

**2026 Fukushima Medical University  
International Symposium  
on the Fukushima Health Management Survey**

# Q & A

The questions from participants and answers  
(including those that could not be answered on the day of the Symposium)

**Date:** Thursday, March 12, 2026

**Venue:** FMU Fukushima Ekimae Campus

## Basic Survey (BS)

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| 1 | Q | The Basic Survey covers approximately four months, from the time of the nuclear accident until July 1, 2011. Was there no need to survey after July 1?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|   | A | The Basic Survey covers approximately four months following the accident, from the time of the accident until July 1, 2011. Recalling and documenting one's activities over this period was already challenging, and it would have been even more difficult to accurately recall activities over a longer period. In addition, surveys using personal dosimeters began to be conducted by local municipalities around September 2011. For these reasons, the period covered by the radiation dose estimation was set at four months.                                                                                                                                                                                                                                                                                                      |
| 2 | Q | Have there been any new findings regarding external radiation exposure?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   | A | In recent years, the number of responses to the Basic Survey questionnaire has declined. Therefore, there have been no new findings regarding the distribution of estimated external radiation doses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 | Q | Would it not be unscientific to conclude that “no association was recognized between thyroid cancer and radiation exposure” without evaluating internal radiation exposure? Why does Fukushima Medical University not conduct surveys of internal radiation exposure?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   | A | <p>Radiation dose assessment is not conducted by a single institution bearing full responsibility; rather, multiple institutions undertake different roles as part of a coordinated effort.</p> <p>Concerning internal radiation exposure, examinations using whole-body counters have been conducted mainly by Fukushima Prefecture and municipalities. For further details, please refer to the Fukushima Prefecture website.</p> <p><a href="#">Fukushima Prefecture-Whole-body counters</a></p> <p>In addition, regarding internal thyroid exposure immediately following the earthquake, national research institutions and other organizations have conducted studies and assessments, commissioned by the Ministry of the Environment, based on the activity records provided by residents in the Basic Survey questionnaires.</p> |
| 4 | Q | Are the health effects of external and internal radiation exposure different?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   | A | Both external and internal radiation exposure involve exposure of the body to radiation. The key factor is the amount of radiation received. When the radiation dose is the same, the health effects are considered to be of a similar magnitude, regardless of whether the exposure is external or internal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5 | Q | How reliable are the estimated radiation doses from the Basic Survey compared with direct measurements?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   | A | <p>Estimated doses have limitations compared with direct measurements. Today, individual external radiation exposure can be directly measured using personal dosimeters. However, such measurements were not feasible for individuals immediately after the accident.</p> <p>The Basic Survey therefore estimated external radiation doses based on each individual's activity records and environmental radiation dose data, using a computer program developed by the National Institute of Radiological Sciences (NIRS; at that time). This method was considered the most appropriate approach available under the circumstances.</p>                                                                                                                                                                                                 |

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| 6 | Q | How were the maps of ambient radiation dose rates used in the Basic Survey developed? Are they revised when assumptions or methodologies change?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|   | A | <p>There are currently no plans to revise the maps of ambient radiation dose rates used for dose estimation in the Basic Survey.</p> <p>For March 12–15, 2011, when monitoring data published by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) were unavailable, different data sources were used. For March 12–14, estimates calculated using the System for Prediction of Environmental Emergency Dose Information (SPEEDI), based on radioactive material release data published by the Nuclear and Industrial Safety Agency (NISA; at that time) in June 2011, were used. For March 15, the data for March 16 were used. From March 16 onward, monitoring data published by MEXT were used.</p> |
| 7 | Q | How was the representativeness of the estimated radiation doses evaluated?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|   | A | <p>In FY2015, approximately 3,000 individuals were randomly selected from among those who had not yet responded to the Basic Survey questionnaire. Their radiation doses were estimated and compared with those of respondents from the same areas who had already completed the questionnaire.</p> <p>The results showed that the radiation dose distributions were comparable between the two groups. This confirmed that the radiation dose distributions compiled and published by the Basic Survey are representative of the situation across Fukushima Prefecture.</p>                                                                                                                                                    |
| 8 | Q | Are the statements by Professor Yasumura that “health effects were not observed at a level at which they could be confirmed with statistical significance” and by Professor Ishikawa that “health effects due to radiation are unlikely” the same in meaning?                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   | A | <p>Yes. Both statements represent assessments by the Fukushima Prefectural Oversight Committee for the Fukushima Health Management Survey.</p> <p>The statement that health effects were “not observed at a level that could be confirmed with statistical significance” was used in the Interim Report on the Fukushima Health Management Survey issued in March 2016. The statement that health effects due to radiation “are unlikely” appears in the latest Oversight Committee document, dated July 2025.</p>                                                                                                                                                                                                              |

## Thyroid Ultrasound Examination (TUE)

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| 1 | Q | What is meant by a type of cancer that would not cause symptoms or death in the future? What physical effects may result from diagnosing and treating such cancer?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|   | A | The type of cancer referred to in this question is cancer that progresses very slowly. Even when cancer develops in the thyroid gland, it generally has little direct impact on the body unless it metastasizes to other organs or causes problems by compressing or invading structures in the neck, such as blood vessels or the trachea. If such cancer is treated, one possible consequence is that total thyroidectomy requires lifelong thyroid hormone replacement. However, for many cancers detected at an early stage, partial thyroidectomy is possible, and in many such cases, patients can be cured without the need for hormone replacement. |
| 2 | Q | It is said that a system has been established to provide thyroid examinations throughout Japan. Could there be differences in the quality of examinations depending on the examination site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|   | A | Currently, ultrasound images and findings from all medical institutions that perform the primary examination, both within and outside Fukushima Prefecture, are sent to Fukushima Medical University, where they are reviewed and assessed using a standardized process. Therefore, in principle, there should be no significant differences in the quality of examinations among examination sites.                                                                                                                                                                                                                                                        |
| 3 | Q | Specifically, what kind of system is in place to ensure that individuals who have reached adulthood and are eligible for thyroid examinations can obtain sufficient information to make an informed decision about whether to undergo the examination?                                                                                                                                                                                                                                                                                                                                                                                                      |
|   | A | To date, we have promoted understanding by developing and distributing explanatory pamphlets for elementary and junior high school students. We have also conducted outreach classes that provide general information about medical services, including an introduction to ultrasound equipment, while promoting knowledge about the thyroid gland. In addition, to encourage greater interest and understanding, we have been using animated videos, including those available on YouTube, to explain the advantages and disadvantages of thyroid examinations in an easy-to-understand manner.                                                            |
| 4 | Q | In the Thyroid Examination Evaluation Subcommittee of the Fukushima Prefectural Oversight Committee for the Fukushima Health Management Survey (Oversight Committee), are internal radiation doses evaluated in addition to external radiation doses?                                                                                                                                                                                                                                                                                                                                                                                                       |
|   | A | The Thyroid Examination Evaluation Subcommittee estimates internal radiation doses by matching a database of radionuclide concentrations in the atmosphere and on the ground surface, calculated using atmospheric dispersion simulations, with records of individuals' movements documented in the Basic Survey questionnaire.                                                                                                                                                                                                                                                                                                                             |
| 5 | Q | You mentioned that thyroid exposure doses in Fukushima were in the range of several tens of millisieverts, comparable to background levels in Chernobyl. In Chernobyl, have cases of thyroid cancer not been observed among people other than evacuees, even at exposure levels of several tens of millisieverts?                                                                                                                                                                                                                                                                                                                                           |
|   | A | Not only in Chernobyl but also at exposure levels of several tens of millisieverts or lower, thyroid cancer occurs at a certain rate irrespective of radiation dose.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| 6 | Q | In the analysis using quartiles of the UNSCEAR 2021 estimated doses, could the large populations of Iwaki, Koriyama, and Fukushima cities be obscuring an increase in the detection rate in the evacuation areas?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   | A | In this analysis, the population is divided into four groups, or quartiles, with approximately equal numbers of individuals in each group based on the estimated radiation doses, to evaluate the potential effects of dose. Therefore, areas within the evacuation zones with higher exposure doses are classified into the highest quartile, and the potential effect on cancer detection is calculated based on the estimated exposure doses of individuals in that quartile.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 7 | Q | The odds ratios for detecting malignant or suspected malignant thyroid lesions seem to increase with thyroid equivalent dose. Is it inappropriate to dismiss this finding simply because it is not statistically significant?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   | A | <p>Statistical analysis is essential in scientific research, and conclusions cannot be drawn while disregarding the results of statistical analyses. If radiation dose were actually associated with the rate of cancer detection, a dose–response relationship would be expected to be observed consistently across analyses conducted from various perspectives.</p> <p>However, the series of analyses conducted by the Thyroid Examination Evaluation Subcommittee of the Oversight Committee has not demonstrated a consistent association. Therefore, at present, the findings do not provide evidence supporting an association between radiation dose and the rate of cancer detection.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8 | Q | If it is concluded that “no association was found between thyroid cancer and radiation exposure,” what caused the more than 300 cases of thyroid cancer that were detected? If these cases were considered to be due to overdiagnosis, would that mean that surgery was unnecessary?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|   | A | <p>In general, the causes of cancer are often unknown. For thyroid cancer, factors such as gender and age are known to be associated with its occurrence, but the detailed causes of thyroid cancer other than radiation exposure remain unclear. It is a fact that examinations detect thyroid cancers before symptoms become apparent. Therefore, it is considered that these cancers are being diagnosed at an earlier age than they would normally have been diagnosed. At present, however, it is not possible to determine whether these cancers would have remained without symptoms or effects on survival throughout the individual's lifetime, or whether they would eventually have caused harmful effects.</p> <p>Nevertheless, fine-needle aspiration cytology (FNAC), which is used to diagnose thyroid cancer in the Thyroid Ultrasound Examination program, is performed in accordance with guidelines issued by relevant medical societies to make appropriate diagnoses while limiting overdiagnosis. Decisions regarding surgery are also made based on criteria established by relevant medical societies, and a system is in place to avoid unnecessary surgery.</p> |

Comprehensive Health Check (CHC)

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| 1 | Q | Could you explain in concrete terms the mechanisms by which psychological stress associated with evacuation affects the body? In addition, are there any possible mechanisms that might explain why the association was stronger in men than in women in the present findings?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   | A | <p>When a person experiences stress, levels of adrenal cortical hormones such as cortisol increase, which may increase the risk of diabetes.</p> <p>Two factors may explain the differences between men and women. First, women may be more likely to express and report stress, whereas men may have greater difficulty doing so. Second, women may be more likely to cope through social interaction, while men may be more likely to suppress or endure stress. Consequently, the physical effects of stress may be more pronounced in men.</p>                                                                                                                                                                                                                                                                                                                                          |
| 2 | Q | As support for improving lifestyle habits and other measures becomes increasingly important, particularly through collaboration with municipalities, how do you plan to address this issue going forward?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   | A | <p>Lifestyle-related diseases have increased among evacuees in recent years, with obesity particularly associated with an increased risk of kidney and cardiovascular diseases. Persistent risk factors such as hypertension, hyperglycemia, dyslipidemia, obesity, and smoking may contribute to disease onset. It is therefore important to ensure that residents understand these risks and know how to improve their health.</p> <p>To this end, information from the Fukushima Health Management Survey should be shared with municipal officials, public health nurses, registered dietitians, and other personnel to provide ongoing community-based guidance and support. As participation in health checkups has declined in recent years, collaboration with municipalities should also be strengthened to reach residents who have not undergone Comprehensive Health Check.</p> |
| 3 | Q | After conducting the Comprehensive Health Check for 15 years, what challenges have you identified, and how can these lessons be applied to disaster response in the future?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|   | A | <p>There have been few long-term, continuous investigations of lifestyle-related diseases following disasters. In this regard, the Comprehensive Health Check conducted as part of the Fukushima Health Management Survey has been highly significant.</p> <p>The 15 years of data indicate that changes in the living environment, particularly those associated with evacuation, can substantially affect the development and progression of lifestyle-related diseases.</p> <p>A key challenge, however, is effectively communicating these findings in ways that encourage healthier behaviors. Rather than providing one-sided advice, it is important to offer planned, gradual support tailored to each individual's circumstances and the relationship established with the person receiving support.</p>                                                                           |
| 4 | Q | You mentioned that lifestyle-related diseases have increased among evacuees. Does Fukushima Medical University have any initiatives to address this issue? Are there any programs that residents can participate in going forward?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|   | A | <p>Fukushima Medical University provides health seminars, including lectures on lifestyle-related diseases and exercise classes, as well as public lectures for residents, at the request of the 13 municipalities whose residents are eligible for the health checkups.</p> <p>For information about participation, please contact your local municipality.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

Mental Health and Lifestyle Survey (MHLS)

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| 1 | Q | What do you consider important when providing telephone support to individuals identified as being at high risk based on their K6 scores in the Mental Health and Lifestyle Survey?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   | A | <p>Regardless of their circumstances, we strive to listen attentively and respond with empathy so that each person feels comfortable speaking openly. At the same time, some individuals experiencing psychological distress may not recognize signs of distress in their own physical or mental health and may continue to push themselves too hard. Therefore, based on the information provided in the MHLS questionnaire, we confirm factors such as medical care received, sleep status, and the availability of someone to consult, in order to better understand each individual's situation.</p> <p>And, based on these findings, we make a comprehensive assessment of each individual's circumstances. In particular, for those at high risk of mental health problems, we place great importance on identifying and not overlooking signs of a potential crisis. When necessary, we provide guidance on when to seek medical care and, in collaboration with public health nurses in municipalities and other relevant organizations, take an approach that emphasizes ongoing monitoring and support.</p> |
| 2 | Q | <p>People are generally thought to gradually adapt to life in their evacuation destinations over time. Fifteen years after the disaster, what kinds of physical and psychological effects are being seen among those who remain evacuated?</p> <p>How have these effects changed compared with the immediate aftermath of the disaster?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   | A | <p>Immediately after the disaster, evacuation following the nuclear accident caused major changes in people's lives, including changes in employment and housing, loss of community connections, and separation from family. These changes led to acute stress reactions such as insomnia, severe anxiety, and palpitations, as well as significant lifestyle changes.</p> <p>Fifteen years later, although intense anxiety has eased for some, chronic stress and isolation associated with prolonged evacuation remain challenges. Some evacuees continue to struggle with social integration, concerns about the future, or conflicting feelings about returning to their former communities.</p> <p>As evacuees' circumstances vary considerably, continued support tailored to individual needs remains important.</p>                                                                                                                                                                                                                                                                                           |
| 3 | Q | How does the Mental Health and Lifestyle Survey capture the voices of survey participants?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   | A | <p>We regard the responses themselves, including comments provided in the free-text sections of the questionnaires, as important expressions of participants' views and experiences, and we review the responses of each individual. In addition, we have opportunities to hear participants' views directly through telephone support, the call center, and interviews.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| 4 | Q | Does the Mental Health and Lifestyle Survey include questions about perceptions of the health effects of radiation exposure on individuals who experienced the nuclear accident themselves, rather than only on future generations? If so, what have the results shown? If not, why are such questions not included?                                                                                                                                                                                                                                                                                                                                                    |
|   | A | <p>Regarding perceptions of the effects of radiation exposure, the survey asks not only about potential effects on future generations but also about perceived health effects on individuals who experienced the nuclear accident themselves. Specifically, individuals aged 16 years and older (general population category) have been asked, on an annual basis, about perceived health effects ranging from acute effects immediately following the accident to potential late effects, such as cancer.</p> <p>The results of these questions are reported annually to the Fukushima Prefectural Oversight Committee for the Fukushima Health Management Survey.</p> |

Pregnancy and Birth Survey (PBS)

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| 1 | Q | There is a condition known as postpartum depression, and some women develop depression after childbirth even under normal circumstances. Are there any particular characteristics of depression among pregnant women and mothers who experienced the Great East Japan Earthquake, the nuclear accident, and other disasters?                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   | A | In Fukushima Prefecture, depressive symptoms among pregnant women and mothers who experienced the disaster were characterized by factors such as anxiety about the potential health effects of radiation on their children and the sudden changes in their living environment associated with evacuation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2 | Q | It was reported that there was no increase in preterm births or congenital disorders following the disaster.<br>Do you think there could be genetic or other effects when children who were infants or young children at the time of the disaster and grew up under low-level radiation exposure have children of their own in the future?<br>Will such effects be investigated?                                                                                                                                                                                                                                                                                                                                                                                                       |
|   | A | According to a study by the Radiation Effects Research Foundation (RERF) examining chromosomal abnormalities in the children of atomic bomb survivors, no significant difference in the prevalence of chromosomal abnormalities was found between children born to exposed parents and those born to unexposed parents.<br>Furthermore, other studies have reported no association between parental radiation exposure and the incidence of cancer, cancer mortality, or the prevalence of lifestyle-related diseases in their children.<br>The Fukushima Health Management Survey is also considering follow-up studies of the children included in the survey as they reach adulthood, as well as studies of potential effects on the next generation, that is, their grandchildren. |
| 3 | Q | What kinds of comments were made in the free-text sections of the PBS by pregnant women and mothers who were identified as needing support?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   | A | The comments included expressions of feeling depressed, requests for advice on child-rearing, concerns about radiation levels, complaints about the mother's own health problems, and requests for individual consultation and support.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4 | Q | It was reported that the Fukushima Daiichi Nuclear Power Plant accident had no effects on preterm births, low birth weight, or congenital disorders.<br>Were there any such effects following the Chornobyl nuclear power plant accident, which involved higher levels of radiation exposure?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|   | A | According to the UNSCEAR 2001 report, Hereditary Effects of Radiation, epidemiological studies of hereditary effects among populations exposed to radiation as a result of the Chornobyl accident, including people living in highly contaminated areas of Belarus and Ukraine and populations in European countries, found no increase in the incidence of Down syndrome, congenital disorders, spontaneous abortions, or perinatal mortality.                                                                                                                                                                                                                                                                                                                                        |

Others

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| 1 | Q | How should we interpret the risk of thyroid cancer in Fukushima Prefecture, given that the estimated thyroid absorbed doses were up to approximately 30 mGy, with most doses below 10 mGy? (Question to Dr. Laurier)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|   | A | <p>What I would like to emphasize is that scientific knowledge about the dose–risk relationship at low doses has continued to accumulate. This does not mean that the risk has increased, but rather that we are better able to quantify and assess it. Nevertheless, considerable uncertainty remains at low doses. Even if an association between radiation exposure and cancer risk exists, the attributable risk is considered to be extremely low.</p> <p>In Fukushima, most residents were exposed to very low doses. Therefore, even a slight increase in risk would be extremely difficult to detect through epidemiological studies. Studies conducted over the past 10–20 years involving several hundred thousand to approximately one million people have likewise shown that risks at low doses are very small or difficult to detect.</p> <p>Overall, it is reasonable to consider the risk of thyroid cancer in the population of Fukushima Prefecture to be very low. While a small number of individuals may have received somewhat higher doses, their contribution to the overall population-level risk is considered to be extremely small.</p> |
| 2 | Q | What is your view of the risk of cancers other than thyroid cancer? (Question to Dr. Laurier)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   | A | <p>In children, thyroid cancer and leukemia have the strongest established associations with radiation exposure. Their dose–risk relationships are more readily observed, and their shorter latency periods make them useful indicators when evaluating radiation health effects.</p> <p>For other cancers, however, it is difficult to clearly demonstrate effects at low doses, and individual epidemiological studies alone cannot provide definitive conclusions.</p> <p>Therefore, rather than making definitive assessments for specific cancers, it is important to conduct surveillance, such as monitoring cancer incidence in specific populations, and to provide information based on these findings.</p> <p>The Fukushima Health Management Survey includes health examinations with blood cell counts, while Japan also has an established cancer registry system. Information on radiation dose distributions from the Basic Survey can be compared with cancer registry data to further evaluate potential associations.</p>                                                                                                                        |

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| 3 | Q | How do you view the dose–risk relationship for cardiovascular disease and neurocognitive function in relation to radiation health effects, including secondary effects caused by environmental changes and possible biological mechanisms? (Question to Dr. Laurier)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   | A | <p>Research on the potential effects of radiation exposure on diseases other than cancer, including cardiovascular disease and neurocognitive function, has progressed in recent years. However, compared with cancer, these effects remain less well understood and should be interpreted with caution.</p> <p>Over the past 20 years, researchers have examined potential associations between radiation exposure and these diseases, as well as possible biological mechanisms. However, no definitive conclusions have been established.</p> <p>For example, radiation exposure may be one risk factor for cardiovascular disease, but it is not considered a major cause. Lifestyle factors such as diet, physical activity, smoking, and cholesterol levels have a much greater influence.</p> <p>Thus, radiation exposure is one of many risk factors, and its contribution is considered relatively small. Its effects should be assessed in the context of other major lifestyle-related risk factors, without either overestimating or underestimating them.</p>                        |
| 4 | Q | What are your views on the Fukushima Health Management Survey? (Question to Dr. Laurier)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|   | A | <p>First and foremost, I would like to emphasize the importance of continuing the efforts. The Fukushima Health Management Survey is highly valuable because it has provided objective data continuously over an extended period.</p> <p>A major strength of the Survey is its systematic, long-term collection of data from populations with different evacuation experiences and levels of radiation exposure. This provides an important basis for objectively assessing how radiation exposure and changes in living environments may affect health.</p> <p>Such longitudinal data are valuable not only for monitoring the health of Fukushima residents but also for preparing for future nuclear accidents internationally.</p> <p>The lessons from Fukushima are particularly important in determining what epidemiological studies should be conducted after an accident, who should be responsible for them, and how potential health risks should be assessed. I hope this experience will contribute to similar efforts not only in France and Europe, but also around the world.</p> |

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| 5 | Q | How has the health effects research on atomic bomb survivors been utilized in the Fukushima Health Management Survey following the nuclear accident? (Question to Dr. Kamiya)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   | A | <p>Research on the health effects of atomic bomb radiation has been conducted for approximately 80 years. At the time, little was known about radiation effects, but long-term studies gradually identified acute effects and diseases that develop years after exposure, particularly cancer.</p> <p>Long-term studies by the Atomic Bomb Casualty Commission (ABCC) and the Radiation Effects Research Foundation (RERF) provided important evidence of increased cancer risk. A key lesson from Hiroshima and Nagasaki is that long-term health monitoring is essential for understanding the health of populations exposed to radiation.</p> <p>Based on this experience, the Fukushima Health Management Survey was established following the nuclear accident, drawing on the experience of Hiroshima and Nagasaki as well as the expertise of epidemiologists. Thus, the lessons from Hiroshima and Nagasaki have served as an important foundation for the Survey in Fukushima.</p> |
| 6 | Q | Given the continuing stigma, misunderstanding, and reputational damage associated with Fukushima following the Fukushima Daiichi Nuclear Power Plant accident, could the Fukushima Health Management Survey and the Radiation Effects Research Foundation's studies of atomic bomb survivors collaborate in the future? (Question to Dr. Kamiya)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   | A | <p>Fukushima Medical University and the RERF have agreed to cooperate, providing a framework for mutual collaboration. Radiation accidents are extremely rare, and the atomic bombings were tragic historical events that should never have occurred.</p> <p>However, there are commonalities in the experiences of those affected, including health concerns related to radiation exposure, and there are many areas where the two institutions can collaborate.</p> <p>We hope to continue working together to develop initiatives that can contribute to the health and well-being of residents.</p>                                                                                                                                                                                                                                                                                                                                                                                     |
| 7 | Q | Dr. Laurier introduced several studies on non-cancer diseases in his keynote. What is the current status of research on non-cancer diseases at the RERF? (Question to Dr. Kamiya)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   | A | <p>At the RERF, research began in 1950, and clinical studies were subsequently added. These clinical studies, known as the Adult Health Study, have followed the development of diseases other than cancer over the long term.</p> <p>These studies have identified increased risks of conditions such as cataracts, thyroid disease, chronic liver disease, and hyperparathyroidism, a relatively rare condition.</p> <p>In recent years, research has also advanced on the effects of radiation exposure on cardiovascular disease. Thus, the health effects of radiation beyond cancer have been investigated continuously over many decades.</p>                                                                                                                                                                                                                                                                                                                                        |

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| 8 | Q | <p>Based on your experience, does the way mental health support is provided differ depending on the area affected by a disaster?</p> <p>Also, please tell us what challenges you have encountered in developing systems to support psychiatric care during disasters, particularly in collaboration with local governments such as prefectures and municipalities? (Question to Dr. Kato)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|   | A | <p>Many of the challenges we face are common to those seen after previous disasters. However, the quality of subsequent support can be greatly influenced by differences in the mental health and psychiatric care systems and support networks that were in place before the disaster.</p> <p>For example, following the Great Hanshin-Awaji Earthquake, Akashi City, which was located relatively close to the epicenter, already had an established system in which the local government and community residents worked together to support people with mental health conditions. As a result, local stakeholders indicated that they did not need a dedicated mental health care center because they were able to respond to the needs of their residents themselves. Consequently, they did not establish such a center. This example illustrates that when existing local networks are functioning effectively, community-based support can be provided by local communities themselves.</p> <p>In contrast, in areas such as the Soso region of coastal Hamadori in Fukushima Prefecture, where support systems were relatively limited before the disaster, establishing the support infrastructure itself has been a major challenge. The nature of the disaster is also an important factor. In the case of the Great East Japan Earthquake and the Fukushima nuclear accident, a particularly significant issue was the large number of people who evacuated outside the affected areas. Support systems in evacuation destinations were not always adequate, and their vulnerability has been identified as an important challenge. A similar issue was seen after the Great Hanshin-Awaji Earthquake, when people who moved from Kobe to other areas also had difficulty accessing sufficient support.</p> <p>Thus, following a large-scale disaster, disparities in the quality of support between the affected area and areas outside it can be an important challenge. Effective coordination across local government boundaries is therefore essential.</p> |
| 9 | Q | <p>Thirty years have now passed since the Great Hanshin-Awaji Earthquake. What mental health challenges remain among disaster survivors in Kobe? And what kinds of support are being provided to them? (Question to Dr. Kato)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   | A | <p>In my experience, there was a case involving a person who had lost a family member in the earthquake and had carried the grief for many years. News coverage of the Great East Japan Earthquake triggered an overwhelming emotional response, leaving the person unable to cope and eventually leading them to seek medical care. This suggests that there are still people who have endured psychological suffering for many years without seeking support.</p> <p>Some survivors also continue to struggle with grief following the loss of family members. When a death occurs as a result of a natural disaster, there can be social pressure to accept the loss as something that has to be endured or moved on from. However, accepting a sudden and unexpected death is not easy.</p> <p>And some people continue to carry this grief for many years. Even 30 years after the earthquake, there are still survivors who continue to receive outpatient mental health care for difficulties related to their loss.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |