crisis has ended				

**C. Information related to infectious diseases (SARS and other unknown infectious diseases)**

What types of information do you think you would want to have if an unknown infectious disease like SARS occurred in Japan? For each of the following items, enter a circle in the box that best describes the necessity of the information. Enter a double circle for up to five items if you think the information is especially important.

	Want to know without question	Want to know	Not very necessary	Unnecessary
1. When did it occur? (example entry)		○		
2. Where is it happening (area affected)? (example entry)	◎			
1. When did it occur?				
2. Where is it happening (area affected)?				
3. How many people were initially affected?				
4. How many people are currently affected?				
5. How many people initially died?				
6. How many people have died so far?				
7. What kinds of symptoms occur if I get the infectious disease?				
8. How contagious is the infectious disease?				
9. What is the mortality rate if I get the infectious disease?				
10. What is the bacterium or virus causing the infectious disease?				
11. Route of infection of the infectious disease (contact infection, air-borne infection)				
12. How did the infectious disease enter Japan?				
13. Animals that spread the offending virus or bacterium				
14. Possibility of secondary infection				
15. Sex of infected persons				
16. Ages of infected persons				
17. Movement routes of infected persons				
18. Dates and times of transportation used by infected persons				
19. Place of residence of infected persons				
20. Dates and times of places visited by infected persons				
21. Areas expected to be at risk				
22. Means to check whether or not I am infected with the infectious disease				
23. What should I do if I show symptoms of the infectious disease?				
24. Information on hospitals and medical institutions that can treat the infectious disease				
25. Measures to prevent the infectious disease				
26. Contact information for inquiries concerning the infectious disease				
27. Declaration that the crisis has ended				
28. Developments after declaration that the crisis has ended				

**D. Information related to chemical and toxic substance spills, etc.**

Assume that a substance that is hazardous to the human body such as a chemical agent or gas has leaked near where you live. What types of information do you think you would want to have under these circumstances? For each of the following items, enter a circle in the box that best describes the necessity of the information. Enter a double circle for up to five items if you think the information is especially important.

	Want to know without question	Want to know	Not very necessary	Unnecessary
1. When did it occur? (example entry)		○		
2. Where is it happening (area affected)? (example entry)	◎			
1. When did it occur?				
2. Where is it happening (area affected)?				
3. How many people were initially injured?				
4. How many people are currently injured?				
5. How many people initially died?				
6. How many people have died so far?				
7. With what symptoms will I be stricken if I suffer damage by coming into contact with the toxic substance?				
8. After-effects and mortality rate if one suffers damage by coming into contact with the toxic substance				
9. Name of the toxic substance (chemical substance)				
10. Diffusion path of the toxic substance (flowing on ground, in well water, etc.)				
11. Cause of toxic substance spill				
12. Possibility of secondary contamination				
13. Areas expected to be at risk				
14. Evacuation sites and safety zones				
15. Means to check whether or not I have been exposed to the toxic substance				
16. What should I do if I get symptoms that seem to be due to the effects of the toxic substance?				
17. Information on medical institutions that can treat me if I suffer damage				
18. Protective and preventive measures for toxic substances when I am at home or on the move seeking refuge				
19. Contact information for inquiries concerning spills and the health effects of the toxic substance				
20. Declaration that the crisis has ended				
21. Developments after declaration that the crisis has ended				

**E. Information related to pharmaceuticals**

Assume that some pharmaceutical or treatment has caused side effects including death or serious after-effects. What types of information do you think you would want to have under these circumstances? For each of the following items, enter a circle in the box that best describes the necessity of the information. Enter a double circle for up to five items if you think the information is especially important.

	Want to know without question	Want to know	Not very necessary	Unnecessary
1. When did it occur? (example entry)	○			
2. Where is it happening (area affected)? (example entry)	◎			
1. When did it occur?				
2. Where is it happening (area affected)?				
3. How many people were initially affected?				
4. How many people are currently affected?				
5. How many people initially died?				
6. How many people have died so far?				
7. Symptoms of side effects and after-effects				
8. What proportion of people experience symptoms?				
9. What is the offending pharmaceutical?				
10. At what hospitals and clinics was the pharmaceutical administered and prescribed?				
11. Manufacturing, administration, and time of use of problem pharmaceutical				
12. How much has to be taken before symptoms appear?				
13. How long do you have to continually take it before symptoms appear?				
14. People using the pharmaceutical who are at risk (people with high blood pressure, pregnant women, etc.)				
15. Means to check whether or not a pharmaceutical that I was taking was a problem pharmaceutical				
16. Means to check whether or not I have suffered damage due to a pharmaceutical				
17. What should I do if side effects or after-effects and occur?				
18. Information on medical institutions that can treat me if side effects or after-effects occur				
19. Measures for preventing pharmaceutical accidents				
20. Contact information for inquiries concerning pharmaceuticals				
21. Declaration that the crisis has ended				
22. Developments after declaration that the crisis has ended				

The above was the last of the survey questions. We would now like to ask a few questions needed for us to statistically analyze your responses. Please circle the choice that applies.

F 1 [Sex] 1. Male 2. Female

F 2 [Age] How old are you ?

- |                    |                    |                    |
|--------------------|--------------------|--------------------|
| 1. 20-24 years old | 5. 40-44 years old | 9. 60-64 years old |
| 2. 25-29 years old | 6. 45-49 years old | 10. 65 or older    |
| 3. 30-34 years old | 7. 50-54 years old |                    |
| 4. 35-39 years old | 8. 55-59 years old |                    |

F 3 [Occupation] What is your occupation ? In addition, choose a specific subcategory of work from among those in ( ).

1. Independent enterprise
  - (a. Agriculture, forestry, and fishery    b. Commerce and industry and service industry
  - c. Liberal profession)
2. Family employee
  - (a. Agriculture, forestry, and fishery    b. Commerce and industry and service industry
  - c. Liberal profession)
3. Company employee
  - (a. Managerial/executive job    b. Professional/technical    c. Clerical work
  - d. Laborer/professional-track job    e. Sales/service)
4. Unemployed
  - (a. Unemployed housewife    b. Student    c. Other unemployed)
5. Other (                    )

F 4 [Highest level of education attained] What type of school did you last graduate from ?

1. Junior high school under the new system, elementary school under the old system, Higher elementary school
2. High school under the new system, junior high school under the old system, higher girls' school
3. Junior/technical college, high school and vocational school under the old system
4. College/graduate school
5. Other (                    )

F 5 [Marriage status] Are you married ?

1. Single    2. Married/have partner    3. Married/separated or widowed

(For those who answered 2 or 3 in F5)

SQ1 How many children do you have ?

1. One    2. Two    3. Three    4. Four    5. Five or more    6. None

(For those who answered 1–5 in SQ1)

SQ2 At what stage is each child? (Those who answered 1–5)

1. Baby (0 years old) t
2. 1–3 years old
3. 4 or older and before starting elementary school
4. Elementary school student
5. Junior high school student
6. High school student
7. College student/graduate student
8. Other ( )

F 6 [Family size] How many people are in your family and living with you including you?

1. One
2. Two
3. Three
4. Four
5. Five
6. Six or more

F 7 [Time at home] How many hours do you spend at home?

1. Less than 6 hours
2. 6–11 hours
3. 12–17 hours
4. Hardly ever at home

F 8 [Income] What was your approximate annual income last year?

1. Less than 2 million yen
2. Between 2 and 2.99 million
3. Between 3 and 3.99 million
4. Between 4 and 4.99 million
5. Between 5 and 5.99 million
6. Between 6 and 7.99 million
7. Between 8 and 9.99 million
8. Between 10 and 12.4 million
9. Between 12.5 and 14.99 million
10. 15 million or more

F 9 [Telecommunications equipment] Circle all of the following that you own.

1. Television
2. Radio
3. Telephone
4. Fax
5. Cable television
6. Cellular phone with call capability only
7. Personal computer with Internet access
8. Cellular phone with Internet access
9. IP telephone

SQ1 Of those, which do you use frequently? Write the numbers from F9. (Multiple answers allowed)

( )

SQ2 This question is for those with a telephone. How much is your average monthly phone bill?

1. Less than 3,000 yen
2. Between 3,000 and 4,999 yen
3. Between 5,000 and 6,999 yen
4. Between 7,000 and 9,999 yen
5. Between 10,000 and 14,999 yen
6. 15,000 yen or higher

SQ3 This question is for those with a cellular phone. How much is your average monthly cellular phone bill?

1. Less than 3,000 yen
2. Between 3,000 and 4,999 yen
3. Between 5,000 and 6,999 yen
4. Between 7,000 and 9,999 yen
5. Between 10,000 and 14,999 yen
6. 15,000 yen or higher

F10 [Sources of information] Please circle all of the following types of media that you use frequently.

1. Newspaper
2. General magazines
3. Technical books/professional journals
4. Hometown newspaper/magazine with a very small readership
5. District bulletins
6. Others ( )

F11 [Associates] What kinds of people do you associate with in the area in which you live?  
Please circle all that apply.

1. Neighborhood association
2. Neighbors
3. Local club activities
4. PTA
5. Local merchants
6. Relatives
7. None in particular
8. Others ( )

Thank you for your cooperation.

Please put the completed questionnaire in the enclosed pre-addressed envelope by November 30 (Tuesday), 2004 and mail it. A stamp is unnecessary.

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