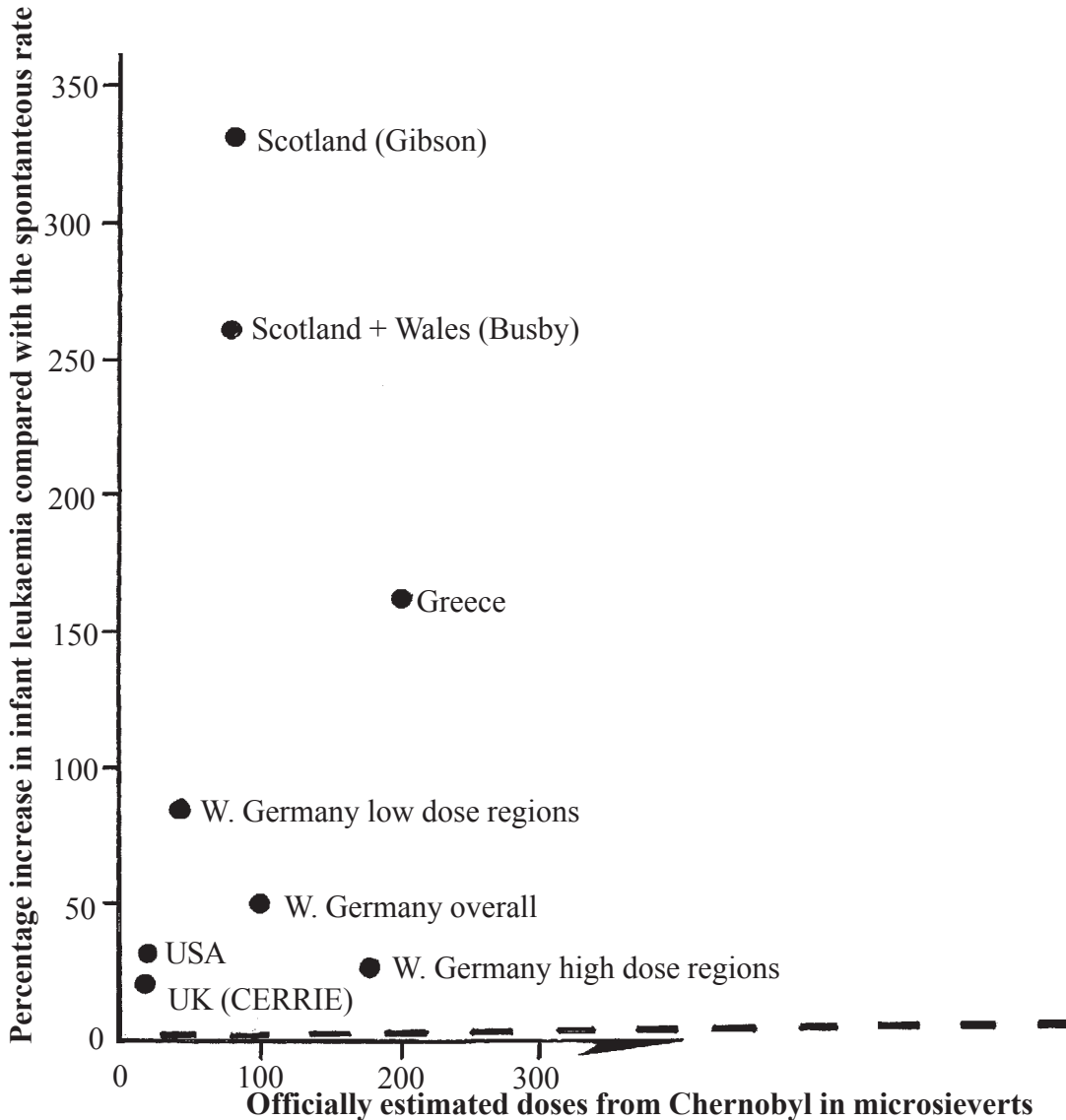


Infant leukaemia in various countries after Chernobyl Evidence of a large error in radiation risk factors



A substantial part of radiation exposure following the Chernobyl disaster was in the form of inhaled and ingested particles from the reactor explosion and fire. The health effect illustrated here is infant leukaemia (i.e. diagnosed in the first year of life) in babies who were born between 2 and 20 months after the accident. The studies were independent of each other and were based on official health data. All except the USA have high statistical significance and nothing other than radiation from Chernobyl could be the cause, unless the increase happened by chance. This is almost infinitely improbable - for the Greek, German, and Wales plus Scotland figures the chance is 1 in 3,750,000,000 or roughly the chance of winning the UK National Lottery 267 times with one set of numbers.

These effects are between 150 and 800 times greater than expectations based on external irradiation. The dotted line represents the assumed relationship (i.e. assumed by CERRIE) between radiation dose to the foetus and infant leukaemia. It is based on a 40% increase observed following doses of 10,000 microsieverts from obstetric X-rays. Clearly it is not valid to assume that, dose for dose, internally deposited radioactivity and external irradiation have the same effects, but this assumption is fundamental to the conventional estimation of risk.