

LOW-DOSE RADIATION

U.N. Faces Tough Sell On Chernobyl Research

MOSCOW—The United Nations is mounting a last-ditch effort to reinvigorate flagging interest in the long-term health consequences of the Chernobyl disaster. At a meeting of U.N. agencies in New York City earlier this week, the U.N.'s Office for the Coordination of Humanitarian Affairs (OCHA) established a new organization, the International Chernobyl Research Network, to mount a coordinated research program on the lingering impacts of the world's most serious nuclear reactor accident. A concerted scientific effort is necessary, it argues, "if the evidence is not to be lost forever." Prospects for the new initiative are unclear, however. OCHA itself has no money to launch new research projects, and expert opinion is split on the network's scientific potential.

The Chernobyl network is the brainchild of Keith Baverstock, the European radiation health adviser to the World Health Organization (WHO). A lack of coordination among international agencies, he says, has hampered research on the health impacts of the April 1986 explosion at the Chernobyl Nuclear Power Plant, which spewed roughly 200 Hiroshima bombs' worth of radiation across a region of Eastern Europe inhabited by 2 million people. As a result, he contends, much Chernobyl research has been unsound.

Baverstock is hoping that governments and international organizations will commit new funds for the initiative. The network could be modeled after WHO's effort to coordinate research on the health effects of electromagnetic fields, a program supported by \$150 million in research commitments from governmental and nongovernmental research programs worldwide, says Mike Repacholi, coordinator of WHO's Radiation and Environmental Health Unit.

Partly to help guide the new network, WHO plans a systematic review of the literature on low-level radiation. WHO has a head start on this assessment thanks to the U.N. Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), which 2 years ago issued a comprehensive survey of

Chernobyl health research. UNSCEAR charged that many studies suffer from "methodological weaknesses," including spotty diagnoses and disease classification, poor selection of control groups, and inadequate radiation-dose estimates. Apart from an increase in mostly treatable thyroid cancer in children, UNSCEAR concluded, "there is no evidence of a major public health impact."

The biggest challenge, UNSCEAR warned, is to estimate radiation doses reliably. Recent studies suggest that doses might have been lower than originally thought. "A lot of people thought the Soviets were underestimating the dose," says UNSCEAR scientific secretary Norman Gentner. "It's turning out the opposite was the case."

The lowered dose estimates suggest that any lingering health effects apart from thyroid cancer, if they exist, will be hard to detect. But that doesn't mean researchers shouldn't try, says Dillwyn Williams, a thyroid cancer expert at the University of Cambridge, U.K. "I do believe that there are large uncovered areas of research," he says. Priority areas, he adds, should be new case-control studies on breast and lung cancer

and genetic effects, under the umbrella of a comprehensive long-term population study.

Few Chernobyl researchers anticipate undiscovered health effects. "It appears unlikely that excess for solid cancers can be seen and can be related to radiation exposure," says Albrecht Kellerer, director of the University of Munich's Radiobiology Institute, who has been involved in a decade-long German-French project on Chernobyl. But he's keeping an open mind on blood cancers. "Even if there is little expectation to find a radiation effect," Kellerer says, it would be worthwhile to monitor childhood leukemia—and to continue surveillance on thyroid cancer—among the roughly 200,000 people living in Chernobyl-contaminated areas.

Kellerer believes, however, that the hunt for knowledge about the health risks from long-term exposure to low-dose radiation could be pursued more fruitfully elsewhere. His group has won support from the European Commission to move its focus from Chernobyl to the region around the Mayak nuclear facility in the southern Urals of Russia, where extensive radioactive contamination in the surrounding watershed came to light after

the Cold War. Mayak, he says, has opened "a vast new chapter of radiation epidemiology."

Such views don't augur well for the U.N.'s fundraising effort, which began this week with discussions aimed at generating research commitments within U.N. agencies and will continue at a follow-up meeting next month. As well as generating funding commitments from outside the U.N., the aim of the entire effort is to arrive at a consensus on "what research exists and what's needed," says David Chikvaizde, Chernobyl coordinator for OCHA in New York City. Judging by researchers' increasing ambivalence about their chances to make breakthroughs with Chernobyl data, the U.N. might need to set modest expectations.

—PAUL WEBSTER

Paul Webster is a writer in Moscow.

PUBLIC HEALTH

Creeping Consensus on SV40 and Polio Vaccine

At first it seemed impossible: The widely celebrated polio vaccine that was given to millions of people in the 1950s was contaminated with a monkey virus—a virus that causes cancer in animals.

Since the virus was discovered in the monkey kidney extracts used to make the Salk vaccine some 40 years ago, concern has risen that the vaccine, which wiped out polio in the United States, might have triggered an epidemic of cancer (*Science*, 10 May, p. 1012). Now, at the request of the U.S. Congress, an expert panel of the Institute of Medicine (IOM) has issued the most definitive judgment to date, allaying most—but not all—of those fears. The virus, known as SV40, has not caused a wave of cancer, the panel concluded. But it might be causing some rare cancers, and more research is needed to find out.

Since the contamination was detected,

Image not available for online use.

Double shot. In the 1950s, some batches of Salk polio vaccine contained the monkey virus SV40.



Scientific paradise lost? The U.N. hopes to rally interest in one last push for a major research effort on Chernobyl.

Science

U.N. Faces Tough Sell on Chernobyl Research

Paul Webster

Science **298** (5594), 725.

DOI: 10.1126/science.298.5594.725a

ARTICLE TOOLS

<http://science.sciencemag.org/content/298/5594/725.1>

RELATED CONTENT

<file:/content/sci/298/5594/news-summaries.full>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.