LONG-TERM EFFECTS OF IONIZING RADIATION - LESSONS FROM HIROSHIMA AND NAGASAKI

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Introduction

The United States government established the Atomic Bomb Casualty Commission (ABCC) in Hiroshima and Nagasaki in 1947 and 1948, respectively, under the auspices of the National Academy of Sciences. The purpose was to study late health effects in the people exposed to the atomic bomb radiation To attain this purpose smoothly, branch laboratories of the Japanese National Institute of Health were attached to ABCC in 1948.

This arrangement continued for 28 years until it was replaced in 1975 by the Radiation Effects Research Foundation (RERF) which is equally funded by the two governments of Japan and the United States Thanks to the cooperation of the survivors and the contributions of a multitude of scientists, these studies flourish to this day in what must be the most successful long-term research collaboration between Japan and the United States

Research activities of ABCC and RERF

The first of the major programs to be initiated, in 1947, was a genetic study of the first-generation children of survivors (commonly known as F1) The current research program began as a series of platform protocols based on a fixed cohort of 120,000 survivors who were listed in the Japanese National Census of 1950 The Life Span Study (LSS) follows this entire cohort by means of a national death-certificate retrieval system The Adult Health Study (AHS) follows a subsample of 20,000 survivors using biennial health examinations

Recently, the mortality studies have been enhanced by cancer incidence studies using the RERF-developed tumor registries in Hiroshima and Nagasaki. Finally, a cohort of several thousand individuals who were in utero at the time of the bombings is also being followed