International Comparisons of Waiting Times for Cardiovascular Procedures: A Commentary on the Long Queue*

THOMAS J. RYAN, MD, FACC
Boston, Massachusetts

Waiting times for important and resource-intensive cardiovascular procedures have become a popular index for assessing the degree of rationing of medical care that is perceived to exist within various nationally subsidized health care systems. Until the health care reform debate took a repose, pro tem, in the summer/autumn of 1994, the U.S. citizenry had been exposed to extensive coverage in the news media of the long waiting times for medical services that go hand in hand with socialized medicine. Perhaps the most frequently cited examples of such rationing are the “excessive” waiting times for coronary bypass surgery in Canada and the United Kingdom. Indeed, these queues are so long that a substantial number of Canadians cross the border to have their bypass surgery on a more timely basis within the U.S. private payer system. Such an exodus, along with certain polls (1), is frequently cited as reflecting the great discontent that exists within countries that provide health care through a national health care service. Although these systems offer universal access from “cradle to grave,” the message appears to be that they are largely wanting because limited budgets and finite resources ultimately require rationing of services. For those who so argue, long queues for such important procedures as coronary revascularization are considered the most visible evidence of wrongful rationing.

Present study. Carroll et al. (2) pick up on this theme in this issue of the Journal. Their study was designed to compare waiting times for cardiac catheterization and coronary bypass procedures in five different health care delivery/financing systems. The U.S. non-Veterans Affairs (VA) hospitals represent the pleuralistic, free-market model, whereas the U.S. Veterans Affairs hospitals and hospitals in Sweden, the United Kingdom and Canada are examples of federally funded national health services. The methodology used was a questionnaire response to four hypothetical case scenarios that were sent to >480 physicians in these various health care systems. The scenarios basically asked the question, “What is the current waiting time in your institution to perform elective or urgent coronary arteriography as well as elective and urgent coronary by pass surgery?” Sampling of various hospitals within each system was limited to teaching institutions that were >250 beds in size, located in urban areas and offered coronary bypass surgery or coronary angiography, or both, as part of their patient services. Carroll et al. assumed that this “homogeneity” would allow them to conclude that any differences noted would be attributable to differences in health care systems. They achieved a laudable 70% response rate, and the results are clearly presented in a frequency distribution format illustrated in four figures with waiting times ranging from <24 h to 3 months for angiography and <24 h to >9 months for coronary artery bypass surgery. Carroll et al. readily acknowledge that their reliance on a questionnaire response could introduce some bias to the results by nonresponders being less willing to respond because they represented hospitals with long waiting times. Contrariwise, “prestige bias” may have resulted in shorter waiting times than actually exist being reported by the respondents. They also point out that, in budget or capitated systems, waiting times may have been exaggerated so as not to jeopardize future budgeting allocations.

Although it is clear that “hard data” from a prospective tabulation of actual waiting times for substantial numbers of patients in each category would be more compelling and obviate the vagaries of physician-reported estimates, the reported results are quite likely accurate and reflective of the waiting times for these specific procedures in the health care systems sampled. It came as little surprise to this reader that waiting times for elective cardiac catheterization or coronary bypass surgery were significantly longer in Canadian, United Kingdom, Swedish and even U.S. VA hospitals than U.S. non-VA hospitals. Perhaps it is enlightening to know that this difference for grouped waiting times had a p value <0.00001. It certainly is heartening to learn that there was no difference in waiting times between U.S. non-VA and U.S. VA hospitals when it came to scheduling urgent coronary bypass surgery. However, what I found objectionable was the emphasis given to identifying outliers within this small sample even though “no standards exist suggesting acceptable waiting times for angiography.” For example, none of the U.S. hospitals reported waiting times >3 months for elective coronary arteriography, whereas in Canada 16.1%, Sweden 15.4% and the United Kingdom 22.8% of cases were reported to have >3-month waiting times and in some cases >6 months. For urgent coronary angiography, both systems within the United States obtained studies within 2 weeks, but in Sweden and the United Kingdom, >50% of the urgent studies required a wait of >2 weeks. In Canada, this pertained to 14% of such cases.

My criticism is not so much with the presentation of the results as it is with the derivation of the results. There is a serious problem of sampling bias in the present study that needs to be offset by more data from more countries to provide.

*Editorials published in Journal of the American College of Cardiology reflect the views of the authors and do not necessarily represent the views of JACC or the American College of Cardiology.

From the Evans Memorial Department of Clinical Research and Section of Cardiology, Department of Medicine, Boston University School of Medicine, Boston, Massachusetts.

Address for correspondence: Dr. Thomas J. Ryan, Section of Cardiology, Boston University Medical Center, 88 East Newton Street, Boston, Massachusetts 02118.

©1995 by the American College of Cardiology
an objective data set from which to draw valid conclusions. This is particularly incumbent on a study whose stated purpose is to quantify and compare waiting times across various national health care plans as a measure of explicit rationing of health care services within these plans. 

Although there is some logic and appropriateness in comparing the health care systems of two countries as culturally similar as the United States and Canada, there is scant reason to select Sweden and the United Kingdom as the other countries to round out this “international comparison.” To do so has the appearance of “stacking the deck.” Because it seems intuitively clear that there is a likely correlation between resource capacity, utilization rates and waiting times, this study would have been more properly balanced by providing the same questionnaire to cardiovascular programs in Belgium, France, Germany, The Netherlands and Switzerland. Each of these countries has a more aggressive tradition of using interventional procedures to manage patients with heart disease, as evidenced by their higher utilization rates and greater percent of gross domestic product devoted to health care.

To substantiate this contention, I supplied the four case scenarios used in this report to eight colleagues who would qualify on anyone’s list as among the leading cardiologists in one of the following countries: Belgium, France, Germany, Greece, Italy, The Netherlands and Switzerland. There were no outliers for any of the waiting times reported for all four scenarios. Both elective catheterization and elective bypass surgery were performed in these countries within 3 months, and all but one (The Netherlands) accomplished urgent catheterization and urgent bypass surgery within 2 weeks.

Apparently sensitive to the possibility that selection bias might flaw their conclusions, Carroll et al. offer two seemingly different interpretations of the data in their discussion. The first is that the introduction of a national health care plan in the United States would clearly beget prolonged waiting times for cardiac procedures. This in turn would lead to the unacceptable practice of having to tell >45% of patients for whom coronary surgery is indicated that, despite the recommendations of medical experts, they must wait at least 3 months for such surgery. The second interpretation suggests that waiting times may be independent of the type of health care delivery system, as evidenced by the finding of a strong association between rank order in waiting time and rank order in percent of gross domestic product spent on health care among the four countries examined in this study. This bit of analysis leads to the same conclusion that my armchair extension of sampling does, that is, a national health care program is neither a necessary nor a sufficient condition to guarantee long waiting times for procedures.

However, the concluding sentence of the article by Carroll et al. (2) appears to reveal the prestudy bias of the authors: “If the United States were to adopt a national health care plan, in addition, it seems logical that spending would need to be limited, available resources reduced and access constrained through similar planning and policy choices that other countries have made, to result in waiting times of the type found in

our data.” In brief, this study has all the limitations of a flawed syllogism that could be framed as follows: 1) long queues for cardiovascular procedures are bad, but 2) long queues are associated with nationally subsidized health care systems; therefore, 3) national health care systems are bad.

**Appropriate waiting times.** The real issue regarding waiting times is not how they differ from country to country, but what constitutes an *appropriate* waiting time. The early observations of Wennberg and Gittelsohn (3) called attention to the wide variation that exists in clinical practice patterns over both large and small geographic areas. These variations result in variable rates of use of a variety of medical services and procedures. Higginson et al. (4) provided a detailed account of the rates and waiting lists for cardiac catheterization, percutaneous transluminal coronary angioplasty and open heart surgery in Canadian adults as they existed in 1988 to 1989. The 23rd Bethesda Conference (5) addressed the broad issue of access to cardiovascular care, and Task Force 5 of that conference issued a most informative international comparison of waiting times for cardiovascular procedures. Not only were the data derived from nine countries distributed broadly throughout the developed world, but average waiting times per country were assessed in terms of total population, prevalence of cardiovascular disease, resource capacity and percent of gross domestic product spent on health care in each country. Variations in access to procedures from country to country are judged to be related in part to the health care delivery system but also to average per capita income as well as to cultural, political and social attitudes of various countries.

Naylor et al. (6) identified the crux of the problem of “waiting times” by pointing out the need to properly prioritize urgency as it relates to patients awaiting cardiovascular procedures. Using the formal consensus method approach, they found that the three main determinants of urgency were 1) severity and stability of angina symptoms; 2) coronary anatomy; and 3) risk stratification by noninvasive testing. Naylor et al. proposed a scoring system to improve the sorting process (triage) by which patients who deserve priority are identified. This is totally consonant with the age-old practice followed by all clinicians, regardless of the health care system in which they operate, namely, priority is given to patients at greatest temporal risk for ischemic-related adverse events. The emphasis must be directed to the question of whether “managed delay” in a health care system that offers universal access in the face of limited resources is ethically defensible. If it can be demonstrated that such a policy is impartial, safe, flexible and efficient, then it would seem both defensible and necessary. The central issue now is the accurate delineation of acceptable waiting times and the reliable identification of what constitutes reasonable delay. This is an enormous task that will require a broad-based effort to assiduously collect reliable data for a most careful assessment of risk-adjusted outcomes related to both waiting times and subsequent postprocedural events.
I gratefully acknowledge the input of the following colleagues from abroad: Professors M. Bertrand, H. Kulbertus, J. Lekakis, A. Maseri, J. Meyer, W. Rutishauser, P. Serruys and H. J. J. Wellens.

References