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International Group of experts calls for long-term support for research to fully evaluate the health consequences of the Chernobyl accident

Chernobyl, 25 years on

26 April 2011 marks the 25th anniversary of the Chernobyl accident, by far the largest ever accidental release of radioactivity, which affected many millions of people across Europe. But what have we learned from it? And where do we go from here?

What now?

Studies on the health effects of Chernobyl to date have been numerous but uncoordinated and not comprehensive in their coverage.

A group of international experts is now calling for a long-term research agenda to be agreed at international level.
Apart from 28 fatalities due to bone marrow failure within the first 2 months among those involved in dealing with the immediate emergency, there is recognition that several thousands of thyroid cancer cases have so far occurred due to exposure to Chernobyl radiation in those who were children at the time of the accident. Indeed, studies to date have mainly concentrated on the thyroid and while these have clarified our understanding of radiation induced thyroid carcinogenesis, this emphasis has taken attention away from other possible health effects. These include the reported rise in breast cancer, various other cancers, inherited genetic alterations, cataracts and other non-cancer diseases in liquidators and in the general population.

Comprehensive studies of the Chernobyl health effects are of great importance to adequately inform the exposed population by providing reliable rather than speculative estimates of the consequences. This is particularly important in view of the future expansion in nuclear power and more recent events in Fukushima. In fact, one key lesson from Chernobyl is the value of accurate and trusted exposure information as soon after the accident as possible. This would possibly allay unnecessary anxiety and allow for a better estimation of the subsequent health effects, thus serving the interests of the exposed population in the years after the accident.

A call for action

The ARCH project, led by the International Agency for Research on Cancer (IARC) and supported by the EU FP7 Euratom programme, concluded that a long-term coordinated research agenda is needed to ensure that the health consequences of Chernobyl are fully assessed.

While most of our knowledge of radiation health effects comes from studies of the consequences of the WWII atomic bombs, Chernobyl involved a different type and pattern of exposure. Recent advances in radiobiology have challenged assumptions about the risks from low-dose radiation. Radiation effects may not occur until decades later, and in the absence of properly conducted long-term studies knowledge will be lost and speculation will flourish.

The ARCH group of experts and advisors from Europe, USA and Japan reviewed the current knowledge about the health effects from the accident, and recommends international support for the long-term funding of a Foundation, the Chernobyl Health Effects Research Foundation (CHERF), involving funding organization(s) and the three countries most affected by the accident (Belarus, Ukraine and the Russian Federation). Particular attention should be paid to provide infrastructure needed to support a range of studies by setting-up, maintaining and following of life-span cohorts, similar to those after the bombings in Japan.

Dr Ausrele Kesminiene, Deputy Head of the IARC Section of Environment and Radiation, said: "Our proposal with CHERF is to set up a mechanism to coordinate and fund studies that will enable assessment of the overall long-term health effects of the Chernobyl accident. A key to the success of the ARCH recommendations is the creation, maintenance and follow-up of life-span cohorts. These will include already existing cohorts exposed to fallout as children in Belarus and Ukraine with detailed thyroid dose measurements as well as cohorts of liquidators."

Sir Dillwyn Williams, the Chair of the ARCH Core group, stated that CHERF would:
(a) initiate and support the conduct of comprehensive research on the health effects of the Chernobyl accident,

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(b) provide and disseminate an accurate unbiased assessment of the long-term consequences of the Chernobyl accident,
(c) inform radiation protection organizations of the short and long-term consequences of the Chernobyl accident relevant to radiation protection standards,
(d) deepen scientific understanding of the interaction of radiation with tissue, with special attention to internal exposures, and
(e) provide public health organizations with the information needed to mitigate the consequences in the event of any similar exposure to radiation.

Dr Christopher Wild, Director of IARC, said: "There is much vital evidence to be gained from a thorough study of the Chernobyl accident in order to protect public health. This requires an international collaborative effort from scientists, governments, especially Belarus, the Russian Federation, and Ukraine, and funding agencies among others. Partners joining together through the proposed Foundation, CHERF, would provide a fantastic platform for such cooperation. CHERF would be best organized as a virtual institute with both a Management Board for oversight and a Scientific Advisory Board to help determine priorities for funding and advise on projects that should be supported."

Fore more information, please contact

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The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release e-mailing list, please write to com@iarc.fr.