

IMPROVING RADIOLOGICAL SAFETY THROUGH ORGANIZATIONAL DESIGN

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ABSTRACT

A pilot study of the perceptions of radiation hazards among American hospital personnel indicates that members of various occupational categories exhibit diverse behaviors toward X-rays, radiopharmaceuticals, and radioactive waste. These results are summarized in relation to other studies of radiation-hazard perception in Britain and the U.S. The implications for risk management and institutional design are brought together in a systematic model that relates specific characteristics of various medical occupations to different levels of vigilance and concern for potential radiation exposure to personnel and to patients.

The key variables determining cavalier, complacent, paranoid and vigilant responses to potential hazards are found to be the extent of personal control and the degree of integration of the respondent into the institution. A means of determining and adjusting an appropriate balance between individual control and institutional procedures is suggested for each of a range of occupation types that use or encounter ionizing radiation in the workplace.