Quality Improvement and the Bottom Line

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Do improvements in quality of care result in improvements in the bottom line? To answer this question, we need to know the impact of quality improvement (QI) on costs and revenues, plus the net effect on profits. Although the positive impact of quality on the bottom line has been documented in other industries, there is little recent empirical evidence in the health care industry.

The business case for health care QI (ie, that investments in QI will result in better clinical outcomes and better financial performance) is primarily based on anecdotal evidence from case studies. Larger empirical work is about 10 years old; for example, a study of more than 1700 hospitals in the late 1990s concluded that effective implementation of QI could improve financial and cost performance. However, no data were collected to measure the impact of the P4P incentives on revenues or the net effect on profits.

The Income Statement Perspective:
To determine the relationship between QI and profitability, it is necessary to take an income statement perspective. The income statement represents a summary of financial activity over a period of time. The bottom line (net income) results from subtracting expenses from revenues. Although the terms expense and cost are often used interchangeably, in the language of accounting they have different meanings. Studies that examine the impact of quality of care on hospital costs may actually mean hospital expenses. From an income statement perspective, the question becomes, “How do QI programs impact expenses (costs) and revenues, and what is the resulting impact on income (profits)?” In this context, the relevant costs (or expenses) are those incurred by the provider of care, not the payer or the consumer.

Figure 1. Impact of Quality Improvement on Hospital Expenses

Impact on Expenses: We start with the impact of QI strategies on costs for hospitals (ie, the expenses reported on the income statement) (Figure 1). First, there are expenses associated with designing and implementing a QI program or complying with quality guidelines from a payer. If an inpatient hospital QI program results in shorter stays, fewer ancillaries, or the use of less expensive drugs for a given condition, hospital expenses will decrease.
particularly the variable expenses associated with patient care. Fixed expenses, primarily staff salaries, decrease only if the reduction in utilization leads the hospital to downsize. On the other hand, if better quality of care results in longer stays, more ancillaries, and more expensive drugs, variable expenses for the hospital will increase. Fixed expenses also could increase if higher utilization required additional staffing or a state mandated a lower nurse-to-patient ratio to improve quality.

The recent advent of nonpayment for preventable complications or “never events” raises questions about the impact of these payer policies on hospital expenses. Presumably, complications and never events result in higher expenses for the hospital than if the complication or event had been avoided. Does that imply that a QI or patient safety program that targets preventable complications or never events would result in lower expenses for the hospital? The answer is not clear, although it should be yes.

**Figure 2. Impact of Quality Improvement on Hospital Revenues**

| | +/– | Under DRG reimbursement |
| | +/– | Under per diem payment |
| | +/– | Under pay for performance |
| | + | Income from avoiding “never event” denials |
| | +/– | Income from increased utilization resulting from enhanced reputation? |

**DRG = Diagnosis Related Groups**

**Impact on Revenues:** While estimating the impact of QI on expenses can be difficult, estimating the impact on revenues is even more complex. The impact on revenues depends on the payer (Figure 2). Under a case-based reimbursement system such as the diagnosis-related groups (DRG) system used by Medicare, reducing hospital expenses does not result in higher revenues. Medicare pays a fixed rate per admission based on the diagnosis. That rate does not decrease when a hospital reduces length of stay or services per admission.

Revenues from payers that use per diem reimbursement methods will decrease if QI methods result in shorter inpatient stays, whereas revenues from these payers will increase if QI results in longer stays. QI programs that result in more or fewer services per day will not affect revenues from per diem payers.

Under a P4P system, revenues should increase as a hospital complies with quality standards and improves outcomes of care. The impact of nonpayment for never events is more ambiguous. Although avoiding preventable complications or never events will avoid nonpayment and a loss of revenues, it will not increase revenues.

Many hospital managers believe that improvements in quality will result in a better reputation for the hospital in the community. It could also result in better ratings through programs like HospitalCompare (www.hospitalcompare.hhs.gov) and HealthGrades (www.healthgrades.com). If such improvement in reputation results in increased utilization of a hospital’s services and increased market share, the hospital’s QI efforts could increase revenues. Unfortunately, it is costly and time consuming to measure the increase in utilization that can be attributed to QI or an enhanced reputation, so these measurements are rarely done.

**Figure 3. Impact of Quality Improvement on Income (Profits)**

**Conclusion:** Do improvements in quality of care result in improvements in financial performance? It depends on the impact of QI on hospital expenses and revenues. That depends, in turn, on the type of QI intervention, its impact on utilization, and the reimbursement method. Conceivably, QI could increase net income for some payers and decrease it for others. There is a clear need to measure the effects of QI carefully in order to answer this crucial hospital management question.

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**References:**