

FY2025 Report of Activities

A. Report of Major Activities

The evaluation of long-term radiation-related health effects on atomic bomb survivors, and assessment of potential transgenerational effects of radiation on their children, continue to drive the Mission of RERF today: to help improve the health and well-being of the survivors, their families, and radiation-exposed populations around the world. Research at RERF would not be possible without the dedicated support and cooperation of the atomic bomb survivors and their families.

Data from RERF's cohorts of atomic bomb survivors and their children provide epidemiologic data on the risks of radiation-related incidence and mortality for a wide range of cancer and non-cancer disease outcomes. These studies inform the health management of atomic bomb survivors and provide the key scientific foundation for radiation protection worldwide, through bodies such as the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), the International Commission on Radiological Protection (ICRP), the International Atomic Energy Agency (IAEA), and the World Health Organization (WHO), as well as other authorities, including the Committee on Biological Effects of Ionizing Radiation (BEIR) of the U.S. National Research Council/National Academies.

The unique importance of RERF's cohorts stems from the combination of their large size, wide range of exposure levels, inclusion of all ages at exposure, and long-standing, high-quality follow-up of disease outcomes. Individual radiation doses for survivors are calculated through a robust dosimetry program, and clinical examinations and longitudinal collection of biosamples allow detailed evaluation of health conditions and the biological basis of radiation-related diseases. The opportunity to integrate these high-quality, long-standing epidemiologic, dose, and clinical data with serial collections of biospecimens over time is unique to RERF and demands that the best possible science be conducted for the benefit of survivors and their families, the radiation research community, and global radiation protection. RERF's strategic plan focuses on the "5 C's" to **continue** excellence in cohort follow-up; **create** new science applying cutting-edge scientific approaches; **curate** data and biospecimens to enable robust science; (4) **collaborate** to leverage internal and external expertise; and (5) **communicate** research plans and findings to survivors and local communities; the scientific community, and other key stakeholders.

1. Research Projects Examining A-bomb Survivors Health

1.1 Radiation and Cancer

- *Life Span Study Report on Cancer and Non-cancer Diseases (LSS, RP 1-75, RP 2-61, RP 4-75)*: The Department of Epidemiology maintains three major cohort studies of: 1) atomic bomb survivors (LSS), 2) *in utero* survivors, and 3) offspring of survivors (F₁). Around 21% of the LSS cohort members were still alive at the end of 2020 (the most recent date for which we have complete information on vital status), including 67% of those who were less than 10 years old at the time of the bombings. Moreover, 72% of the *in utero* and 86% of the F₁ cohorts were still alive as of 2020. These cohorts are the basis of the major RERF analyses of radiation-related risk in humans. Individual radiation doses have been estimated and continuously revised as newer techniques become available; the latest revision is expected to be complete by mid-2026.

In the past year, a summary of radiation effects on solid cancer incidence in the Life Span

Study (LSS) over 1958–2009 was completed and published (Brenner et al, *Carcinogenesis*, 2025). This paper provides estimates of radiation-associated risks for previously unpublished cancer sites (thyroid, skin, uncommon sites), summarizes patterns of radiation risks across all sites, and discusses new findings and outstanding questions. The principal message from the 1958–2009 update is that a single exposure to atomic bomb radiation resulted in increased rates of virtually all solid cancers among both males and females of all ages at exposure. For the first time, all solid cancer incidence data indicated upward curvature in the dose–response among males, whereas female dose response continued to be best described by a linear model. New site-specific findings include statistically significant dose–response relationships for cancers of the prostate, brain/central nervous system in females (previously observed in males only), pancreas (in females only), and uterine corpus cancers. In addition, a new age-at-exposure pattern emerged for female breast and uterine corpus cancers, with the highest radiation-associated risks predicted for exposures near menarche or mid-puberty. Overall, the 1958–2009 report demonstrates that 64 years after exposure, solid cancer risks remain elevated, reinforcing the critical role of the LSS in elucidating the lifetime cancer effects of atomic bomb radiation after exposure at various ages.

In accordance with the RERF mission to “contribute to the enhancement of the health of all humankind,” risk coefficients and variance–covariance matrices from the 1958–2009 cancer incidence analyses were shared with the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) expert group preparing the new report, *Epidemiological Studies of Radiation and Cancer*. These parameters were used to project radiation-related excess relative and excess absolute risks of cancer incidence to reference populations across five WHO-defined world regions, to assess the sensitivity of projected risks to variation in baseline rates among target populations, and to compare projections based on LSS risk estimates (reflecting high-dose-rate exposure over a wide range of doses) with projections based on risk estimates from informative low dose, low-dose rate exposure studies. The forthcoming UNSCEAR report, expected in 2026, will provide an important, up-to-date reference for the global community on levels of and cancer risks associated with exposure to ionizing radiation in humans.

Analyses have also been completed for manuscripts comparing radiation-related risk for subtypes of breast cancer and uterine corpus cancer. Radiation ERR per unit dose was elevated for each subtype of breast cancer (luminal A, luminal B, HER2+, triple negative, unknown), and uterine corpus cancer (type-1, type 2, other epithelial, sarcoma), with little indication of difference by subtype for either cancer type (manuscripts in preparation). An analysis of hematological malignancies (1950–2009) is also nearing completion; radiation-related risk was significantly increased for all hematological malignancies combined, and for the major subtypes of acute myeloid leukemia, acute lymphoblastic leukemia, and chronic myeloid leukemia. The significant increased risk observed for all lymphomas combined disappears after exclusion of precursor cell lymphoma (previously classified as leukemia), indicating that the observed risk was probably due to precursor cell lymphoma.

In addition, a methodological study was conducted to investigate the lack of association between radiation and rectal cancer incidence among atomic bomb survivors. Subjects were LSS members (follow-up 1974 to 2009), and outcomes of interest were resection of adenoma polyps prior to first primary cancer and the occurrence of a first primary rectal cancer. Sensitivity analysis using multiple imputation were conducted to evaluate the impact of polypectomy on the radiation-related risk of rectal cancer. While the rectal cancer

ERR was not statistically significant, adenoma polyp incidence was positively associated with radiation, and the decline in the magnitude of rectal cancer ERR over time aligned with the implementation of screening programs. It is possible that atomic bomb radiation could be associated with rectal cancer incidence, which has not been reported previously. A manuscript describing this work is currently in preparation.

In parallel with completion of these analyses, preparation of data and analytical sets was conducted to prepare for an updated series evaluating risks of cancer mortality (1950-2021), and cancer incidence (1958-2020).

- *Pathogenesis of Myelodysplastic Syndrome (MDS) (RP 1-17)*: Atomic bomb survivors have a higher risk of hematological malignancies even 50 years post radiation exposure. We are searching for mutations in serially stored blood samples of AHS participants who developed MDS using next-generation genome analysis technology. Analysis of 112 blood samples longitudinally obtained from 16 AHS participants up to 22 years before diagnosis revealed distinct patterns of clonal dynamics in the high-dose cases (≥ 1 Gy) compared to the lower-dose cases (< 1 Gy). Furthermore, clones in the high-dose cases frequently had copy number alterations (manuscript *in preparation*).
- *Leukemia among A-bomb Survivors (RP P1-23)*: Atomic bomb survivors had a high risk of hematological malignancies shortly after exposure, but little is known about the genomic alterations in these leukemia cases. To reveal the genomic landscape of such leukemia cases, we conducted a pilot study to assess targeted-sequencing analysis using DNA and RNA extracted from formalin-fixed paraffin embedded (FFPE) samples. We found that RNA sequencing analysis for the screening of fusion genes and DNA sequencing for hot-spot mutations are both feasible. Additionally, droplet digital PCR (ddPCR) analysis is also feasible for the evaluation of known alterations. Further methodological improvements in DNA sequencing are needed to enable comprehensive detection of genomic alterations.
- *Radiation and Liver Cancer (RP 9-92)*: Radiation exposure and chronic hepatitis B virus (HBV) infection are both established risk factors for hepatocellular carcinoma (HCC). We evaluated the mediation effects of HBV and hepatitis C virus (HCV) infection on radiation-associated risk of HCC. The age-, sex-, city-, location at the time of exposure-, and hepatitis virus infection-adjusted hazard ratio (HR) of HCC at 1 Gy was 1.22 (95% CI: 0.91–1.64). HRs for HBV and HCV infection were 8.3 and 34, respectively. The estimated mediation proportions were approximately 11% for HBV infection and 33% for HCV infection (manuscript *in submission*).

1.2 Radiation and Non-Cancer Effects:

- *Adult Health Study (AHS) Report on Non-cancer Disease (RP 2-75)*: One of RERF's main mission goals is to identify non-cancer diseases associated with radiation exposure. Updating the AHS report on the incidence of non-cancer diseases not only helps to identify new radiation-associated diseases, but also to reevaluate and strengthen previous findings. In 2025, a background incidence analysis of non-cancer diseases (1958–2020) was conducted in preparation for a full-scale analysis of the effects of radiation using new organ dose based on the new J45 phantoms in collaboration with Statistics department.
- *Radiation and Cataracts (RP 5-15)*: Radiation effects on posterior subcapsular cataracts (PSC) have been documented among A-bomb survivors and other exposed populations. However, past reports of radiation effects on cortical (COR) and nuclear (NUC) cataracts

have been inconsistent, possibly due to inaccurate diagnosis of the outcomes and the characteristics of the study population. The present study used appropriate devices and diagnostic criteria to obtain more precise diagnosis. Associations were observed between radiation and PSC, as well as the precursor lesion vacuole center lens (VCC), but no radiation effects were observed for COR or NUC. No significant association was observed between radiation and the additional subtypes (retrodots and waterclefts). Differences from the results of the previous study could be due to increased precision of diagnostic methods and/or potential selection bias or biological differences due to the older age of participants (Hida et al. *Radiat Res*, in press).

- *Radiation and Diseases of the Circulatory System*
 - *Radiation and Atherosclerosis [RPs 2-11 and 1-23-2]:* Associations between radiation and atherosclerosis or circulating inflammatory markers have been observed previously in A-bomb survivors. To evaluate potential mechanisms of radiation-induced atherosclerosis, we are focusing on possible mediation by 1) clonal hematopoiesis/T-cell aging/inflammation and 2) abnormal vascular repair. We found that osteopontin, and possibly osteoprotegerin, but not VEGF-A, were associated with radiation exposure (manuscript *in submission*).
 - *Radiation and Myocardial Infarction [RP 1-22]:* The latest analysis of myocardial infarction (MI) incidence from 1958 to 2015 indicated no significant association between radiation and definite or probable non-fatal MI for both sexes combined. While sex-stratified analyses suggested an association between radiation exposure and MI incidence in females but not in males, the interaction was not statistically significant (Kurisu et al. *Radiat Res*, in press).
- *Adult Body Weight Trajectories and Mortality [RP-S4-19]:* Although much is known about the health consequences of being overweight or obese, there is no clear consensus as to the effect of complex changes in weight. Using latent class joint modeling of longitudinal body mass index (BMI) and mortality, we identified clinically meaningful patterns of weight change in 4,007 Japanese atomic-bomb survivors and assessed their relationships with overall mortality using 30 years of clinical and mortality follow-up preceded by 20 years of disease-free baseline anthropometric data. We identified five distinct patterns of weight change: normal with steady, slight increase; overweight with steady, slight increase followed by slight decrease; normal with more rapid increase in middle age followed by rapid decrease in older age; overweight with rapid decrease followed by rapid increase; and slightly overweight followed by rapid early increase and then rapid decrease. Mortality trends fell into three broad groups: the first two trajectories had median age at death in the mid-80s, the third and fourth had median age at death in the early 70s, and the fifth had median age at death around 60. Deaths were most often due to neoplastic diseases in groups with rapid declines in BMI. Cardiovascular diseases predominated, though not markedly, in the groups with high older-age BMI. In summary, more highly-variable patterns of weight change were associated with risk of earlier death. Although reverse causation may occur within a few years of death, BMI trajectories over several decades may be less affected (manuscript *in submission*).

1.3 Underlying Biological Mechanisms of Radiation Health Effects

- *Preparation for AHS Genome Wide Association Study (GWAS) (RP-P2-22):* This study evaluated the feasibility of conducting GWAS using archived biological materials from AHS subjects by assessing the quality of SNP array data (approximately 680,000 loci)

obtained from DNA extracted from 20-year-old paper discs, 10–50-year-old blood smears, and 30-year-old Giemsa-stained slides. Data analyses conducted in FY2025 demonstrated that DNA from 20-year-old paper discs amplified with REPLI-g yielded high call and concordance rates, enabling reliable SNP genotyping. Although the DNA quality from blood smears was low when using standard extraction methods, a newly developed multicomination amplification method markedly improved SNP data quality. In contrast, despite relatively high DNA yields, Giemsa-stained slides remained unsuitable for SNP analysis even after amplification. These findings indicate that among older preserved specimens, blood smears amplified using the multicomination method may be used for future GWAS at RERF. Further work is needed to assess the reproducibility of these results and to verify the feasibility of whole-genome sequencing using amplified DNA (manuscript *in preparation*).

- *Radiation and Clonal Hematopoiesis—Human Studies (RP 1-23-1)*: To investigate the occurrence of clonal hematopoiesis (CH) in A-bomb survivors and its possible relevance to disease, a study was initiated using stored blood samples obtained from AHS participants. Deep whole-exome sequencing (WES), SNP array genotyping, and T-cell receptor (TCR) sequencing data, as well as identification of CH-related somatic mutations and evaluation of T-cell clonal expansion have been completed. Preliminary analyses suggest a positive association between A-bomb radiation exposure and the prevalence of CH (manuscript *in preparation*). A further study using stored blood samples collected over time is planned to clarify the dynamics of hematopoietic cell proliferation and expansion following exposure.
- *Radiation and Clonal Hematopoiesis—Animal Studies (RP 1-23-3)*: In the mouse, radiation induces CH with high-frequency somatic mutations in blood cells, but the effects of radiation on the clonal expansion of hematopoietic progenitors and lymphocytes have remained elusive. In a long-term mouse study using time-resolved tracking of hematopoietic clones, we revealed that radiation-induced CH involves multiple mutations: single-nucleotide variants (SNVs) present before radiation exposure and deletions that develop during or after irradiation. Both mutation types expand over extended periods. CH mutations that coexist within the same hematopoietic stem and progenitor cell (HSPC) clones exhibit higher allele frequencies than single mutations and are strongly correlated with a progressive increase in myeloid cells. These findings suggest that CH-associated inflammatory processes may play a causal role in disease development following radiation exposure (manuscript *in preparation*). Furthermore, we successfully reconstructed clonal phylogenetic trees based on whole genome sequencing of single HSPC-derived colonies developed from bone marrow cells with CH. These phylogenetic trees and longitudinal tracking of CH in the peripheral blood retrospectively estimated the timing of mutation acquisition and clonal evolution over a 20-month period. Reconstructing clonal phylogenetic trees not only contributes to elucidating the mechanisms of CH evolution but also advances time-resolved biodosimetry for radiation-exposed individuals.
- *Fetal Radiation Exposure and Chromosomal Aberrations—Animal Studies (RP P4-17)*: Previous data from in-utero exposed survivors indicate that chromosomal aberrations following fetal exposure to A-bomb radiation were significantly lower than for adult exposure. We thus hypothesized that fetuses could have an intrinsic mechanism for eliminating abnormal cells. In mice, the frequency of chromosomal aberrations occurring in f-HSCs at one day after *in utero* exposure (before birth) is already lower than that in the mother. This frequency decreases further in mice born after *in utero* exposure from juvenile through to adult stages. Consistent with HSC results, the translocation frequency of spleen

lymphocytes, which are thought to differentiate from f-HSCs, was also low in juvenile mice. These findings support the notion that abnormalities arising in f-HSCs after *in utero* exposure disappear by adulthood.

- *Oxidative Stress Response in Radiation-induced Effects—Animal Studies (RP P3-19)*: To identify factors that may modulate radiation-induced somatic mutagenesis, we are investigating the potential effects of oxidative stress on mutations in long-term hematopoietic stem cells (LT-HSCs) using mutant mice with loss or constitutive activation of NRF2—the master transcriptional activator of antioxidant defense genes. When comparing irradiated WT and mutant mice, mutation frequencies of repeat indels (*i.e.*, contractions or expansions of simple tandem repeats) were significantly higher in NRF2 knockout mice than in WT mice, whereas the frequency of repeat deletions was lower in mutant mice with constitutive NRF2 activation. The C-to-A transversion—a mutation known to arise from 8-oxo-guanine, a DNA base lesion induced by reactive oxygen species (ROS)—was markedly increased in irradiated NRF2 knockout mice relative to WT mice. Conversely, irradiated mice with constitutive NRF2 activation exhibited a reduced frequency of C-to-A transversions compared with WT mice. These findings indicate a protective role of NRF2 against radiation-induced repeat indels and C-to-A transversions, suggesting that ROS are a primary cause of these types of mutations. In addition, to address the molecular basis of age effects, we exposed WT C57BL/6J mice to 3.8-Gy X-rays at two weeks of age (infancy). LT-HSCs were successfully isolated and cultured for clonal expansion at 16 weeks of age. WGS of LT-HSC-derived clones has been conducted, and analysis is underway to identify somatic mutations. Multicolor-fluorescent *in situ* hybridization (mFISH) analysis of 10 LT-HSC-derived clones revealed translocations or inversions in two clones.

2. Research Projects on the Health of A-bomb Survivors Children (F1)

- *F1 Offspring Clinical Study (FOCS), (RP 4-10)*: Initial examination of the FOCS (2002-2006) provided no evidence for increased prevalence of adult-onset multifactorial diseases (hypertension, hypercholesterolemia, diabetes mellitus, angina pectoris, myocardial infarction and stroke) in the second generation of atomic bomb survivors due to their parents' a-bomb radiation exposure. However, a longitudinal incidence study continued until the subjects become elderly, when many multifactorial diseases develop, is expected to provide more definitive results. The analysis plan of the longitudinal study data (2002–2020) has been developed within the interdepartmental FOCS Analysis Working Group and initial risk analysis has been conducted. The not-in-city (NIC) status for many F1 parents with previously unknown DS02R1 dose has now been confirmed and updated from missing to zero for all FOCS parents whose status has been newly confirmed to be NIC. Final statistical analyses are ongoing.
- *Trio Genome Study of Hereditary Effects (RP 3-23)*: Following rigorous scientific and ethical framework preparation, the Trio Genome Study was officially launched on December 23, 2025. As of December 2025, consent had been obtained from 403 trios representing about 70% of the total target trios. In April 2024, we launched a pilot study to determine DNA quality and establish an analysis pipeline using samples from three trios. WGS and genome data analysis proceeded smoothly, and *de novo* germline mutations were successfully identified. Data analysis for mutation detection was performed using both our RERF pipeline and an independent pipeline developed by research collaborators at the U.S. National Cancer Institute, with almost identical results. These promising results confirmed the technical feasibility of the project. A review summarizing RERF's past genetic research

and plans for the Trio Genome Study was published (Nakamura *et al*, *Carcinogenesis*, 2025).

Given the particularly sensitive nature of research on biospecimens of A-bomb survivors and their offspring, ongoing communication with research participants, local communities, and other stakeholders is essential. Various information sessions and public lectures have been held to inform research participants and the public-at-large. To address ethical, legal, and social issues (ELSI) on an ongoing basis, both an internal ELSI Committee (RERF staff) and an ELSI Social Co-creation Committee (external national and international experts) were established in the past year. Furthermore, PPI (Patient/Participant Public Involvement) activities commenced, with funding from an external grant. We plan to return information on secondary findings from the genome analysis that is considered beneficial to an individual's clinical management and health. To address this issue, we established partnerships in 2025 with Hiroshima and Nagasaki University Hospitals to assist with genetic counseling as needed. We are also finalizing specific procedures for the return of secondary findings, reflecting expert input from an international symposium hosted by RERF in FY2024. Symposium results were published this year to promote transparency in our research process (Yoshida N *et al*, *Carcinogenesis*, 2025).

- *Transgenerational Effects: Animal Studies (RP 2-13, RP S3-11)*: The main objectives of the animal model experiments are (1) to create a high-precision pipeline for capturing genome (epigenome) DNA changes that occur at the whole-genome level, (2) to understand the frequency and characteristics of naturally occurring mutations, and (3) to clarify the characteristics of radiation-induced mutations. We are developing new technologies to detect large-scale chromosomal rearrangements that may be associated with human diseases. In addition to short-read WGS data, we are investigating mutations in complex genomic regions, including repeat elements, by combining ultra-long reads (nanopore), PacBio, and optical mapping. We have developed a method to analyze ultra-long reads. We have also succeeded in developing an efficient method to capture structural variations (SVs) using artificial intelligence. We are using these methods to analyze radiation exposure models. In FY2025, we examined the effectiveness of a method using nuclear transfer as a new technique for examining the genomic information of a single cell and confirmed that it can analyze mutations present in a single neural cell with high accuracy (Sugo, Uchimura *et al*, *PNAS*, 2025). Furthermore, by studying mice subjected to repeated somatic cell nuclear transfer, we clarified phenotypic effects that arise in subsequent generations due to the accumulation of numerous mutations (Wakayama *et al.*, in submission). These findings are expected to inform future studies of germline and somatic mutations in atomic bomb survivors.

3. Research to Elucidate Individual Doses and Effects from the A-bomb

- *Shielding Survey and Radiation Dosimetry (RP 18-59)*: RERF has continued work with the international Organ Dosimetry Working Group to develop revised organ doses for RERF's studies based on modern, sophisticated J45 computational phantoms. All relevant response functions have been received to compute the 12 components of organ doses for subjects with known position and orientation. We expect this work to be completed in the first half of 2026, with the final organ doses populated into the central research database for use by RERF researchers. A comprehensive report documenting the methods for computing the new organ doses is underway.
- *Mean quality factors and their implications for organ-specific Relative Biological Effectiveness (RP18-59)*: Past and current estimates of relative biological effectiveness

(RBE) from the cohort analyses of atomic bomb survivors suggested not only that RBE may be higher than those assessed by the United Nations Scientific Committee on Effects of Atomic Radiation (UNSCEAR) and International Commission on Radiological Protection (ICRP), but also that RBE may differ by organ and organ depth. To further examine this issue, we calculated the mean quality factor based on Linear Energy Transfer (LET) distributions for representative organs and exposure scenarios of A-bomb survivors using Particle and Heavy Ion Transport code System (PHITS) simulation and the radiation quality factor functions [Q(L)] by ICRP, as well as that defined by the National Aeronautics and Space Administration (NASA). This is done in the context of the adult male phantom of the J45 series, which was created to precisely reproduce the anatomy of the Japanese population in 1945. We also investigated the depth dependence of the mean quality factors in the International Commission on Radiation Units and Measurements (ICRU) sphere irradiated by monoenergetic neutrons. Results from the human phantom, and from the ICRU sphere phantom both suggest mean quality factors of approximately 15, independent of organ type, body depth, city and ground range when the contributions from the secondary gamma rays are excluded from the neutron doses (Shimizu *et al*, *Radiation Research*, 2025).

An additional aspect of RBE is the consequences of assuming a constant RBE-to-weight neutron dose in RERF analyses to estimate the excess risk due to gamma radiation exposure alone. An analytic study using the gamma and neutron distributions in the RERF Life Span Study demonstrated that if assumed constant RBE approximates the true limiting maximum RBE there is only small bias in estimating excess risk at very low doses that may be of interest (e.g., 0.1 Gy). At higher doses, the constant RBE assumption, even with a value equal to the maximum RBE, could result in substantial bias in excess risk estimates. The results have implications for whether the constant RBE assumption should continue to be used in RERF analysis, and if it is used, how its value should be determined and how analytic results should be interpreted (manuscript *in submission*).

- *Migration adjustment for cancer incidence studies*: Ascertainment of incident cancers in LSS subjects relies on the Hiroshima and Nagasaki cancer registries. Because these registries are region-based, incident cancers occurring after a subject leaves the catchment areas are not captured. To address this migration-related bias, we adjust LSS person-years by probabilities of residing in the catchment areas. The previous method was improved by using smoothing techniques to produce a prediction model that could be used with arbitrarily dimensioned person-year tables. We also developed a web-based application to allow RERF researchers to easily add these residency probabilities to person-year tables (manuscript *in preparation*).
- *Deep Learning for Radiation Risk Prediction of A-bomb Survivors [RP 1-75]*: The full potential implications and limitations of using deep neural networks (DNN) in radiation risk assessment remain largely unexplored. In this research, the feasibility and practicality of using DNNs for radiation risk assessment were examined in the context of the RERF Life Span Study (LSS). We demonstrate that DNNs offer greater flexibility and model independence and have the potential to uncover novel patterns and dose-response relationships that parametric models may miss. However, better performance in predicting tumor incidence rates does not necessarily translate into reliable radiation risk assessment. ERR estimates from the DNN and the parametric model differed significantly, despite their comparable predictive performance. Nevertheless, DNN aids in identifying crucial parameters and relationships within the data, forming a robust foundation for constructing a more interpretable and computationally efficient parametric model (manuscript *in submission*).

4. Projects to Release Research Results and to Collaborate with Other Scientific Organizations

The dissemination of RERF's study results to survivors and their children, the international scientific community, and the public is crucial to the mission of RERF. Toward that end we interact with local liaison councils representing the communities of Hiroshima and Nagasaki, and also provide information via public lectures and other activities (details provided later in this report). In FY2025, RERF co-hosted a joint symposium with the National Cancer Center Institute for Cancer Control titled "Promotion of International Collaboration in Epidemiological Cohort Studies Using Cancer Registry Data", hosted 12 seminars presented by national and international visitors, and published 51 scientific papers. Other activities engaging the international community include seminars, workshops, and participation in 93 international scientific conferences.

Collaborative Research Projects

- *Communicating Research Results:* In addition to the above activities, development of national and international collaboration is essential to help disseminate results and to enhance RERF research programs. A list of current collaborations is provided below:
 - a. Partnerships with Hiroshima University, Nagasaki University, and Fukushima Medical University
 - b. Collaboration with the U.S. National Cancer Institute
 - c. Collaboration with the University of Washington and Kurume University
 - d. Collaboration with Outside Investigators:
 - 47 Japanese Institutions
 - 6 North American Institutions
 - 10 European Institutions
 - 1 Asian Institution

5. Training Programs for Domestic and Overseas Specialists

- 1) RERF posted the application guidelines for the Ministry of Health, Labor and Welfare (MHLW)-sponsored International Exchange and Research Program on its website to openly recruit trainees. In FY2025, five people applied, and three were accepted (from Indonesia, the U.S., and India). Training was provided to the three individuals according to their research themes at the Department of Molecular Biosciences, the Departments of Epidemiology, Statistics, and Clinical Studies, and the Department of Information Technology, respectively (The training period was from November 25 through December 5, 2025.).
- 2) RERF cooperated with the activities of the Hiroshima International Council for Health Care of Radiation-exposed (HICARE), the Nagasaki Association for Hibakushas' Medical Care (NASHIM), Nagoya University Graduate School and other organizations, and accepted domestic and overseas trainees (83 individuals in total).
- 3) The Department of Epidemiology accepted an overseas visiting student fellow (October 14–26, 2025).
- 4) RERF dispatched to dispatch a lecturer and a chair to cooperate with a HICARE international symposium (February 8, 2026).

- 5) RERF held an epidemiological training workshop for radiobiologists, aiming to deepen their understanding of the foundation's epidemiological research and to promote interaction between investigators working in radiation research institutes.
(A total of 85 participants joined on August 18–19, 2025, consisting of 50 from outside RERF and 35 from inside.)
- 6) The Department of Statistics used RERF's official website to recruit investigators to participate in the International Fellowships for Research in Japan program sponsored by the Japan Society for the Promotion of Science (JSPS). However, no applications were received.

6. Public Information Programs

1) Notification about research

As part of its public relations activities for the “Genome Sequencing Study of Genetic Effects,” RERF held a press conference on December 23 to announce the study's initiation. On the same day, RERF launched a dedicated portal site for the study on its public website.

- April 24: Signing ceremony for a collaborative research agreement with Hiroshima University Hospital (Four newspapers, three television stations, and one wire service)
- August 5: Hiroshima Laboratory Open House: Parental Exposure to A-bomb Radiation and Health of Their Children—Explanatory Session on RERF's New Study (one public lecture)
- December 5: Social gathering with Nagasaki media agencies
 - On-site participants: Three newspapers, three television stations, and one wire service
(Nagasaki Shimbun, Nishinippon Shimbun, Asahi Shimbun, NHK Nagasaki, Nagasaki Broadcasting, Television Nagasaki, and Kyodo News)
 - Web participants: Two newspapers, two television stations, one wire service, and one freelance journalist
(Chugoku Shimbun, Asahi Shimbun, NHK Hiroshima, Hiroshima Television Corporation, and Kyodo News)
- December 23: Press conference—Progress of the Trio Study Using Genome Analysis: Initiation of the study announced.
 - Hiroshima: Four newspapers, five television stations, two wire services, and two freelance journalists
(Chugoku Shimbun, Asahi Shimbun, Mainichi Shimbun, Yomiuri Shimbun, NHK Hiroshima, RCC Broadcasting, Hiroshima Television Corporation, Hiroshima Home Television, Television Shin-Hiroshima System, Kyodo News, and JiJi Press)
 - Nagasaki: Four newspapers
(Nagasaki Shimbun, Nishinippon Shimbun, Asahi Shimbun, and Yomiuri Shimbun)

2) Activities for the 80th anniversary of the atomic bombing and the 50th anniversary of the establishment of RERF

RERF, which was established in 1975, marked its 50th anniversary. As activities to commemorate its anniversary, RERF held commemorative ceremonies and also published a booklet titled “Fifty Years of Progress.” The booklet was distributed to attendees at the 50th anniversary ceremonies held in Hiroshima and Nagasaki and also sent to domestic and overseas universities, research institutes, administrative agencies, and other organizations.

In addition, RERF contributed articles to the following scientific journals as part of its activities to commemorate the 80th year after the atomic bombings.

- Carcinogenesis special issue: Radiation, Humanity, and Hope: 80 Years of Cancer Research Post-Hiroshima and Nagasaki
- Lancet Correspondence: From the hibakusha: 80 years of peace and scientific discovery
- WHO REMPAN Newsletter: RERF’s 50th Anniversary

3) Open House

RERF held the Open House events at the Hiroshima and Nagasaki Laboratories for the 30th and 28th time, respectively. Since the spread of COVID-19, RERF had adopted varied approaches, including online application and preregistration, to hold the events. In 2025, however, RERF held the Open House events on a full-scale in-person basis without preregistration for the first time in six years since 2019. (Number of participants: Hiroshima: 489, Nagasaki: 140)

In addition, RERF in 2025 held a joint program with a high school’s newspaper club in Hiroshima to commemorate the 80th year after the atomic bombings, its 50th anniversary, and the 30th anniversary of the Open House event at Hiroshima Laboratory.

4) PR activities for the foundation’s programs

- April 30: Inspired by social gatherings with media agencies in 2024, RERF held a study session with NHK Hiroshima on its operational and research activities. Fifteen individuals participated in it.
- May 23: RERF welcomed the director of the United Nations Institute for Disarmament Research and two other members for a visit, briefed them on its activities, and also exchanged opinions with them.
- June 25: RERF welcomed three students from Yamagata University School of Medicine and two members from the Yamagata Prefecture Federation of Democratic Medical Institutions for a visit and briefed them on its activities.
- October 7: RERF welcomed 11 participants from the United States, Canada, Germany, and other countries in the 24th World Congress of the International Physicians for the Prevention of Nuclear War (IPPNW) in Nagasaki for a visit and briefed them on its activities.
- November 18: RERF welcomed 10 individuals from the Hiroshima Legal Affairs Bureau’s federation, Hiroshima Federation of Consultative Assemblies of Civil Liberties Commissioners, and Consultative Assembly of Civil Liberties Commissioners, and exchanged opinions with them concerning future activities to eliminate prejudice and discrimination related to medical genomic information.
- December 5: RERF held a media briefing, following the media meeting held in Hiroshima in the previous fiscal year, with the Nagasaki Laboratory serving as the

main venue and the Hiroshima Laboratory participating online. The briefing included a study session on trio genome research and an exchange of views between RERF and media representatives. A total of 14 media representatives from Hiroshima and Nagasaki attended. International peace promotion activities using research results.

5) International peace promotion activities using research results

RERF was scheduled to welcome a group of ambassadors for a visit, following the peace memorial ceremony in Hiroshima City on August 6; however, the visit was canceled this year due to the city-sponsored event held in relation to the 80th anniversary of the atomic bombing.

On the other hand, RERF set up a booth among those set up for local governments and NGOs for the first time at the 11th General Conference of the Mayors for Peace held in Nagasaki in commemoration of the 80th anniversary of the atomic bombing on August 9–11.

6) Official website and social media

- RERF continued to update its official website regularly. In FY2025, it added 22 new articles in the What's New section and made 24 posts of tendering information. In addition, as its organizational structure changed, RERF updated its pages on its directors and research staff and posted new reports of activities from last year and materials on its operations and finances.
- As of March 31, 2026, there were some 380,000 views of the RERF official website, with the daily average being 1,041, and there were about 160,000 users of the website, with the daily average being 438.
- To renew its official website, RERF established an internal working group. To gain specialists' support for the website renewal, RERF has been analyzing the present website and preparing specifications for selecting a contractor for consultation related to the renewal.
- RERF relaunched its notifications using social media in August 2025, making joint releases of information with the official website possible.

7) Facility tour and school visits

In addition to the groups visiting RERF every year, RERF also welcomed higher than usual numbers of other visitors in Hiroshima for the 80th anniversary of the atomic bombing in the commemorative year. Unlike last year, RERF also welcomed visits by nuclear-related groups, such as the Oma Town Office Nuclear Plant Countermeasures Office in Aomori prefecture, the Ishikawa Prefecture Crisis Management Department, and the Japan Atomic Industrial Forum. As of the end of March 2026, RERF accepted a total of 45 facility tours and school visits, or more than 700 individuals.

Other PR activities

- RERF responded to inquiries from outside parties in a timely and easy-to-understand manner as much as possible.
- RERF took photos of the inside of the Hiroshima Laboratory for record preservation.
- RERF observed a class on natural radiation measurement taught at a junior high school in Hiroshima.

FY2025 RERF International Collaborative Activities

I. Participation in international collaborative activities by RERF directors and staff members		II. Acceptance of visitors from overseas for briefing and training	
WHO-related activity	5 people	(Hiroshima)	
UNSCEAR-related activity	4 people	Visitors related to HICARE	27 people
ICRP-related activity	3 people	ICAN Academy	20 people
IAEA-related activity	None	Nagoya Graduate School, YLP Program	10 people
Medical checkup for A-bomb survivors residing in South Korea-related activity	2 people	Visitors related to RERF (MHLW International Exchange Research Program)	3 people
Others	18 people	(Nagasaki) Visitors related to NASHIM	26 people
Total: 32 people		Total: 86 people (Hiroshima: 60 people, Nagasaki: 26 people)	

I. Participation in international collaborative activities by RERF directors and staff members (excluding participation in international scientific meetings)

In italics: Funding Organization

1. World Health Organization (WHO)-related activity (5 people)

RERF (hereinafter, all titles represent those at time of participation)

Kenji Kamiya, RERF Chair, Preetha Rajaraman, Vice Chair, Kazunori Kodama, Executive Director, Kanya Hamasaki, Associate Senior Scientist, Cellular Genomics Laboratory, Department of Molecular Biosciences, Misa Imaizumi, Assistant Department Chief of Clinical Studies Nagasaki, held discussions at a meeting with WHO REMPAN (December 3, 2025, online) and were re-accredited as a WHO Collaborating Centre.

2. United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)-related collaborative activity (4 people)

1) *National Institute of Radiological Sciences*

Ritsu Sakata, Assistant Department Chief, Department of Epidemiology, attended the UNSCEAR domestic committee meetings (July 25, 2025, Online, and March 10, 2026, Online).

Tomoki Nakamizo, Division Chief of Radiology of the Department of Clinical Studies, Nagasaki, attended the UNSCEAR domestic committee meetings (July 30, 2025, Online, and March 10, 2026, Tokyo).

2) *RERF*

Alina Brenner, Senior Scientist, Department of Epidemiology, attended meeting as a lead writer for UNSCEAR Epidemiological studies of Radiation and Cancer (July 16, 2025, Online).

Tomoki Nakamizo, Division Chief of Radiology of the Department of Clinical Studies,

Nagasaki, attended meetings as a member of UNSCEAR “Effects of Ionizing Radiation on Nervous System, Pathophysiology Group” (December 2, 2025, January 13, February 10, and March 10 2026, Online).

3. *ICRP (International Commission on Radiological Protection)*-related activity (3 people)

- (1) Preetha Rajaraman, Vice Chair, attended the ICRP CI Meeting as an expert member (October 3-5, 2025, Abu Dhabi, UAE) and ICRP 2025, the 8th International Symposium on the System of Radiological Protection as a Session co-chair (October 8, 2025, Abu Dhabi, UAE).
- (2) Alina Brenner, Senior Scientist, Department of Epidemiology, attended meetings as a member of the ICRP Task Group 122 (Update of Detriment Calculation for Cancer) (May 27, and November 20, 2025, Online) and ICRP Standing Committee 1 on Health Effects (August 19, September 24, Online, and October 4–6, 2025, Abu-Dhabi, UAE).
- (3) Tomoki Nakamizo, Division Chief of Radiology of the Department of Clinical Studies, Nagasaki, attended meetings as a member of the ICRP Task Group 119 (Radiation Effects on Diseases of the Circulatory System) (October 6–9, 2025, Abu Dhabi, UAE, April 18 and September 2, 2025, January 19 and February 24, 2026, Online).

4. *IAEA (International Atomic Energy Agency)*-related activity (0 person)

This activity was not done in FY2025.

5. Medical checkup for A-bomb survivors residing in South Korea-related activity (2 people)

Nagasaki Prefecture

- (1) Misa Imaizumi, Assistant Department Chief, Department of Clinical Studies, Nagasaki, participated in the 37th A-bomb survivors medical checkup in Korea (July 6–10, 2025 Masan, Korea).
- (2) Ayumi Hida, Department Chief, Department of Clinical Studies, Nagasaki, participated in the 38th A-bomb survivors medical checkup in Korea (November 3–6, 2025 Gwangju, Jeju, Korea).

6. Others (18 people)

- (1) Hiromi Sugiyama, Assistant Department Chief, Department of Epidemiology, attended a board meeting of International Association of Cancer Registries (IACR) (April 11, May 2, September 26, Online, November 4, 2025, Izmir, Türkiye).
- (2) Hiromi Sugiyama, Assistant Department Chief, Department of Epidemiology, attended as a member of CONCORD-Lancet Global Commission on Cancer (May 19, May 27, June 6, June 11, June 26, July 4, July 16, July 29, August 15, October 14, October 24, October 30, November 18, December 3, December 16, 2025, Online).
- (3) Richard Sposto, Department Chief, Department of Statistics, gave a lecture for a group of physics students from the North Carolina State University (June 23, 2025, RERF Hiroshima Laboratory).
- (4) Richard Sposto, Department Chief, Department of Statistics, gave a lecture at the 2025 United Nations Disarmament Fellowship Program (July 1, 2025, Hiroshima).
- (5) Preetha Rajaraman, Vice Chair, served as a panelist at the U.S. Government-sponsored Young Trilateral Leaders (YTL) Summit 2025 (July 7, 2025, Osaka).
- (6) Kenji Kamiya, RERF Chair, gave a lecture at the IAEA Technical Meeting on Radiation Education and Communication for Medical Doctors – Training and Research for the World

(August 28–30, 2025, Chiba).

- (7) Preetha Rajaraman, Vice Chair, was a Keynote Speaker at the ISoRED 2025 Conference (September 9–11, 2025, Lyon, France).
- (8) Richard Sposto, Department Chief, Department of Statistics, gave a lecture for 30 master's students from the Twente University's Biomedical Engineering and Technical Medicine programs in the Netherlands (September 19, 2025, RERF Hiroshima Laboratory).
- (9) Preetha Rajaraman, Vice Chair, attended the 71st Annual Meeting of the Radiation Research Society as a Speaker (September 21–24, 2025, San Juan, Puerto Rico).
- (10) Todd DeWees, Chief Scientist, gave an invited presentation at the Mayo Clinic (September 29, 2025, Scottsdale, AZ, USA).
- (11) Ritsu Sakata, Assistant Department Chief, Department of Epidemiology, gave a presentation at an information exchange meeting on radiation epidemiology attended by members from KIRAMS, Korea University, and ASN (October 23, 2025, RERF Hiroshima Laboratory).
- (12) Alina Brenner, Senior Scientist, Department of Epidemiology, gave an invited presentation at the joint JRRS/ACRR 2025 conference "Summary of key epidemiological findings from studies of atomic bomb survivors and their offspring" (October 26, 2025, Hiroshima).
- (13) Hiromi Sugiyama, Assistant Department Chief, Department of Epidemiology, gave a presentation at the IACR Scientific Conference (November 3-7, 2025, Izmir, Türkiye).
- (14) Kenji Kamiya, RERF Chair, gave a lecture at HICARE's medical workshops for A-bomb survivors (November 10, 2025, Seoul, South Korea).
- (15) Preetha Rajaraman, Vice Chair, was a Speaker at the International Conference on High Performance Computing in Asia-Pacific Region (January 27, 2026, Osaka).
- (16) Kenji Kamiya, RERF Chair, gave a lecture at HICARE International Symposium Commemorating 80 Years since the Atomic Bombing/35th Anniversary of HICARE (February 8, 2026, Hiroshima).
- (17) Kazunori Kodama, Executive Director, attended as a chair of an HICARE International Symposium Part.2 Commemorating 80 Years since the Atomic Bombing/35th Anniversary of HICARE (February 8, 2026, Hiroshima).
- (18) Kenji Kamiya, RERF Chair, gave a lecture at 2026 Fukushima Medical University International Symposium on the Fukushima Health Management Survey (March 12, 2026, Fukushima).

II. Acceptance of visitors from overseas for briefing and training (86 people)

【Hiroshima 60 people】

1. Visitors related to *Hiroshima International Council for Health Care of the Radiation Exposed (HICARE)*: 27 trainees
 - (1) South Korea for the "Short-term training group of medical treatment for A-bomb survivors living in South Korea."
 - June 10, 2025: 5 trainees
 - July 7, 2025: 5 trainees
 - September 17, 2025: 5 trainees
 - October 20, 2025: 4 trainees
 - (2) September 4, 2025: 5 trainees, medical doctors from United States

- (3) February 12, 2026: 3 trainees, medical doctors from Brazil
- 2. *Hiroshima-ICAN Academy for Nuclear Weapons and Security* (20 trainees)
October 17, 2025: from U.S., U.K., Australia, etc.
- 3. *Young Leaders' Program of Graduate School of Medicine, Nagoya University* (10 trainees)
November 26, 2025: from Indonesia, Bangladesh, Cambodia, etc.
- 4. *RERF (MHLW International Exchange Research Program)* (3 trainees)
November 25 to December 5, 2025
 - (1) Research Center for Radioisotope, Radiopharmaceutical, and Biodosimetry Technology, Organization for Nuclear Energy, National Research and Innovation Agency (Indonesia)
 - (2) Radiation Epidemiology Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, National Institutes of Health (USA)
 - (3) Department of Computational Biology; Indraprastha Institute of Information Technology Delhi (IIIT-Delhi) (India)

【Nagasaki 26 people】

Visitors related to *the Nagasaki Association for Hibakushas' Medical Care (NASHIM)*:
26 people

- 1) Kazakhstan:
July 15, 2025: 4 trainees
- 2) Korea
 - (1) October 29, 2025: 10 trainees
 - (2) January 21, 2026: 10 trainees
- 3) Brazil
January 21, 2026: 2 trainees

FY2025

Joint programs between RERF and overseas researchers/research organizations

In italics: Funding Organization

1. Collaborative studies between *RERF and US National Cancer Institute (NCI)*
 - (1) Under the research contract entered into by and between RERF and the US National Cancer Institute (NCI), in which Kotaro Ozasa, Former Department Chief of Epidemiology, served as a responsible person of the RERF side, analysis of solid cancer incidence risks in the LSS cohort, site-specific cancer studies based on histopathological diagnoses are conducted based on this contract.
 - (2) Ritsu Sakata, Assistant Department Chief, Department of Epidemiology, and Alina Brenner, Senior Scientist, Department of Epidemiology, are joining with the data of tumor of the central nervous system from RERF as a part of the pooled analysis conducted by the scientists of Radiation Epidemiology Branch, NCI.
2. Collaboration between *RERF and Institute of Cancer Research, UK and US National Institute of Environmental*

Alina Brenner, Senior Scientist, Department of Epidemiology, is joining with premenopausal breast cancer data from RERF as a part of the pooled analysis conducted by Dr. Anthony Swerdlow of Institute of Cancer Research, UK, and Dr. Hazel Nichols of US National Institute of Environmental.
3. Collaboration between *RERF and The Federal Office for Radiation Protection, Oberschleißheim, Germany.*

Munehika Misumi, Assistant Department Chief, Department of Statistics and Hiromi Sugiyama, Assistant Department Chief, Department of Epidemiology are collaborating with Dr. Jan Christian Kaiser of the Federal Office for Radiation Protection, Oberschleißheim, Germany, on the issue of mechanistic modelling of the radiation risk for colon cancer in Japanese A-bomb survivors.
4. Collaboration between *RERF and Columbia University, New York, USA*

Zhenqiu Liu, Senior Scientist, Department of Statistics, is collaborating with Drs. Sally Amundson, Igor Shuryak, and David Brenner, of Columbia University, on the issue of candidate biomarker discovery, with focus on accurate radiation risk estimation using deep learning, double/debiased machine learning, and causal gradient boosting.
5. Collaboration between *RERF and Kyungpook National University, Korea*

John Cologne, Senior Scientist, Department of Statistics, is collaboration with Dr. Young Min Kim of Kyungpook National University, Korea, on the issue of inference for the mediation proportion in causal models.
6. *RERF* international collaborative studies on radiation dosimetry.

Harry Cullings, Consultant, and Sachiyo Funamoto, Section Chief, Department of Statistics, collaborated with an international group of dosimetry experts in work to update RERF radiation dosimetry.
7. *University of Bern* international multi-institutional collaborative studies on thyroid
Misa Imaizumi, Assistant Department Chief of Clinical Studies (Nagasaki), Waka Ohishi, Department Chief of Clinical studies and Michiko Yamada, Division Chief of Radiology of Department of Clinical Studies are joining with Adult Health Study data from RERF as a part

of the pooled analysis of thyroid conducted by Dr. Rodondi of University of Bern, Switzerland (Thyroid Studies Collaboration).

8. *RERF* international collaborative studies on cancer registries

- (1) Hiromi Sugiyama, Assistant Department Chief, Department of Epidemiology, is participating in the CONCORD-4 at the London School of Tropical Hygiene and Tropical Medicine, using data from the Hiroshima and Nagasaki cancer registries.
- (2) Hiromi Sugiyama, Assistant Department Chief, Department of Epidemiology, is collaborating with cancer registry researchers from 16 prefectures in Japan and Dr. Veronica Di Carlo, Dr. Claudia Allemani, and Dr. Michel P. Coleman from the London School of Hygiene and Tropical Medicine to write and edit the Japanese CONCORD-3 Monograph using data from the Hiroshima and Nagasaki cancer registries. The monograph has been published.
- (3) Hiromi Sugiyama, Assistant Department Chief, Department of Epidemiology, is participating in the Rare Cancer Epidemiology Study in Asia (Rarecarenet Asia) using data from the National Cancer Registry.

令和7年度 外部資金研究一覧表
FY2025 External Research Funds

外部機関名称 Name of Outside Organization	件数 Number of Grants	研究資金 (資金拠出機関からの入金額) Research funds (amount of funds from funding organizations)
厚生労働省 Ministry of Health, Labour and Welfare (MHLW)	4	¥2,700,000
独立行政法人 日本学術振興会 (文部科学省所管の独立行政法人) Japan Society for the Promotion of Science (JSPS) [Independent administrative entity under the jurisdiction of the Ministry of Education, Culture, Sports, Science and Technology (MEXT)]	12	¥24,826,588
国立研究開発法人 国立がんセンター National Cancer Center	1*	¥0
総合計 Grand total	17	¥27,526,588

注)

- ・ 間接費を含む。
- ・ 研究分担者の配分額を含む。
- * 研究協力者として研究参画のため、資金の配分なし。

Notes)

- ・ These amounts include indirect cost.
- ・ These amounts include subsidies allocated to collaborators.
- * No research funds are allocated, because the RERF researcher takes part in the research as a cooperative investigator.

令和7年度 外部資金研究一覧表
FY2025 External Research Funds

研究のタイトル Title of Research	委託組織の名前と場所及び研究 グループのチーフ又は担当の主任研究者 Name and location of entrusting outside organization Chief of research group or principal investigator in charge	放影研における研究者の名前 Investigator(s) at RERF	研究資金(資金拠出 機関からの入金額) Research funds (amount of funds from funding organizations)	令和7年度 開始日 First project date in FY2025	令和7年度 終了日 Last project date in FY2025	関連RP Related RPs	関連性 Relationship to RERF's mission
疫学部 Department of Epidemiology 1 生涯発症リスク予測を含む心血管病リスク総合評価ツールの開発と実装に向けた検証 Research on development and implementation of comprehensive cardiovascular risk prediction tools including lifetime risk prediction	日本学術振興会・科学研究費助成事業 「若手研究」 研究代表者 本田 貴紀 JSPS Grant-in-Aid for Scientific Research Early-Career Scientists Takanori Honda	研究代表者 (P.I.) 本田 貴紀 Takanori Honda	直接経費 (Direct cost) ¥400,000 間接経費 (Indirect cost) ¥120,000	April 1, 2025	March 31, 2026	No RP	日本人の循環器疾患の疫学研究 Epidemiological study of circulatory disease in Japanese population
2 がん統計を活用した、諸外国とのデータ比較に基づく日本のがん対策の評価のための研究 Research on the evaluation of cancer control in Japan based on data comparison with oversea countries using cancer statistics	厚生労働省・厚生労働科学研究費補助金 「がん対策推進総合研究事業」 研究代表者 松田 智大 国立研究開発法人国立がん研究センター がん対策研究所 国際政策研究部 部長 Health and Labour Sciences Research Grants (MHLW) Promotion of Comprehensive Research Project for Cancer Control Tomohiro Matsuda Chief, Division of International Health Policy Research, National Cancer Center, Institute for Cancer Control	研究分担者 (Collaborator) 杉山 裕美 Hiromi Sugiyama	¥650,000	April 1, 2025	March 31, 2026	RP-S2-17	日本人のがんの疫学研究 Epidemiological study of cancer in Japanese population
3 がん診療提供体制の均てん化と集約化の推進に資する研究 Research contributing to the promotion of equalization and consolidation of cancer treatment delivery systems	厚生労働省・厚生労働科学研究費補助金 「がん対策推進総合研究事業」 研究代表者 松岡 豊 国立研究開発法人国立がん研究センター がん対策研究所 所長 Health and Labour Sciences Research Grants (MHLW) Promotion of Comprehensive Research Project for Cancer Control Yutaka Matsuoka Director, National Cancer Center, Institute for Cancer Control	研究分担者 (Collaborator) 杉山 裕美 Hiromi Sugiyama	¥750,000	April 1, 2025	March 31, 2026	RP-S2-17	日本人のがんの疫学研究 Epidemiological study of cancer in Japanese population

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FY2025 External Research Funds

研究のタイトル Title of Research	委託組織の名前と場所及び研究 グループのチーフ又は担当の主任研究者 Name and location of entrusting outside organization Chief of research group or principal investigator in charge	放影研における研究者の名前 Investigator(s) at RERF	研究資金(資金拠出 機関からの入金額) Research funds (amount of funds from funding organizations)	令和7年度 開始日 First project date in FY2025	令和7年度 終了日 Last project date in FY2025	関連RP Related RPs	関連性 Relationship to RERF's mission
疫学部 Department of Epidemiology 4 日常生活における歩数と運動習慣者の増加を目指した「健康づくりのための身体活動・運動ガイド2023」の活用を推進するための研究 Research to Promote Utilization of the “Physical Activity and Exercise Guide for Health Promotion 2023” Aimed at Increasing Daily Step Counts and Exercise Habits in Daily Life	厚生労働省・厚生労働科学研究費補助金 「循環器疾患・糖尿病等生活習慣病対策総合研究事業」 研究代表者 澤田 亨 早稲田大学 スポーツ科学学術院 スポーツ科学部 教授 Health and Labour Sciences Research Grants (MHLW) Comprehensive Research on Life-Style Related Diseases including Cardiovascular Diseases and Diabetes Mellitus Susumu Sawada Professor, Faculty of Sport Sciences, School of Sport and Sciences, Waseda University	研究分担者 (Collaborator) 本田 貴紀 Takanori Honda	¥450,000	December 22, 2025	March 31, 2026	No RP	生活習慣因子(身体活動・運動)の疫学研究 Epidemiological study on lifestyle factors (physical activity and exercise)
5 科学的根拠に基づいたがんリスク評価とがん予防ガイドライン提言に関する研究 Study for evaluation of cancer risk and proposal of cancer prevention guidelines on the basis of scientific evidence	国立がん研究センター・国立がん研究センター研究開発費 研究代表者 井上 真奈美 国立研究開発法人国立がん研究センター がん対策研究所 副所長 National Cancer Center Funds for Cancer Research and Related Technology Development Manami Inoue Deputy Director, National Cancer Center, Institute for Cancer Control	研究協力者 (Cooperative Investigator) 歌田 真依 Mai Utada	研究協力者のため、 研究資金の配分なし Since this person is a cooperative investigator, research funds were not allocated to her.	April 1, 2025	March 31, 2026	RP-A2-15	日本人のがんの疫学研究 Epidemiological study of cancer in Japanese population

令和7年度 外部資金研究一覧表
FY2025 External Research Funds

研究のタイトル Title of Research	委託組織の名前と場所及び研究 グループのチーフ又は担当の主任研究者 Name and location of entrusting outside organization Chief of research group or principal investigator in charge	放影研における研究者の名前 Investigator(s) at RERF	研究資金(資金拠出 機関からの入金額) Research funds (amount of funds from funding organizations)	令和7年度 開始日 First project date in FY2025	令和7年度 終了日 Last project date in FY2025	関連RP Related RPs	関連性 Relationship to RERF's mission
臨床研究部 Department of Clinical Studies							
1 循環器疾患及び糖尿病、COPD等の生活習慣病の個人リスク及び集団リスクの評価ツールの開発と応用のための研究 Research on the development and application of individual and population risk assessment tools for lifestyle-related diseases, including cardiovascular disease, diabetes and COPD	厚生労働省・厚生労働科学研究費補助金 「循環器疾患・糖尿病等生活習慣病対策総合研究事業」 研究代表者 村上 義孝 東邦大学医学部 教授 Health and Labour Sciences Research Grants (MHLW) Comprehensive Research on Life-Style Related Diseases including Cardiovascular Diseases and Diabetes Mellitus Yoshitaka Murakami Professor, Graduate School of Medicine, Toho University	研究分担者 (Collaborator) 立川 佳美 Yoshimi Tatsukawa 研究協力者 (Cooperative Investigator) 山田 美智子 Michiko Yamada 石原 佳代子 Kayoko Ishihara	¥850,000	April 1, 2025	March 31, 2026	RP 2-75 RP 6-08 RP 1-15 RP-S1-23	広範囲な医学的調査 (生活習慣病) Broad-based medical research (Lifestyle disease)
2 造血器腫瘍における放射線被ばくに伴うゲノム異常と間質リモデリングの同定 Identification of radiation-related genomic alterations and stromal remodeling in hematological malignancies	日本学術振興会・科学研究費助成事業 「基盤研究(C)」 研究代表者 吉田 稚明 JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Noriaki Yoshida	研究代表者 (P.I.) 吉田 稚明 Noriaki Yoshida 研究分担者 (Collaborator) 濱崎 幹也 (分子生物科学部) Kanya Hamasaki (Dept. Molecular Biosciences)	直接経費 (Direct cost) ¥600,000 間接経費 (Indirect cost) ¥180,000 久留米大学の研究分担者への配分額は、上記の研究資金に含まれている。 The above amount includes funds allocated to the collaborators at Kurume University.	April 1, 2025	March 31, 2026	RP 6-70 RP 5-90 RP 3-94 RP-S2-15 RP 5-02 RP-P1-23	がん研究 (被爆者がん研究への応用) Cancer research (Application to cancer research among A-bomb survivors)

令和7年度 外部資金研究一覧表
FY2025 External Research Funds

研究のタイトル Title of Research	委託組織の名前と場所及び研究 グループのチーフ又は担当の主任研究者 Name and location of entrusting outside organization Chief of research group or principal investigator in charge	放影研における研究者の名前 Investigator(s) at RERF	研究資金(資金拠出 機関からの入金額) Research funds (amount of funds from funding organizations)	令和7年度 開始日 First project date in FY2025	令和7年度 終了日 Last project date in FY2025	関連RP Related RPs	関連性 Relationship to RERF's mission
統計部 Department of Statistics 1 疫学データに基づく大腸がんの放射線発がん機序 モデリングとその妥当性の検討 Biology-based mechanistic modelling of colorectal cancer based on epidemiological data and investigations of its validity	日本学術振興会・科学研究費助成事業 「基盤研究(C)」 研究代表者 三角 宗近 JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Munehika Misumi	研究代表者 (P.I.) 三角 宗近 Munehika Misumi	直接経費 (Direct cost) ¥0 間接経費 (Indirect cost) ¥0 補助事業期間延長により、令和6年度の未執行額(411,668円) を使用。令和7年度に新たな助成金の交付はなし。 With extension of the funded term, the unexecuted amount for FY2024 (411,668 yen) was used. No grant was provided for FY2025.	April 1, 2025	March 31, 2026	RP-S4-18 RP18-61	LSS LSS

令和7年度 外部資金研究一覧表
FY2025 External Research Funds

研究のタイトル Title of Research	委託組織の名前と場所及び研究 グループのチーフ又は担当の主任研究者 Name and location of entrusting outside organization Chief of research group or principal investigator in charge	放影研における研究者の名前 Investigator(s) at RERF	研究資金(資金拠出 機関からの入金額) Research funds (amount of funds from funding organizations)	令和7年度 開始日 First project date in FY2025	令和7年度 終了日 Last project date in FY2025	関連RP Related RPs	関連性 Relationship to RERF's mission
分子生物科学部 Department of Molecular Biosciences							
1 超可変メガゲノム領域を含むゲノム情報の次世代継承メカニズム Mechanisms of next generation inheritance of genomic information including hypervariable megagenomic regions	日本学術振興会・科学研究費助成事業「学術変革領域研究(A)(公募研究)」 研究代表者 内村 有邦 JSPS Grant-in-Aid for Scientific Research Transformative Research Areas (A) (open research) Arikuni Uchimura	研究代表者 (P.I.) 内村 有邦 Arikuni Uchimura 研究協力者 (Cooperative Investigator) 佐藤 康成 Yasunari Satoh	直接経費 (Direct cost) ¥3,600,000 間接経費 (Indirect cost) ¥1,080,000	April 1, 2025	March 31, 2026	RP 3-23 RP 2-13	内村らが発見したゲノム上に複数点在するハイパーバリアブル領域の変異を解析する技術は、今後の被爆二世のゲノム解析に応用される。 The technology of methods that Dr. Uchimura has developed for detecting mutations in the hypervariable regions scattered in the genome will be applied to future genome analysis of offspring of A-bomb survivors.
2 低線量率放射線長期被ばくがもたらす生物影響の高速高感度解析 Rapid and high-sensitive analysis of biological effects of long-term exposure to low dose rate radiation	日本学術振興会・科学研究費助成事業「基盤研究(A)」 研究代表者 権藤 洋一 大阪大学 核物理研究センター 協同研究員 JSPS Grant-in-Aid for Scientific Research Scientific Research (A) Yoichi Gondo Cooperative Researcher, Research Center for Nuclear Physics, Osaka University	研究分担者 (Collaborator) 内村 有邦 Arikuni Uchimura	直接経費 (Direct cost) ¥1,610,000 間接経費 (Indirect cost) ¥483,000	April 1, 2025	March 31, 2026	RP 3-23 RP 2-13	本研究は自然突然変異と低線量被曝による突然変異の検出を試みるものであり、放影研の研究とも強く関連している。 Dr. Gondo's study is to analyze spontaneous and low dose-induced mutations, which are closely associated with RERF studies.
3 原爆被爆者のクローン造血と体細胞変異に基づく時間分解バイオシメトリ Time-resolved biosimetry based on clonal hematopoiesis and somatic mutations in atomic-bomb survivors	日本学術振興会・科学研究費助成事業「基盤研究(B)」 研究代表者 吉田 健吾 JSPS Grant-in-Aid for Scientific Research Scientific Research (B) Kengo Yoshida	研究代表者 (P.I.) 吉田 健吾 Kengo Yoshida 研究分担者 (Collaborator) 楠 洋一郎 Yoichiro Kusunoki 内村 有邦 Arikuni Uchimura 田邊 修 Osamu Tanabe 濱崎 幹也 Kanya Hamasaki 松田 由喜子 Yukiko Matsuda 研究協力者 (Cooperative Investigator) John B. Cologne (統計部) (Dept. Statistics)	直接経費 (Direct cost) ¥4,500,000 間接経費 (Indirect cost) ¥1,350,000	April 1, 2025	March 31, 2026	RP1-23-1	本研究は放射線被ばくに関連するクローン造血変異を同定し、さらに変異クローンの生成時期を推定することで、新たなバイオシメトリ法の開発に貢献する。 This study aims to identify clonal hematopoiesis related mutations associated with radiation exposure and to estimate the timing of clone emergence, thereby contributing to the development of a novel biosimetry method.

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4 T2Tレベルの全ゲノムシーケンシングに基づく次世代影響のリスク評価 Risk assessment of next-generation effects based on Whole Genome Sequencing at the T2T Level	日本学術振興会・科学研究費助成事業「基盤研究(B)」 研究代表者 内村 有邦 JSPS Grant-in-Aid for Scientific Research Scientific Research (B) Arikuni Uchimura	研究代表者 (P.I.) 内村 有邦 Arikuni Uchimura	直接経費 (Direct cost) ¥4,800,000 間接経費 (Indirect cost) ¥1,440,000	April 1, 2025	March 31, 2026	RP 3-23 RP 2-13	全ゲノムシーケンシング技術による放射線の遺伝影響解析技術のゲノム、エピゲノムレベルでの開発は、今後の被曝二世のゲノム解析に応用される。 Development of pertinent analysis systems for detecting genetic effects of radiation at whole genome and epigenome levels will be applied to future genome analysis of offspring of A-bomb survivors.
5 DNA修復阻害剤による放射線誘発変異シグネチャーの変化と発がんリスクへの影響解析 Effects of DNA repair inhibitors on mutational signatures and oncogenic risk due to radiation exposure	日本学術振興会・科学研究費助成事業「基盤研究(C)」 研究代表者 松田 由喜子 JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Yukiko Matsuda	研究代表者 (P.I.) 松田 由喜子 Yukiko Matsuda 研究分担者 (Collaborator) 内村 有邦 Arikuni Uchimura 田邊 修 Osamu Tanabe	直接経費 (Direct cost) ¥1,600,000 間接経費 (Indirect cost) ¥480,000	April 1, 2025	March 31, 2026	New RP in preparation	本研究計画は、原爆被曝者における悪性腫瘍のリスク上昇など放射線被曝による晩発障害における放射線誘発変異の役割を解明できる可能性がある。 This research may lead to elucidation of roles of radiation-induced mutagenesis in late adverse effects of radiation exposure including increased risks for malignant neoplasms.
6 超高感度ハイスループット単一細胞元素分析システム開発と単一細胞メタロミクス創成 Development of ultra-sensitive, high-throughput single-cell elemental analysis system and creation of single-cell metallomics	日本学術振興会・科学研究費助成事業「基盤研究(S)」 研究代表者 沖野 晃俊 東京科学大学 総合研究院 准教授 JSPS Grant-in-Aid for Scientific Research Scientific Research (S) Akitoshi Okino Associate Professor, Institute of Integrated Research, Institute of Science Tokyo	研究分担者 (Collaborator) 島田 幹男 Mikio Shimada	直接経費 (Direct cost) ¥37,375 間接経費 (Indirect cost) ¥11,213 2025年7月1日付で放影研の未執行額(37,375円)を移管。 The unexecuted amount for FY2025 (37,375 yen) in the previous affiliation was transferred to RERF on July 1, 2025.	April 1, 2025	March 31, 2026	No RP	本研究は単一細胞内の微量金属元素の検出及び定量を高速、かつ大量に処理するメタルサイトメーターの開発が目的であり、本研究に成功すれば、将来的には放射線応答のバイオマーカーの同定などに繋がる可能性も考えられる。 The aim of this study is to develop a novel metal cytometry platform capable of high-throughput detection and quantification of trace metal elements at the single-cell level. Successful implementation of this technology could enable the identification of radiation-responsive biomarkers, offering new insights into cellular responses to ionizing radiation.

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情報技術部 Department of Information Technology 1 センシングと自然言語処理を用いた大学等の「実験室 の状態の自動判断モデル」の開発 Development of an "Automated Condition Detection Model for University Laboratories" Using Sensing and Natural Language Processing	日本学術振興会・科学研究費助成事業 「基盤研究(C)」 研究代表者 主原 愛 東京大学 大学院新領域創成科学研究科 助教 JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Ai Shuhara Research Associate, Graduate School of Frontier Sciences, the University of Tokyo	研究分担者 (Collaborator) 小野 悟 Satoru Ono	直接経費 (Direct cost) ¥250,000 間接経費 (Indirect cost) ¥75,000	April 1, 2025	March 31, 2026	No RP	マルチモーダルセンシングに よって得られたデータを解析す るためのデータ駆動型アプロ ーチは新しいデータ解析手法とし て所内活用できることが期待さ れる。 A data-driven approach for analyzing data obtained through multimodal sensing is expected to be utilized as a new data analysis method within RERF.

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<p>バイオサンプル研究センター Biosample Research Center</p> <p>1 ヒト造血幹細胞における放射線誘発変異の全ゲノムシーケンスによる解析 Whole-genome sequence analysis of radiation-induced somatic mutations in human hematopoietic stem cells</p>	<p>日本学術振興会・科学研究費助成事業 「基盤研究(C)」 研究代表者 田邊 修 JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Osamu Tanabe</p>	<p>研究代表者 (P.I.) 田邊 修 Osamu Tanabe</p> <p>研究分担者 (Collaborator) 松田 由喜子 Yukiko Matsuda 吉田 健吾 (分子生物科学部) Kengo Yoshida (Dept. Molecular Biosciences) 内村 有邦 (分子生物科学部) Arikuni Uchimura (Dept. Molecular Biosciences)</p>	<p>直接経費 (Direct cost) ¥0</p> <p>間接経費 (Indirect cost) ¥0</p> <p>補助事業期間延長により、令和6年度の未執行額(2,943,853円)を使用。令和7年度に新たな助成金の交付はなし。 With extension of the funded term, the unexecuted amount for FY2024 (2,943,853 yen) was used. No grant was provided for FY2025.</p>	April 1, 2025	March 31, 2026	RP-P1-25	<p>放射線による体細胞変異を網羅的に分析することにより、放射線の晩発障害である白血病、固形腫瘍、循環器疾患などの分子メカニズムの解明と、それら疾患の予防法、治療法の開発に貢献できる可能性がある。</p> <p>By comprehensively analyzing radiation-induced somatic mutations, this study may help elucidate the molecular mechanisms underlying late-onset health effects of radiation exposure—such as leukemia, solid tumors, and cardiovascular diseases—and contribute to the development of preventive and therapeutic strategies for these conditions.</p>
<p>2 放射線誘発DNA二重鎖切断のゲノムワイド・マッピングによる変異形成プロセスの解明 Genome-wide mapping of radiation-induced DNA double-strand breaks to elucidate mutation processes</p>	<p>日本学術振興会・科学研究費助成事業 「基盤研究(C)」 研究代表者 田邊 修 JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Osamu Tanabe</p>	<p>研究代表者 (P.I.) 田邊 修 Osamu Tanabe</p> <p>研究分担者 (Collaborator) 松田 由喜子 Yukiko Matsuda 和氣 加容子 Kayoko Waki</p>	<p>直接経費 (Direct cost) ¥1,700,000</p> <p>間接経費 (Indirect cost) ¥510,000</p>	April 1, 2025	March 31, 2026	RP-P3-19	<p>放射線によるDNA二重鎖切断の分布と周辺クロマチン構造をゲノムワイドに分析することにより、放射線誘発変異のメカニズムを解明する。放射線晩発障害のメカニズム解明と、それら疾患の予防法、治療法の開発に貢献できる可能性がある。</p> <p>This study elucidates how ionizing radiation induces mutations by performing genome-wide analyses of the distribution of DNA double-strand breaks (DSBs) and their surrounding chromatin context. These findings may contribute to clarifying the mechanisms underlying radiation-induced late adverse effects and to the development of preventive and therapeutic strategies for these conditions.</p>

令和7年度 特別会計一覧表
FY2025 Special Funds

資金拠出機関名称 Name of Funding Agency	件数 Number of Funds	資金合計 Amount of Funding Total
厚生労働省 Ministry of Health, Labour and Welfare (MHLW)	3	¥9,164,000
国立研究開発法人 国立がん研究センター National Cancer Center	1	¥200,000
広島県 Hiroshima Prefecture	1	¥17,487,479
長崎県 Nagasaki Prefecture	1	¥8,700,000
国立大学法人 大阪大学(国立研究開発法人 日本医療研究開発機構委託事業の受託機関) The University of Osaka [Contract project organization commissioned by the Japan Agency for Medical Research and Development (AMED)]	1	¥2,538,224
株式会社SANKA Sanka Co., Ltd.	1	¥500,000
総合計 Grand total	8	¥38,589,703

注)

- ・ 間接費を含む。
- ・ 研究分担者の配分額を含む。

Notes)

- ・ These amounts include indirect cost.
- ・ These amounts may include subsidies allocated to collaborators.

令和7年度 特別会計一覧表
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1	放射線業務従事者の健康影響に関する疫学 研究 Epidemiological study of health effects in radiation workers	厚生労働省・労災疾病臨床研究事業費補 助金 研究代表者 大久保 利晃 独立行政法人労働者健康安全機構 労働安 全衛生総合研究所 労働者放射線障害防止 研究センター センター長 MHLW Industrial Disease Clinical Research Grants Toshiteru Okubo Director, Research Center for Prevention from Radiation Hazards of Workers, National Institute of Occupational Safety and Health, Japan Organization of Occupational Health and Safety	研究分担者 (Collaborative Investigators) 今泉 美彩 Misa Imaizumi	¥3,560,000	April 1, 2025	March 31, 2026	RP 1-24	放射線による健康影響に関す る疫学調査 Epidemiological study of the health effects of radiation
2	原爆被爆者の生物試料の保管及び活用に関 する研究事業 Research Program on preservation and use of the A-bomb survivors' biosamples	厚生労働省・委託事業 神谷 研二 MHLW Entrustment Kenji Kamiya	受託者 (Contractor) 神谷 研二 Kenji Kamiya	¥1,874,000	September 25, 2025	March 31, 2026		原爆被爆者の生物試料の保管 及び活用 Preservation and use of the A- bomb survivors' biosamples
3	原爆放射線による健康影響に関する国際交 流調査研究事業 International Exchange Program on Health Effects of the Atomic Bomb Radiation	厚生労働省・委託事業 神谷 研二 MHLW Entrustment Kenji Kamiya	受託者 (Contractor) 神谷 研二 Kenji Kamiya	¥3,730,000	September 29, 2025	March 31, 2026		放射線の人に及ぼす影響及び これによる疾病に関する調査 研究の成果の管理、報告及び 公表並びに研修を行うこと To report and publicize the results of research and studies, and to provide training on the effects of radiation and associated diseases in humans
4	がんの統計情報の整備と活用に関する研究 Research on the development and utilization of statistical information on cancer	国立がん研究センター 研究開発費 研究代表者 片野田 耕太 国立研究開発法人 国立がん研究センター がん対策研究所 データサイエンス研究部 部長 National Cancer Center (Research and Develop expenses) Kota Katanoda Chief, Division of Population Data Science, National Cancer Center Institute for Cancer Control	研究分担者 (Collaborative Investigators) 杉山 裕美 Hiromi Sugiyama	¥200,000	April 1, 2024	March 31, 2027	S2-17	科学的知見に基づき、国民や 市民のがん対策推進のための がん統計の整備を目指す。 This study group aims to develop a system for providing cancer statistics to promote cancer control among the public and citizens based on scientific evidence.

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5	がん登録推進事業 Cancer Registry Promotional Project	広島県・委託事業 神谷 研二 Hiroshima Prefecture Kenji Kamiya	受託者 (Contractor) 神谷 研二 Kenji Kamiya	¥17,487,479	April 1, 2025	March 31, 2026	RP18-61 RP29-60 RPs18-61& 29-60附属書	がんの疫学研究、 LSS、胎内被爆者、 F1集団 Epidemiological study of cancer, LSS, in utero, and F1 populations
6	長崎県がん登録・評価事業 Nagasaki Prefecture Cancer Registry Program	長崎県・委託事業 神谷 研二 Nagasaki Prefecture Kenji Kamiya	受託者 (Contractor) 神谷 研二 Kenji Kamiya	¥8,700,000	April 1, 2025	March 31, 2026	RP18-61 RP29-60 RPs18-61& 29-60附属書	がんの疫学研究、 LSS、胎内被爆者、 F1集団 Epidemiological study of cancer, LSS, in utero, and F1 populations
7	疾患領域を横断した協働に基づく実践的 PPIプラットフォームの構築 Building a Practical PPI Platform Through Cross-Disease Collaboration	国立研究開発法人 日本医療研究開発機構 (AMED) 研究費「AMED 研究倫理・社会 共創推進プログラム」 研究開発担当者 加藤 和人 国立大学法人 大阪大学大学院医学系研究 科 教授 Japan Agency for Medical Research and Development (AMED) Grants AMED 研究倫理・社会共創推進プログラ ム Kazuto Kato Professor, Graduate School of Medicine, The University of Osaka	研究開発分担者 (Collaborative Investigators) 大石 和佳 Waka Ohishi	¥2,538,224	April 1, 2025	March 31, 2026	RP3-23 RP4-10 RP2-75	親の放射線被ばくが、その子 どものゲノムに及ぼす影響に 関する研究 Study of the effects of parental radiation exposure on the genomes of their children
8	握力の法令健診導入に向けたエビデンスの 集約およびナレッジギャップの抽出 Evidence Synthesis and Knowledge Gap Identification for the Introduction of Grip Strength Measurement in Nationwide Health Checkups	株式会社SANKA 寄付金 研究代表者 大須賀 洋祐 芝浦工業大学システム理工学部 教授 Donation fund from Sanka Co., Ltd. Yosuke Osuka Professor, College of Systems Engineering and Science, Shibaura Institute of Technology	研究分担者 (Collaborative Investigators) 本田 貴紀 Takanori Honda	¥500,000	November 1, 2025	October 31, 2027	No RP	疾病発症における生活習慣因 子の寄与に関する研究 Research on the Contribution of Lifestyle Factors to the Onset of Disease

B. Operation and management of RERF

1. Research Resource Center

Over the past year, the Research Resource Center (RRC) has moved from a conceptual framework to an operational, integrated research-support structure delivering tangible value across RERF by linking data resources, biosamples, and research support functions under a coherent governance and operational model. The Biosample Research Center (BRC) continues to operate effectively and remains a strong and reliable foundation for RERF research activities - maintaining high standards in biosample management, inventory control, and stewardship. The Research Resource Section (RRS) continues to fulfill its responsibilities at a high level, providing stable, high-quality technological and analytical support essential to RERF's scientific mission. Within this framework, the Data Resource Center (DRC) is actively being built as the operational engine for data integration, access, and visualization. Over the last year, substantial progress has been made toward transforming historically fragmented datasets into a coordinated, researcher-ready environment. Key accomplishments over the past year include:

- Creation of an institution-wide inventory of research data assets, identifying responsible contacts, data types, formats, and system dependencies.
- Linking BRC-managed biosamples with radiation dose and cohort metadata to create informative visualizations for research planning
- Enhancement and expansion of the RRC internal portal, providing centralized visibility into RERF data and biosample resources.
- Advancement toward integrated database architectures

These efforts demonstrate that the RRC framework is actively functioning to enhance efficiency, transparency, and scientific productivity across RERF, and deliver on its mandate to preserve RERF's unique research resources, improve accessibility/usability, and establish a modern framework for research support.

2. Relocation of the Hiroshima Laboratory

Construction of the new building at the Hiroshima University Kasumi Campus, the relocation site for the Hiroshima Laboratory, commenced in March 2025. By August of that year, pile driving for seismic reinforcement (38 piles in total) had been completed. Following subsequent earth retention work, foundation work, including an underground pit, was completed by November. In December, the steel frame erection for the first to third floors of the steel-reinforced concrete structure was finished. Structural work up to the third floor was completed within FY2025.

3. Discretionary working system

In preparation for introducing a discretionary working system for RERF professional staff, the Regulations Concerning the Application of Discretionary Working System were enacted on June 5, 2025 (Appended Regulations IX, related to Article 5-2 of the Rules of Employment). The implementation of the system began on October 1 of that year, and currently, 32 research scientists are working under it.

The introduction of the system is expected to allow for greater flexibility in allocating time for research activities, thereby improving research quality and productivity. Furthermore, the system will promote work-life balance to maintain and enhance research scientists'

motivation levels in a long-term and stable manner.

4. Cross-appointments

In preparation for introducing a cross-appointment system for the professional staff, the Regulations on the Cross-appointment System were enacted on June 5, 2025. This system has established an institutional framework that facilitates personnel exchanges with universities, research institutions, and other entities. It has also created an environment that secures personnel with cutting-edge, advanced expertise and experience from outside organizations to address internal staffing shortages.

5. Revision of the rules and regulations

RERF reviewed its rules and regulations to enhance its operational framework as a public interest incorporated foundation. The following are the main rules and regulations that were established or revised.

- Guidelines for Handling Competitive Bidding for Construction Work [Effected on April 1, 2025]
Rules on the comprehensive evaluation method were added in terms of the competitive bidding for construction work.
- Regulations for Protection of Personal Information and Detailed Regulations on Handling of Personal Information [Effected on March 13, 2025]
Revisions were made to incorporate the content of the Act on the Protection of Personal Information, revised in 2021.
- Guidelines for Establishment of ELSI and Social Co-Creation Committee [May 1, 2025]
The operation of the ELSI and Social Co-Creation Committee was stipulated to establish the committee.
- Guidelines for Establishment ELSI Committee [May 20, 2025]
The relevant guidelines were established with the establishment of the committee to engage in ELSI-related activities at RERF.
- Establishment of regulations concerning the introduction of a discretionary working system for professional staff members [All were effected on June 5, 2025]
 - Appended Regulations IX, Rules of Employment: Regulations Concerning the Application of Discretionary Working System
 - Regulations on the Cross-appointment System
 - Regulations for Conducting the Work Performance Evaluation of Professional Staff Members
 - Guidelines for Work Performance Evaluation of Professional Staff Members
- Regulations on Handling of External Research Funds [November 11, 2025]
Clarifications were made to the policy on the donation of goods and the like purchased with external research funds.
- Rules of Employment [Effected on December 4, 2025]
In consideration of the revisions to the Act on the Welfare of Workers who Take Care of Children or Other Family Members including Child Care and Family Care Leave, RERF made revisions to support the realization of work-life balance.
- Operational Procedures of RERF Institutional Review Board [Effected on March 1, 2026]

Revisions were made in response to recommendations received from the U.S. Department of Energy (DOE) at the quality assurance consultation on the Human Research Protection Program held in July 2024.

6. RERF 50th Anniversary Commemorative Events

To commemorate its 50th anniversary, RERF held ceremonies in Hiroshima and Nagasaki and published the “50 Years of Progress” booklet. This commemorative project extensively shared RERF’s research achievements, commitment to supporting A-bomb survivors, and contributions to the improved health of humankind.

In Hiroshima, 352 people attended the ceremony at Hiroshima Prefectural Medical Association Hall on June 17, 2025. During it, Mr. Toshiyuki Mimaki, Co-chairperson, Japan Confederation of A-and H-Bomb Sufferers Organizations (Nihon Hidankyo) and Dr. Jonathan M. Samet, Professor and former Dean, U.S. Colorado School of Public Health, gave respective lectures titled, “A Reflection: My Life in the Shadow of the Atomic Bombing” and “From Tragedy to Hope.”

In Nagasaki, 153 people attended the ceremony at Dejima Messe Nagasaki on June 20, 2025. During it, Dr. Samet gave a lecture under the same title as in Hiroshima, and Dr. Masao Tomonaga, Emeritus Professor, Nagasaki University, gave a lecture titled, “Summary of the Atomic Bomb’s Health Effects.”

Through both ceremonies, RERF shared its achievements with the society and provided an opportunity for A-bomb survivors, their children, the local communities, researchers in Japan and overseas, and related organizations to reaffirm the significance of RERF’s future research activities.

7. Appointment of an External Director

In April 2025, the amended Act on Authorization of Public Interest Incorporated Corporations came into effect, mandating the appointment of external directors to strengthen internal transparency and governance. RERF appointed Dr. Gil Latz as an external director (part-time) at its Board of Councilors meeting held in June 2025.

Appended documents to FY2025 report of activities

There were no items considered to be important matters for supplementing the contents of the FY2025 report of activities.