Medical Xpress

NIH takes step to assess any possible risk associated with low-dose radiation exposure

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Researchers at the National Institutes of Health (NIH) Clinical Center are incorporating radiation dose exposure reports into the electronic medical record, an effort that they hope will lead to an accurate assessment of whether any cancer risk is associated with low-dose radiation exposure from medical imaging tests, according to an article in the February issue of the *Journal of the American College of Radiology* (*JACR*). The electronic medical record allows for the storage, retrieval, and manipulation of one's medical records.

There is much controversy surrounding diagnostic medical radiation exposure. "One widely publicized appraisal of medical radiation exposure suggested that about 1.5 to 2 percent of all cancers in the USA might be caused by the clinical use of CT alone," said David A. Bluemke, MD, lead author of the article and director of Radiology and Imaging Sciences at the NIH Clinical Center. "Since there is no epidemiologic data directly relating CT scanning to cancer deaths, scientific assessment must instead rely on the relationship between radiation exposure and death rates from Japanese atomic bomb survivors. While the legitimacy of this approach remains debated, radiologists as well as clinicians may rightfully be confused by the ongoing controversy. Patients seeking medical help may legitimately question the rationale of, and any risks from, diagnostic radiology tests," said Bluemke.

Radiology and nuclear medicine at the NIH Clinical Center have developed a radiation reporting policy that will be instituted in

cooperation with major equipment vendors, beginning with exposures from CT and PET/CT. "All vendors who sell imaging equipment to Radiology and Imaging Sciences at the NIH Clinical Center will be required to provide a routine means for radiation dose exposure to be recorded in the electronic medical record. This requirement will allow cataloging of radiation exposures from these medical tests," said Bluemke. In addition, radiology at NIH will also require that vendors ensure that radiation exposure can be tracked by the patient in their own personal health record. This approach is consistent with the American College of Radiology's and Radiological Society of North America's stated recommendation, that "patients should keep a record of their X-ray history."

"The cancer risk from low-dose medical radiation tests is largely unknown. Yet it is clear that the U.S. population is increasingly being exposed to more diagnostic-test-derived ionizing radiation than in the past," said Bluemke.

"While these steps themselves are not sufficient to allow population-based assessment of cancer risk from low-dose radiation, they are nonetheless necessary to begin a data set for this determination. The accumulation of medical testing doses of hundreds of thousands of individuals in the United States over many years will ultimately be necessary. We encourage all medical imaging facilities to include similar requirements for radiation-dose-reporting outputs from the manufacturers of radiation-producing medical equipment," said Bluemke.

Provided by American College of Radiology

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