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References
5. Los Angeles Times, 27 April 1970, p. 11-IV.

Obsolete Technology

Bryce Nelson, in his report "Mobile TB x-ray units: An obsolete technology lingers" (News and Comment, 10 Dec., p. 1114), emphasizes the present meager returns from the use of chest x-rays to detect cases of tuberculosis.

The term "obsolete" is usually reserved for procedures that have been used effectively in the past but no longer fulfill their original purposes or are no longer needed. However, with equal force, the negative aspects of the term "obsolete" can easily be applied to certain new health-screening procedures that are widely heralded at the present time and in some instances are even required by law.

The Philadelphia Neoplasm Research Project (1) is a good instance in point. Among 6136 men, age 45 or over, who were studied over a 10-year period, 121 developed lung cancer; only 8 percent...
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of these proven cases were alive 5 years after diagnosis was established. This represents one life saved in every 614 carefully observed individuals; 12,500 x-rays were required to save this one life. Should we refer to such a method of study as “obsolete” or as inadequate? The distinction is small.

In one large university medical center, it has been estimated that 5000 cervical smears must be performed in order to detect one subject who is going to develop cervical cancer; this figure applies only to women who have never had a previous smear. The rate drops to one case in 15,000 for those women who have had a smear during the preceding 2 years. Even at the higher frequency rate of 1 in 5000 women, a gynecologist would have to perform a pelvic examination and a pelvic smear every 10 minutes, 8 hours a day, 5 days a week, for 6 months, in order to prevent one case of cervical cancer. Such a cervical smear examination is required by law for hospital in-patients in the State of New York; would one dare to use the term “obsolete” for this very worthy but underproductive activity?

Perhaps before laws are passed or good causes are given legal status, a careful evaluation of the actual return from prodigious amounts of human effort involved would be highly desirable. Nelson’s observations on the mobile TB x-ray unit are timely, but the same penetrating dissection of some of our other current medical practices is overdue.

JOHN T. FLYNN
Beekman Downtown Hospital,
170 William Street,
New York 10038

Reference

Bryce Nelson’s report deals with a source of the population’s exposure to radiation of much greater significance than the levels of exposure associated with nuclear power.

About 2 years ago, while a resident of Montgomery County, Maryland, I wrote a letter to the director of the Bureau of Radiological Health (BRH) in the Department of Health, Education, and Welfare (HEW), concerning this same problem. I questioned whether the mobile chest x-ray service then in effect in Montgomery County was in accord with the policy on chest x-ray screening programs recommended by the Surgeon General more than 12 years ago. I suggested that this “service” was contrary to the health principle that unnecessary radiation exposure should be avoided. The county had reported that the mobile units were taking about 17,000 routine x-rays on 70-millimeter film annually in Montgomery County, which has a population with a low TB risk. In my letter I pointed out that, if mobile x-ray service were available to a similar extent throughout the country, the American public would be exposed to hundreds of thousands of unnecessary chest photofluorographs each year. I suggested that the BRH take the initiative to update or reinforce the Surgeon General’s earlier position statement on the judicious use of chest x-ray screening programs. To my knowledge, HEW still has not taken any definitive action on this problem. I hope that Nelson’s report will stimulate HEW to exercise appropriate leadership to help eliminate a major source of unnecessary radiation exposure.

ARTHUR H. WOLFF
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