mild hypertension study. Final results. Treatment of Mild Hypertension Study Research Group. JAMA 1993;270:713–24.

5. Davis BR, Cutler JA, Gordon DJ, et al. Rationale and design for the Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). ALLHAT Research Group. Am J Hypertens 1996;9(4 Pt 1):342–60.

The above letter was referred to the authors of the article in question, who offer the following reply.

To the Editor: Drs. Sheps and Lenfant raise several important issues in their discussion of our article. In responding, we hope to further clarify our position that economic evaluations are an important and underappreciated component of the process of creating national guidelines such as JNC VI.

As they mention, JNC VI was designed to guide primary care clinicians in the diagnosis and management of hypertension, using high-quality evidence when available and expert consensus when necessary. The force of JNC VI, however, goes well beyond the primary care physician. Adapting, implementing, and monitoring compliance with guidelines is a system-wide effort undertaken by health delivery systems and managed care groups that often have a direct economic stake in following (or not following) the guidelines. It is true that cost should be a secondary consideration for physicians when they are caring for their patients. Nevertheless, institutional decision makers cannot afford to ignore the economic considerations of their policies regarding treatment options that are laid out in guidelines.

Drs. Sheps and Lenfant state that the economic attractiveness of generic diuretics and β-blockers are self-apparent, yet a recent study shows that prescription patterns are following a trend sharply in favor of newer agents that are far more expensive than those recommended by JNC VI.[1,2] Why is this so? We believe it is in large part due to the pharmaceutical industry, which suggests in its advertising that the newer agents offer substantive clinical advantages (eg, shorter time to control, fewer side effects) compared with older agents. Because physicians do apparently ignore cost in their care decisions, these new expensive agents are adopted with little regard to the cost consequences for insurers or society.

Our study was designed to show physicians and decision makers in health care delivery systems that even accounting for the nuances of hypertension care (compliance, monitoring costs), the price of the agent drives the cost of care, even in the short run. Like clinical trials, economic models have limitations in their methods and generalizability. Our model followed the recommendations of JNC VI and used data cited from this report wherever possible because we believe this report is the most internally and externally valid summary of hypertension care that is available. Of course, local costs and practice patterns will vary, but our sensitivity analyses suggest that these issues will not alter the bottom line.

Numerous studies have shown that it is expensive to alter practice patterns. These investments will necessarily be made by organizations that need to ask hard questions about the tradeoffs between costs and consequences of using their resources to promote change in the clinical community. It behooves the National Institutes of Health to make these economic tradeoffs explicit when they create guidelines for clinical practice. This process does not necessitate making recommendations based on economic outcomes. The economic section of JNC VI does not provide explicit quantitative data and thus is of little use for decision makers. In the case of managing hypertension, we show that following the JNC VI recommendations is economically and clinically a win-win situation. We expect other cases to be less clear.

In an era when economic factors can and often do influence medical decisions, we believe it is important to have high-quality, objective economic data available alongside clinical data for common conditions such as hypertension. The National High Blood Pressure Education Program is an ideal and yet unrealized forum for such information.

Scott D. Ramsey, MD, PhD
Center for Cost and Outcomes Research
University of Washington
Sean D. Sullivan, PhD
Department of Pharmacy
University of Washington
Seattle, Wash

References

1. Siegel D, Lopez J. Trends in antihypertensive drug use in the United States: do the JNC V recommendations affect prescribing? Fifth Joint National Commission on the Detection, Evaluation, and Treatment of High Blood Pressure. JAMA 1997;278:1745–8.

2. Lenfant C. JNC guidelines: is the message getting through? Joint National Commission on Detection, Evaluation, and Treatment of High Blood Pressure. JAMA 1997;278:1778–9.

In-Flight Radiation

To the Editor: Your readers should be aware that the article by Robert F. Barish on in-flight radiation[1] is based on a now-discredited linear no-threshold hypothesis of radiation health risk. *Nuclear Issues*[2] reports that the American Nuclear Society has issued a position statement to the effect that "there is insufficient scientific evidence to support use of the linear no threshold hypothesis (LNTH) in the projection of the health effects of low-level radiation on which regulation of low levels of radiation adopted by international and national radiation protection authorities is based."

Also, the US National Council on Radiation Protection (NCRP)[3] has stated that "few experimental studies, and essentially no human data, can be said to prove or even to provide direct support for the concept of collective dose with its implicit uncertainties of no-threshold