Finding value in imaging: What is appropriate?

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In 442 BC Sophocles reportedly said, “None love the messenger who brings bad news.” Two thousand years later, Shakespeare updated this concept in Henry IV—“Don’t shoot the messenger.” The current problems and future challenges in the health care system are very disturbing to most health care professionals. I hope that the reader will not blame me for these.

This presentation is divided into 4 parts: the current health care crisis, the recent attention on imaging, the current state of appropriateness of imaging, and the future directions in appropriateness.

CURRENT CRISIS IN HEALTH CARE

The current crisis in health care costs is well summarized in Figure 1. Private health insurance premiums are now 3 times higher than they were in 1991. Their cumulative growth has been nearly twice the US consumer price index over the 15-year period shown in Figure 1. During the same time, Medicare reimbursement, as reflected in the conversion factor (dollars per relative resource unit), has failed to keep pace with inflation. It is not surprising that small businesses are shifting these costs to their employees by increasing deductibles and copayments and, in some cases, canceling insurance coverage for their employees.

Niels Bohr, the Nobel Prize–winning Danish physicist, is reported to have said, “Prediction is very difficult, especially of the future.” However, prediction of the future growth of the US population aged over 65 years is not at all difficult—it will double between the years 2010 and 2040, as a result of the retirement of the “baby boom generation.”1 The demographic facts are very clear; beginning in 2011, 10,000 Americans will turn age 65 years every day for the next 20 years.2 As a result, the number of workers per Medicare retiree will fall from the current level of just under 4 to less than 3 in 2020 and just over 2 in 2040 (Figure 2).

The impact that these changes will have on future federal spending for health care are profound (Figure 3). Congressional Budget Office estimates indicate that spending on Medicaid and Medicare alone will approach 20% of the gross domestic product (GDP) in 40 years.3 To put this number in perspective, total federal revenue has ranged between 17.0% and 20.9% of GDP over the last 60 years, and in the history of our country, it has never exceeded 20.9% of GDP. Thus, by some time in 2040, all other components of the federal budget (education, defense, Social Security, and interest on the national debt, among others) will presumably be replaced by Medicare and Medicaid. The system is, of course, likely to reach a crisis long before that. For example, in 2019, the Medicare Part A trust fund will be exhausted.4 At least one prominent health care economist has privately predicted that foreigner investors will become concerned about this issue before then and withdraw their support of the US national debt. Publicly, in testimony before Congress in 2007, the chairman of the Federal Reserve Bank, Ben Bernanke, said, “The longer we wait, the more severe, the more draconian, the more difficult the adjustment is going to be. . . . I think the right time to start is about 10 years ago.”5

In their 2007 annual report, the Medicare trustees presented some sobering facts.5 The Hospital Insurance Trust Fund (Part A) can be brought into balance with either (1) an immediate 122% increase in the Medicare payroll tax (from 1.45% to 3.22%), (2) an immediate 51% reduction in spending, or (3) some combination of the two. These projections are based on a presumption that the annual rate of growth of federal health care spending will slow so that it eventually matches the rate of growth of the GDP. Unfortunately, over the last 40 years, the growth in federal health care spending has exceeded the growth of the GDP by an average of 2.5 percentage points.6 The proposed tax increase for Part A of Medicare does not include any additional federal spending for the other components of Medicare, changes in the State Children’s Health Insurance Program (SCHIP), or possible reforms to cover the uninsured.

Thus both the private and public components of health care insurance in this country are facing a major crisis.

RECENT ATTENTION ON IMAGING

On September 6, 2005, the Boston Globe ran a story with the following headline: “Blue Cross to require preapproval for scans: MRI, other imaging costs up 20% in year.”6 This is one of many stories in the news media that have referred to the dramatic growth in imaging
costs. There is a growing recognition that imaging is a significant contributor to the growth in health care spending.

Published data demonstrate a high rate of growth in cardiac imaging. Stress imaging, consisting of either stress echocardiography or stress single photon emission computed tomography (SPECT) imaging, has grown 6% per year from 1993 to 2001. This rate of growth far exceeds the growth during the same period in acute infarctions, revascularizations, or cardiac catheterizations (Figure 4). The rate of growth of cardiac stress imaging for white men has been even higher—8% per year.

The increase in imaging is not unusual; it is part of a general pattern of increases in clinical procedures and tests (Figure 5). I would argue that less reimbursement for Medicare services has led to a widespread belief in health care that we will “make it up on volume.” This “grow the business” mentality increases procedures and tests. There is less thought and time per patient and procedure as a result. Quality, efficiency, and value all ultimately suffer. In theory, the increases in procedures and tests should lead to a further decrease in Medicare reimbursement through the Medicare sustainable growth rate (SGR) formula. However, this has not always occurred.

Recent actions of Congress certainly demonstrate increasing concern with imaging costs. The Deficit Reduction Act, which was passed in January 2006, contained both good and bad news for physicians. The good news was that the planned 4.4% decrease in physician payment mandated by the SGR formula was eliminated. The bad news was that reimbursement for nuclear imaging was reduced. In particular, the reimbursement for Current Procedural Terminology code 78465, the main component of stress nuclear imaging, was decreased by approximately $75.

More recently, in August 2007, the House passed its version of SCHIP legislation, which included multiple provisions for Medicare reform. Again, the news was mixed for physicians. The good news was that the 9.9% decrease in physician payment scheduled for 2008 and a 5% decrease scheduled for 2009 (both mandated by the SGR formula) were both eliminated. In contrast, the SGR formula was scheduled for replacement in 2010 by a new system with 6 separate categories. One of these six categories was imaging. Under this plan, beginning in 2010, the growth of imaging services was to be limited to...