

Conclusions and Recommendations of the International Expert Symposium in Fukushima – Radiation and Health Risks

The *International Expert Symposium in Fukushima – Radiation and Health Risks* met in Fukushima, Japan, on September 11 and 12, 2011. The purpose of the Symposium was for a group of international and Japanese experts in radiation and health-related fields to review the potential health effects of radiation from the Fukushima nuclear accident.

The Symposium was also attended by experts from relevant international, intergovernmental bodies including the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), the World Health Organization (WHO) and the International Atomic Energy Agency (IAEA) and by representatives of non-governmental organizations including the International Commission on Radiological Protection (ICRP).

The participants expressed their gratitude to The Nippon Foundation, the Sasakawa Memorial Health Foundation, and Fukushima Medical University for organizing the Symposium.

The Symposium participants took note of the wide global experience available for assessing the consequences of major releases of radioactive substances into the environment, which have resulted from the international review of the aftermath of large accidents, such as the Chernobyl accident and reached the following conclusions and recommendations:

- 1) The Fukushima nuclear accident followed a massive earthquake and tsunami that devastated the northeast region of Japan. Countermeasures including evacuation, sheltering, and control of the food chain were implemented in a timely manner. To date there have been no acute radiation injuries from the nuclear accident. It is understood that stable iodine was not generally administered to the public. However, according to the reported monitoring results, the thyroid doses were low, not necessarily justifying the administration of stable iodine. Taking these factors into account, together with the magnitude of the reported levels of radioactive substances released into the atmosphere and the ocean, the radiation-related physical health impact on the general public, including evacuees, is likely to be limited and much lower than that from Chernobyl,

where the only conclusive radiation-induced health effect was thyroid cancer from children drinking milk contaminated with high levels of radioactive iodine. However, the social, psychological, and economic impact of the Fukushima nuclear accident is expected to be considerable. Because of these impacts, continued monitoring and characterization of the levels of radioactivity in the environment are vital for obtaining the informed consent to the decisions on various issues such as the extent to which populations can return to their homes.

2) The Japanese health profession needs the most up-to-date health and radiation information to provide the best possible help and care to the population of Fukushima. This requires continued health monitoring and work has begun to collect the necessary health and demographic information. Initial plans for the Fukushima Health Management Survey were presented at the Symposium and were welcomed under the recognition that there is a critical need to develop organized community participation to express the collective concerns of the population as a whole. In addition, the following points were noted:

- a) The basic means and tools for obtaining the information necessary for health assessment include the Fukushima Health Management Survey, supplemented with the cancer registry which has been ongoing for the past two years in Fukushima. It is recommended to use the extensive experience available from Japanese scientists and at the international level to plan and implement this survey. It is only the residents of Fukushima who can provide the survey information, and a high level of participation is essential for valid results. This survey will provide information to permit an overall health assessment that will be of benefit to the entire population of Fukushima residents.
- b) Participation in the survey is important for each individual, and will enable people to learn their exposure history. Exposure history requires knowing where each individual was since the accident. This assessment is expected to include both external and internal doses, and it is desirable to support such an assessment with individual radiation measurements where appropriate. With this history, individuals can consult with healthcare providers in order to obtain the best possible personal health care. To obtain the most useful information, data must

be collected as soon as possible to provide accurate information necessary for further analysis and future reference.

- c) Authorities should make it as easy as possible for the population to complete the survey. Those who have not yet completed the survey form are strongly encouraged to do so as soon as practicable. To facilitate the greatest response rate, repeated requests should be made through multiple channels.

3) Because of the long term support to persons exposed to radiation in Hiroshima and Nagasaki by Japanese health professionals and scientists during the past 60 years, Japan has considerable expertise, probably the best in the world, in radiation related issues. This expertise should be called upon to help those affected by the Fukushima nuclear accident. At the same time it is important to recognize the responsibility of the authorities to learn as much as possible from the information obtained.

4) Although Japan has developed one of the most advanced radiation emergency medicine systems in the world, the nuclear accident occurred as a result of a multidimensional disaster due to the tsunami, the earthquake and human factors that combined to destroy the local infrastructure on which the system depended. Accordingly, adequate means of communication and adequate health care were not always available. Lessons are being identified and solutions suggested to address these problems.

5) Health professionals and scientists must seek to explain the possible effects or lack of detectable effects of radiation to the best of their ability to the people of Fukushima and other concerned individuals. Transparency in dose evaluation, risk assessment and decision-making is vital. At the same time, the scientific evidence and understanding must be provided to the public in a manner that can be readily understood.

6) Social and psychological support must also be integrated within all healthcare provisions.

7) International support by organizations including ICRP, WHO, IAEA and UNSCEAR is important in light of their extensive experience in radiation related matters. Collaborations among international organizations should be encouraged and strengthened.

8) The Government of Japan and the international organizations should consider how best to benefit from the lessons learned and being learned so that they can effectively continue stronger coordinated cooperation in the long term. One possibility would be to convene a task force on the Fukushima nuclear accident, which should include participation of national and local governments, other stakeholders, public representatives of the affected communities, and the international organizations concerned. The mission of the task force would be to:

- (a) encourage coordination of the advice given by various national and international organizations on the planned projects on Fukushima;
- (b) generate, through a series of managerial and expert meetings, 'authoritative consensual statements' on the environmental consequences and health effects attributable to radiation exposure arising from the accident; and
- (c) provide advice on environmental remediation and special health care programs, and to suggest areas in which further research is required.

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Members of the Organizing Committee, Speakers and Co-chairs
International Expert Symposium in Fukushima

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