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Health Care Quality Issues Need Actuarial Input

by John P. Cookson



Quality in health care has come to the forefront in recent years, especially since the Institute of Medicine's seminal works "To Err is Human: Building a Safer Health System" in 1999 and followed by "Crossing the Quality Chasm: A New Health System for the 21st Century" in 2001. Many health care providers and administrators have taken this call to heart by learning quality improvement techniques, such as Six Sigma. The error rates, or lack of quality in health care, profoundly affect health-care and insurance costs. There aren't many industries that will pay a vendor to do something, and if a mistake is made, pay them more (sometimes much more) to fix it. Now Medicare and other payers are beginning to consider quality in the insurance reimbursement.

With this background in mind, I recently attended the Sixth Annual Quality Colloquium at Harvard representing the Health Section Council. Some of what I learned is outlined below.

At this time there is a significant need for expertise in measuring the impact of the quality problems and the potential cost impact of fixing them. In addition to the need for measurement

expertise, there are other hurdles to making positive changes, including data limitations and inertia. One major problem is the current insurance reimbursement structures. Providers have found that when they reduce errors and improve quality, costs are often reduced, but unfortunately sometimes revenues are reduced by an even greater amount because of the indirect relationship between costs and revenues. This presents a dilemma to providers, and points for the need for both the insurance industry and the actuarial profession to take a proactive role to help overcome these hurdles. This needs to be a win-win situation for all sides.

To put the medical error rates into perspective, some comparisons were made to the nuclear power and aerospace industries. Error rates in medical care are at the magnitude of 10^{-1} to 10^{-2} , whereas nuclear and aerospace error rates are in the magnitude of 10^{-5} to 10^{-6} . The higher rate in health care would be the equivalent of crashing a jumbo jet every week—killing everyone on board.

The kinds of errors that occur are many, including among others:

- Wrong dosages
- Wrong procedures
- Wrong patients
- Wrong drugs
- Hospital acquired infections
- Procedure errors
- Process and timing
- Patient falls

These errors all add up and contribute to the increased cost of health care. Many of these problems can be significantly improved within the existing health care infrastructure, but others may require new construction with larger room sizes and other infrastructure improvements. Such construction can improve patient lifting (which causes accidents and worker's compensation claims by hospital workers) and reduced patient falls, as well as reducing infection rates.



John P. Cookson, FSA, MAAA, is a consulting actuary with Milliman Inc in Wayne, Pa. He can be reached at john.cookson@milliman.com.

Fortunately, estimates show that future operating cost reductions are substantially in excess of the added capital costs.

There is a severe lack of good estimates of the cost implications of the poor quality of health care, and the potential impact of improvements.

The insurance industry appears to have low visibility in becoming involved in the quality improvement initiatives. However, now is the time to be proactive and for the insurance industry and actuarial profession to assume an active role and increase the momentum for improving quality in health care. ❏



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