Health Implications of the FDNPS Accident

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Implications of Information Published Since the UNSCEAR 2013 Report
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Main Findings

Health Effects of Radiation Exposure on the General Population of Fukushima Prefecture

• Generally consistent with the 2013 findings. More information now available supportive of conclusions.
• Evaluated likelihood of future excess cancer in sensitive subgroups – children and young people

Health Effects of Radiation Exposure on FDNPS Emergency Workers

• Little information on health outcomes available to date.
• Future discernible increases in cancer rates considered unlikely.
Thyroid Cancer Risk in the Fukushima Prefecture Population

• Focused on sensitive subgroups by sex and age at radiation exposure: ages prenatal to 5 years, 6 to 19 years, 20 to 35 years

• Statistical evaluation: Will radiation exposure likely cause a discernible excess of thyroid cancer in the future?

• Findings: Discernible excesses of thyroid cancer caused by the radiation exposure are unlikely, up to ages 30 or 40 years, or over the entire lifespan.
Thyroid Cancer Examination Program of the Fukushima Health Management Survey (FHMS)

- Included children up to 18 years of age in Fukushima Prefecture at the time of the FDNPS accident.

- FHMS provided a highly sensitive ultrasound examination for thyroid cancer every 2-3 years (4 exams to date). About 300,000 initially examined.

- Detected 233 suspected or confirmed thyroid cancers in FHMS.

- The large number of diagnosed thyroid cancers judged to be due to ultra-sensitive thyroid screening and not attributable to radiation exposure.
Other Evidence Thyroid Cancer Not Due to Radiation

Risk after exposure in early childhood:
• Chernobyl – High
• Fukushima – None

Time from exposure to first elevated thyroid cancer rates:
• Chernobyl – 4-5 years
• Fukushima – 1-3 years
Risk of Other Cancers in the Fukushima Prefecture Population

• Leukaemia, female breast cancer, and other solid cancers – cancer types sensitive to radiation risk. No studies reported to date.

• Statistical evaluation: future discernible cancer excesses unlikely in the sensitive groups exposed in childhood, given the generally low doses.

• After prenatal radiation exposures, no excess of childhood leukaemia or other cancers will be discernible.
Risk of Other Adverse Outcomes in the Fukushima Prefecture Population

• **Adverse reproductive outcomes?** Studies showed no discernible excess of birth defects, stillbirths, preterm births, low birthweight

• Elevated prevalence of **cardiovascular and metabolic conditions among evacuees, but not non-evacuees.** Likely from lifestyle changes and psychosocial stresses, not from radiation exposure.
Health Outcomes among FDNPS Emergency Workers

• Found no “deterministic” effects (non-cancer adverse health conditions from high radiation doses). Future ones generally not expected.

• 174 workers identified with effective doses of over 100 mSv: Future discernible excess of leukaemia or other cancers unlikely.

• Among 1,757 workers with thyroid doses over 100 mGy: Future discernible excess of thyroid cancer unlikely.

• Ultrasound evaluation of 627 workers with thyroid doses over 100 mGy and 1,437 with lower doses. Similar prevalence of thyroid disease in both groups.
Future Information about Health Status

- Fukushima Health Management Survey (FHMS): health surveillance and support activities for the Fukushima Prefecture population are continuing.

- Fukushima Nuclear Emergency Workers: detailed medical follow-up of FDNPS emergency workers is ongoing.
Thank you