Basic Survey

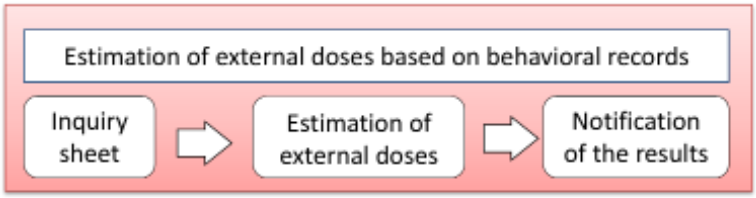
Basic Survey: Purpose

A survey to obtain data that is to serve as the basis for monitoring and protecting residents' health

In order to estimate external doses, individuals were asked to keep and submit a record of their behavior.

Based on collected behavioral records for the four months from March 11 to July 11, 2011, each individual's external dose was estimated using the External Dose Estimation System developed by the National Institute of Radiological Sciences.

[Survey scheme]



Estimated results and the period for estimation are reported to participating individuals to let them know their own external doses, and at the same time, the obtained data are utilized in the Detailed Surveys and individuals' health management to be continued for the long term.

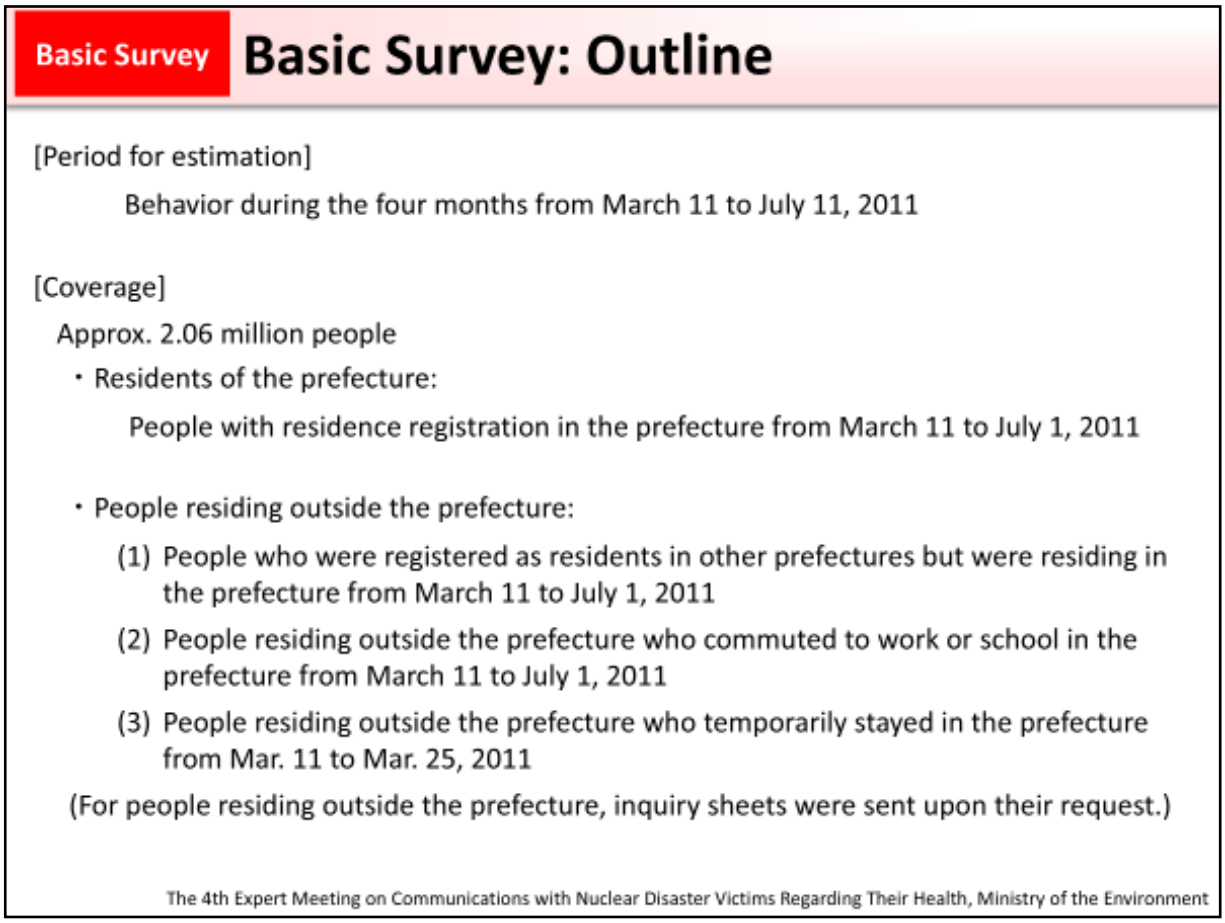
Prepared based on the 4th Expert Meeting on Communications with Nuclear Disaster Victims Regarding Their Health, Ministry of the Environment

The Basic Survey was commenced for the purpose of estimating the level of external doses of the residents of Fukushima Prefecture based on the records of their behavior, informing them of the estimation results individually, and thereby promoting and maintaining the health of the prefectural residents, in light of the effect of radiation due to the accident at Tokyo Electric Power Company (TEPCO)'s Fukushima Daiichi NPS, which occurred following the Great East Japan Earthquake.

Specifically, inquiry sheets were delivered to the applicable residents to ask them to record their behavior during the four months after the accident. Based on the behavioral records entered in the inquiry sheets, individuals' external doses were estimated using a program developed by the National Institute of Radiological Sciences. The four months after the accident, which is the targeted period of the Basic Survey, is the period during which ambient dose rates were the highest, and it is most important to determine people's external doses during this period.

Individuals' estimated external doses were compiled and statistically processed, and have been utilized for analyzing radiation exposure and its health effects in Fukushima Prefecture.

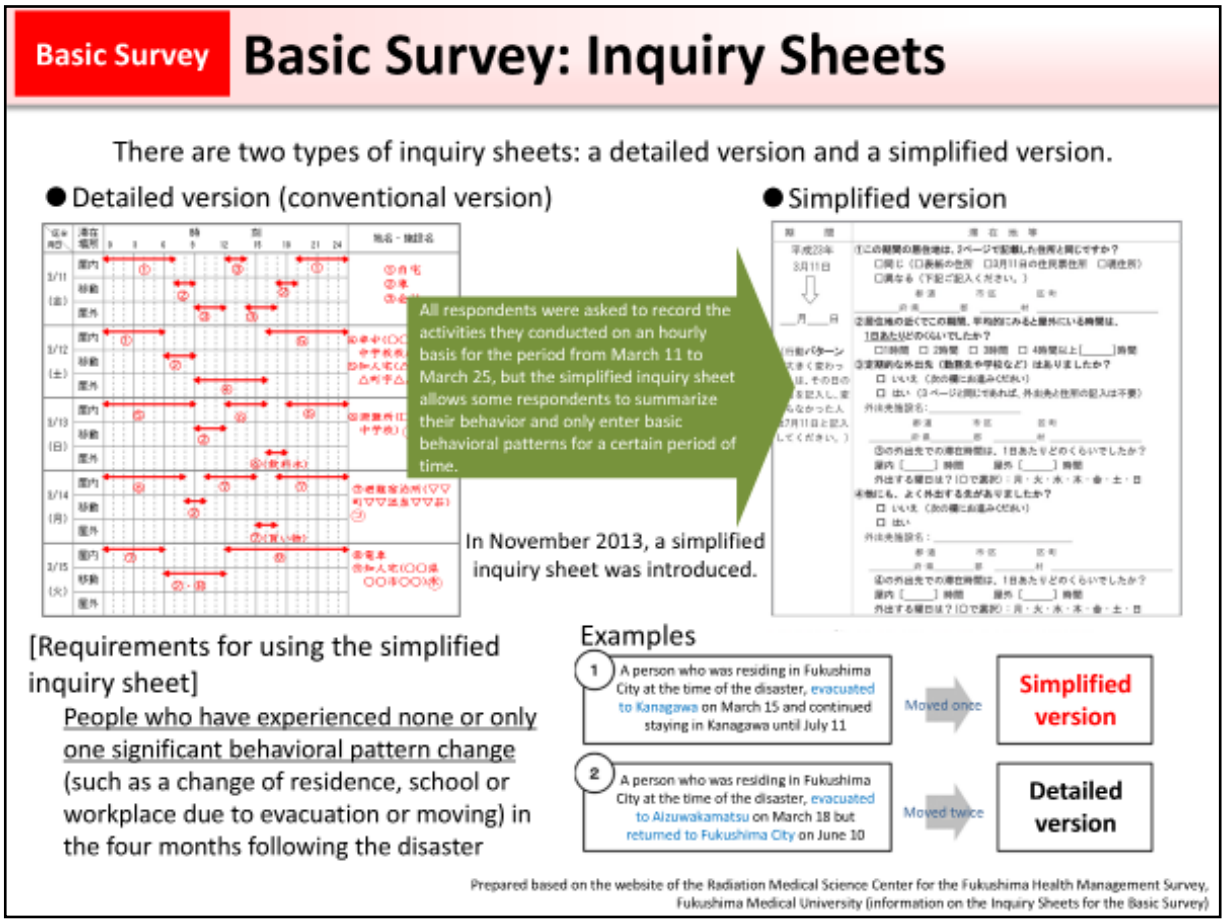
Included in this reference material on March 31, 2013
Updated on March 31, 2020



The period for surveying behavioral records was the four months from March 11 to July 11, 2011.

The Basic Survey covered approx. 2.06 million people who were registered as residents of the prefecture at the time of the disaster. People registered as residents in other prefectures were also covered if they resided, commuted to work or school, or temporarily stayed in the prefecture during this period.

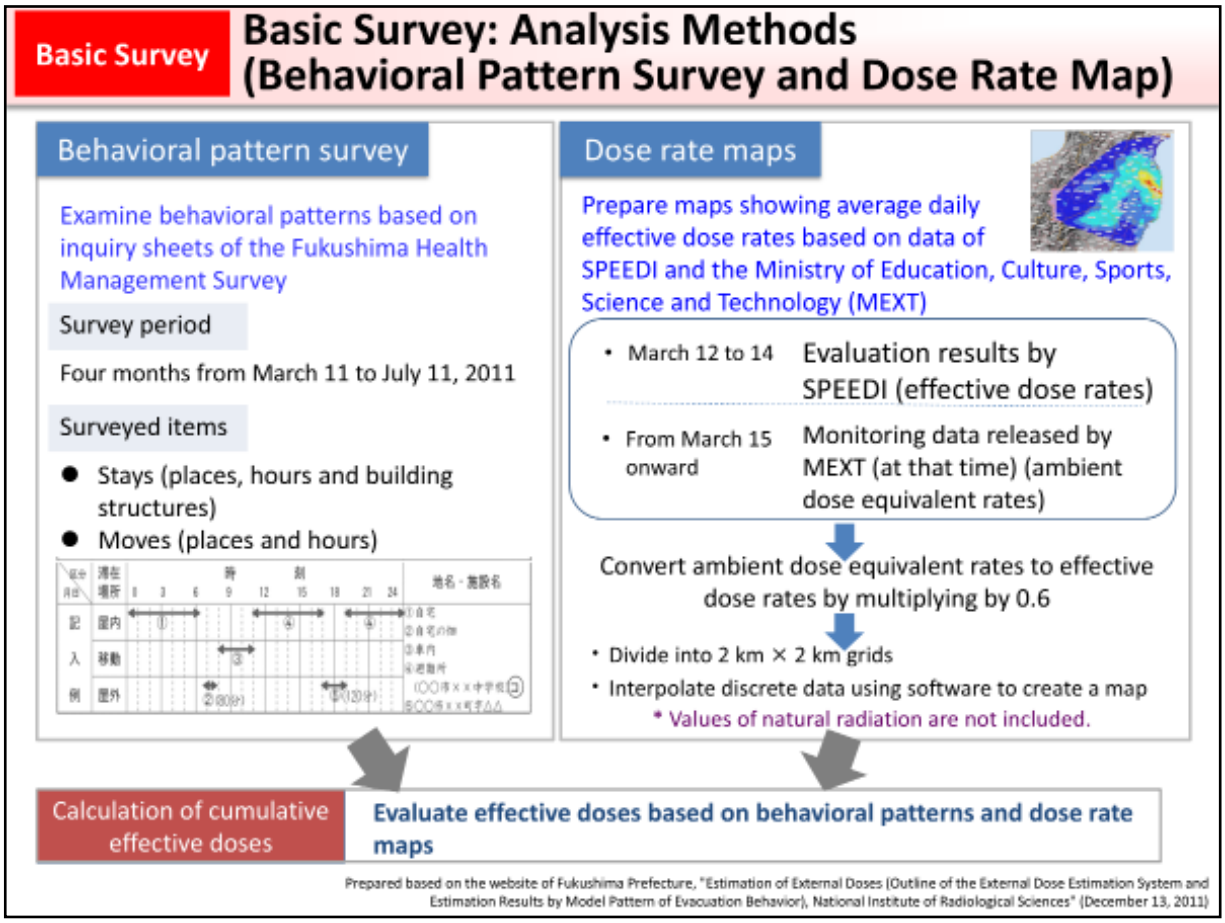
Included in this reference material on March 31, 2013
Updated on March 31, 2019



The inquiry sheet for the Basic Survey requires respondents to record the activities they conducted on an hourly basis for the period from March 11 to March 25. In response to complaints concerning the difficulty in filling in the sheet, a simplified version was introduced in November 2013.

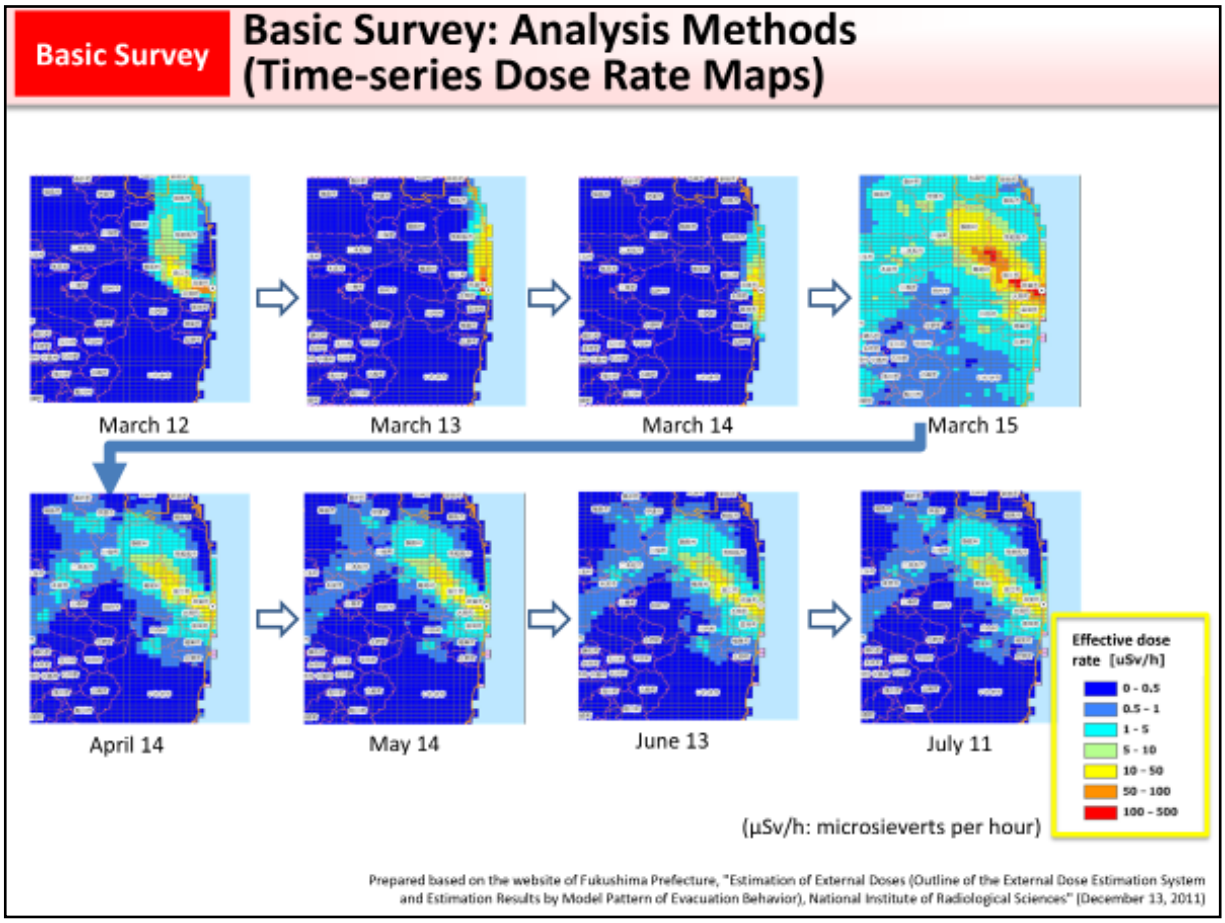
However, in order to maintain the accuracy of the survey, the simplified inquiry sheet may be used only by those who have experienced none or only one significant change in their living place due to evacuation or moving, etc. in the four months following the disaster.

Included in this reference material on March 31, 2013
Updated on March 31, 2019



In the Basic Survey, external doses were evaluated combining the results of the behavioral pattern survey and the created dose rate maps. The evaluation was conducted based on dose rate maps and behavioral records entered by respondents, such as where and how long they stayed in buildings, and the type of buildings where they stayed, during the survey period.

Included in this reference material on March 31, 2013
Updated on March 31, 2019



Dose rate maps used here are the monitoring data released by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (at that time).[1]

1. For the three days from March 12 to March 14, which are included in the period (March 12 to March 15, 2011) during which the monitoring data released by MEXT (at that time) is not available, calculation results by SPEEDI (System for Prediction of Environmental Emergency Dose Information) using the data on radioactive material discharge released by the Nuclear and Industrial Safety Agency (at that time) in June 2011 were applied. Data for March 15 was assumed to be the same as that for March 16, and from March 16 onward, the monitoring data released by MEXT (at that time) was used.

Included in this reference material on March 31, 2013
Updated on March 31, 2019

Basic Survey

Basic Survey: Obtained Responses and Their Representativeness

The response rate was 27.7% for the entire Fukushima Prefecture.
However, as a result of the examination on the representativeness, the dose distribution based on the responses obtained so far in the seven districts in the prefecture was found to be unbiased and to properly represent that of respective districts.

Table 1

Responses to the Basic Survey

As of March 31, 2024

Coverage		2,055,238	
Number of responses	Detailed version	494,072	24.0%
	Simplified version	75,619	3.7%
	Total	569,691	27.7%

* Response rates are rounded off for each category.

Table 2

Response rate by age group

As of March 31, 2024

Age at the time of the earthquake	0~9	10~19	20~29	30~39	40~49	50~59	60~	Total
Response rate	46.8%	36.4%	18.2%	24.9%	22.5%	23.0%	27.9%	27.7%

* Rates (%) are rounded off.

Prepared based on the material for the 52nd Prefectural Oversight Committee Meeting for Fukushima Health Management Survey

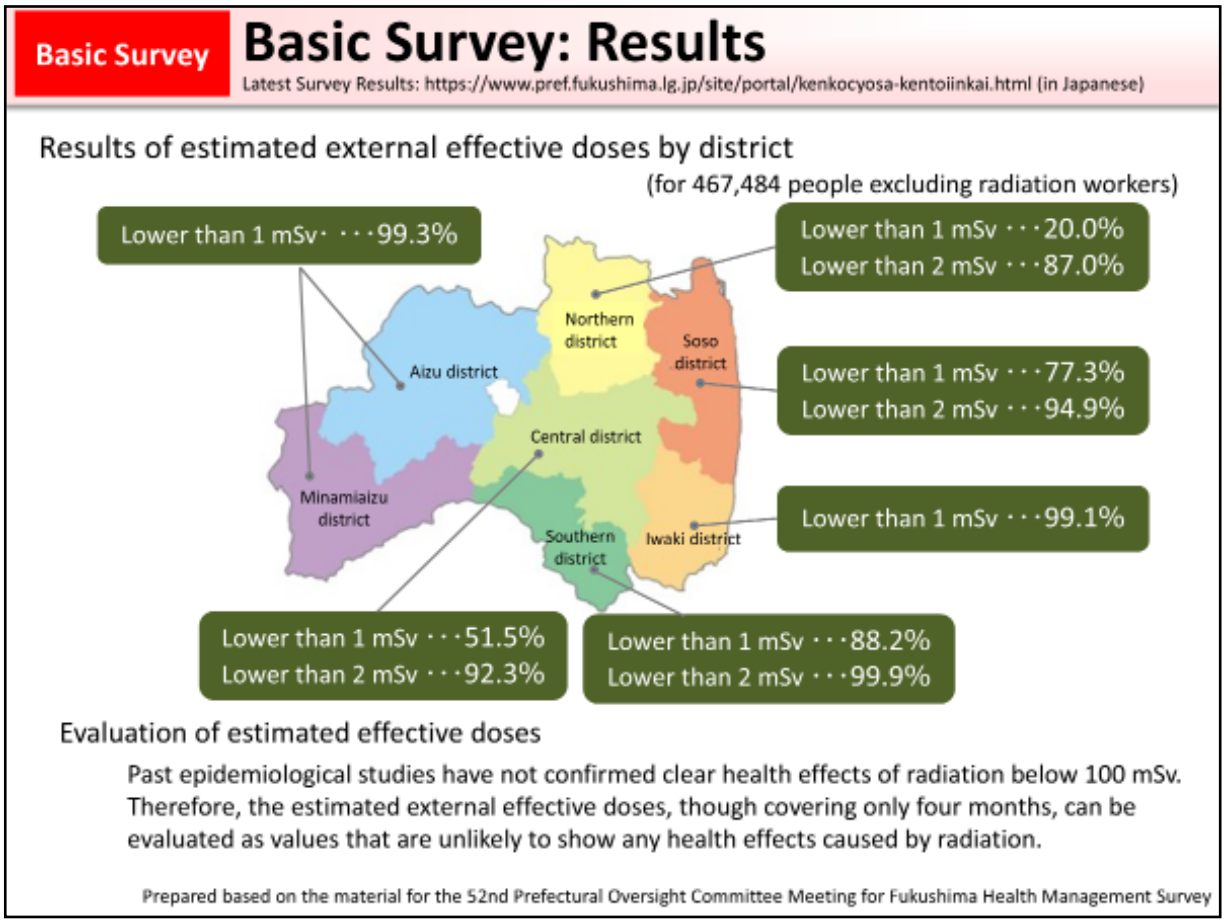
Approx. 569,691 people have responded so far (response rate: 27.7%).

In light of the fact that the response rate of the Basic Survey had remained unchanged at around 27%, an examination on the representativeness of the dose distribution was conducted in FY2015. As a result of the examination, the dose distribution based on the responses obtained so far in the seven districts in the prefecture was found to be unbiased and to properly represent that of respective districts.

See the following website for details of the examination on the representativeness of the dose distribution:

https://www.pref.fukushima.lg.jp/uploaded/attachment/151271.pdf (in Japanese)

Included in this reference material on March 31, 2013
Updated on March 31, 2025



Out of a total of 555,446 people for whom external effective doses have been estimated by March 31, 2024, a total of 476,705 people submitted records of their behavior for the entirety of the four-month period for estimation. The figure above shows the estimation results of 467,484 people, excluding those who had engaged in radiation work, by district. As shown in the figure, people for whom estimated external effective doses were lower than 1 mSv accounted for 88.2% in the southern district, 99.3% in the Aizu and Minamiaizu districts, 77.3% in the Soso district, and 99.1% in the Iwaki district. The maximum value was 25 mSv estimated for a person residing in the Soso district.

Included in this reference material on March 31, 2013
Updated on March 31, 2025