



Risk in Perspective

Panel Issues Standards For Cost-Effectiveness Analysis

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Physicians, health-care managers, consumers, business leaders, and government officials often speak of the need to make health care more "cost-effective," but there has been far from a consensus on exactly what this means. An important step toward consensus took place in June of this year, when the Panel on Cost-Effectiveness in Health and Medicine reported its findings to the federal government on the practice of cost-effectiveness analysis. This issue of **RISK IN PERSPECTIVE** discusses the work of the Panel.

Created by the Office of Disease Prevention and Health Promotion in the U.S. Public Health Service, the Panel was charged with developing recommendations on the roles, conduct, and reporting of cost-effectiveness analyses and with developing a set of standard analytical practices that would make cost-effectiveness analyses more comparable with one another. Milton C. Weinstein, Henry J. Kaiser Professor of Health Policy and Management, Harvard School of Public Health (HSPH) and Director of the Harvard Program on Economic Evaluation of Medical Technology (PEEMT), co-chaired the Panel. Joanna E. Siegel, Assistant Professor of Maternal and Child Health at HSPH, co-directed the project for the government during a leave of absence from Harvard. Professor Louise B. Russell of Rutgers University was the other co-chair, and Dr. Märthe R. Gold was the project director. The Panel consisted of economists, physicians, decision scientists, psychologists, epidemiologists, and ethicists with expertise and experience in cost-effectiveness analysis.

Several of the Panel's recommendations concerned the roles and limitations of cost-effectiveness analysis. Significantly, the Panel's report emphasizes that cost-effectiveness analysis is an aid to decision making, not a self-contained algorithm for allocating resources. Thus, the Panel tried to allay fears that a master computer in Washington would be programmed to determine health-care benefits based on mechanically calculated cost-effectiveness ratios.

Much of the Panel's work revolved around the need to make cost-effectiveness analyses more comparable to one another. The "bottom line"

in a cost-effectiveness analysis is a ratio of cost to health effect (e.g., \$50,000 per quality-adjusted life year saved) which has meaning only by comparison to cost-effectiveness ratios for programs that compete for the same resources. Many analysts report cost-effectiveness ratios in so-called "league tables," in which programs or health interventions are ranked in priority order from the lowest to the highest ratios. Problems arise if different studies adopt different perspectives (e.g., societal, employer, or insurer), include different costs or effects in the numerator or denominator of the ratio, use different outcome measures or time discount rates, adopt different procedures for considering the effects of illness on productivity, treat uncertainty differently, or use different comparison programs. Brown and Fintor (1993), in a review of published cost-effectiveness analyses of screening mammography for breast cancer, found that what appeared to be a thirty-fold variation in the estimated cost per life year gained (\$3,000 to \$80,000) actually reduced to less than a factor of two after standardizing their methodological assumptions.

The Cost-Effectiveness Panel encourages more uniform analytic practices by defining a "Reference Case" which the Panel urges all analysts to include in cost-effectiveness studies. The Reference Case consists of a standard set of methodological practices and assumptions which, if adopted, would produce a level playing field on which programs can compete for claims on scarce health-care resources. In developing its methodological recommendations, the Panel appealed to theoretical principles from welfare economics and decision theory, practical considerations such as data availability, and ethical considerations. When theory and other considerations led to divergent or ambiguous conclusions, a Reference Case assumption was chosen nonetheless for the sake of convention.

The Reference Case analysis always adopts the societal perspective, which includes all benefits, harms, and costs regardless of who bears them. This does not preclude cost-effectiveness analyses that adopt other perspectives, such as that of a managed care organization, a government agency, or a hospital, but the

