

## **Impact of Early Life Exposure to Ionizing Radiation on Influenza Vaccine Response in an Elderly Japanese Cohort**

This study was designed to investigate whether exposure to atomic bomb radiation at a young age affects the development of immunity (ability to resist disease) in elderly atomic bomb survivors when they are inoculated with the influenza vaccine.\* This study was conducted in the Adult Health Study (AHS)—one of RERF’s long-running research programs—based on cooperation from 292 participants with defined radiation doses.

In the study, no difference was found in the development of immunity through the influenza vaccine in atomic bomb survivors compared with non-exposed people.

\* What are vaccines?

Influenza, mumps, and so on belong to the category of infectious diseases, as those viruses or bacteria (pathogens) invade the body and cause symptoms. Once pathogens enter the body, the immune system fights them and, in so doing, is primed to attack the same pathogens thereafter. This process is called “immunity,” a mechanism by which vaccines protect the host. Vaccines are artificially weakened pathogens and, with their use, the same actual pathogens have a hard time taking hold in the host and, even when they do, their symptoms are lessened.

RERF’s objective with this brief outline is to succinctly explain our research for the lay public. Much of the technical content of the original paper has been omitted. For further details about the study, please refer to the full paper published by the journal.