

This first report also contained the following progress report on the radium studies:

The current set of studies has been under way since 1957, during which time approximately 250 patients have been examined. Of these 82% are former radium dial painters, 9% were given radium therapeutically by personal physicians, 7% were Elgin State Hospital (Illinois) patients, and 2% were radium chemists.

In this report, Miller also described the extension of his studies of  $^{137}\text{Cs}$  in his RPY colleagues. The maximum  $^{137}\text{Cs}$  level, observed in 1959, was followed by a decrease to a minimum in 1961, when a marked increase was observed, apparently peaking in 1964 at a level more than twice the 1959 value. This was the last of Miller's publications on  $^{137}\text{Cs}$  in man from bomb testing.

The next Health Division report covered the period July 1964 through June 1965 (Argonne 1965). It contained a long article reviewing the measurements made on the Elgin patients between 1931 and 1964 but no update on the ongoing radium studies.

The final Health Division report covered the period July 1965 through June 1968 (Argonne 1968). It contained two articles of interest to the radium program. The first of these was a paper presented at the Sun Valley symposium held in September 1967 (Finkel et al. 1969). The following excerpt from that publication summarizes the work:

We have acquired the names of approximately 250 individuals who worked at radium dial painting in Illinois before 1930. Of these persons who were exposed to radium occupationally, we have studied 185 by whole-body gamma-ray spectroscopy and by skeletal radiography. We have examined only a few of the 200 or so persons who started work after 1930 since all those that have been measured have small radium burdens. The iatrogenic group of cases resulted from the administration of radium orally or by intravenous or intramuscular injections up to 1933 for treatment of a variety of diseases. . . . One series of at least 41 patients was treated in this way from 1931 to 1933 in a state mental hospital not far from Chicago. We have studied or have other pertinent knowledge of 36 of these cases found by a deliberate search of the records. In addition, we have accumulated another series of 36 cases who received radium from personal physicians. Many of these cases have come to our attention because of pathological