

What is my Total Cost of Billing?

Comprehensive ROI Analysis for Rational Billing Process (Case Study)

Dr. Yuval Lirov
Vericle Billing Technologies
Marlboro, New Jersey



Internet-based technology has been applied effectively to reduce medical billing costs, especially at the stages of electronic submission and scrubbing. However, an excess focus on reducing the costs of individual process components at the expense of the bottom-line exposes the medical practice to significant financial downside and inferior billing performance. An alternative bottom-line driven approach shows a more comprehensive financial picture and better reflects the overall costs of billing. Subject to multi-parameter sensitivity discussed in this article, the bottom-line approach results in substantially higher remittance and better regulatory compliance. It is effective, however, only subject to billing performance guarantees and transparency.

1. Traditional Approach

A typically recommended (Donato, 2003) sequence of management steps to rationalize the practice billing and reduce its costs requires the physician to invest in processes, personnel, and technology:

- A. Study your denials to eliminate errors by using claims-scrubbing software
- B. Educate your front-end employees about the billing process and know how to be a part of it
- C. Investigate tools for electronic submission and take advantage of technology
- D. Set guidelines for which claims and which dollar amounts merit appeals
- E. Provide patients with clear payment policies up-front

For illustration, consider a case of a three-office practice with 17 internists and a patient panel of 20,000, quite similar to Potomac Physician Associates (Donato, 2003), in Bethesda, Md., who in 2002 brought their claims submission and practice management services in-house. Assuming three FTE's working the billing and using Vericle's technology, the costs would be about \$120,000 for personnel and \$36,000 for technology. For reference, Vericle® technology

performs comprehensive claim validation, patient demographics and eligibility test prior to visit, electronic claim submission, and comprehensive reporting for followup etc. Additionally, using Vericle technology, 98% of claims are now clean, adding further value for the investment in claims processing technology.

“Billing costs...grossly underestimated because of neglect of uncollected revenue.”

In this case, the billing costs add up to \$156,000 annually. This is a significant accomplishment in

terms of billing processing costs, because without advanced technology, the same practice may need at least seven FTE's, at cost of \$280,000 (Figure 1).

Accordingly, the previous arrangement prior to installing the Vericle technology costs at least \$292,000 (assuming 1/3 of cost for an alternative albeit inferior billing package). Thus, an investment of \$36,000 in superior technology saved at least \$136,000, an impressive ROI.

However, this approach ignores the total revenue aspect of the billing function, which is its ultimate purpose. For a more comprehensive perspective, let us compute the total losses generated by uncollected payments. We will proceed by establishing a convenient baseline and figuring out a way to approximate the losses.

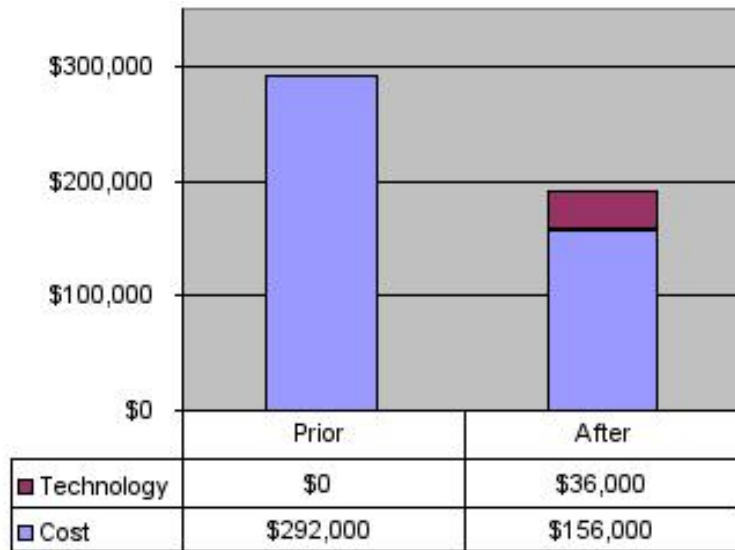


Figure 1. Investing \$36,000 in Superior Technology Reduces Claims Processing Costs from \$292,000 down to \$156,000

In our experience, the likelihood of payment shrinks dramatically with time. With few exceptions, the unpaid claims for more than four months are eventually forfeited. Hence the importance of A/R beyond 120 days. Therefore, to compute the total losses we must start with computing the total revenue and then use the days in accounts receivable as a proxy for the underpayment. For the case study in hand, we estimate the total practice revenue by assuming average physician revenue of \$300,000, which, for 17 physicians, adds up to a total of \$5,100,000. Next, since the

stated percent of clean claims for electronic submission is about average (98%), we will also assume an average nation-wide A/R beyond 120 days, which currently stands at about 17.7% (Lowes, 2004). This number indicates that the amount of losses on the billings of \$5,100,000 approaches \$1,096,841. Even if 40% of that A/R were eventually collected, we would still face a revenue loss of \$658,104 (Figure 2).

“...nation-wide A/R beyond 120 days ...[is] ...17.7%... Unpaid claims...are forfeited.”

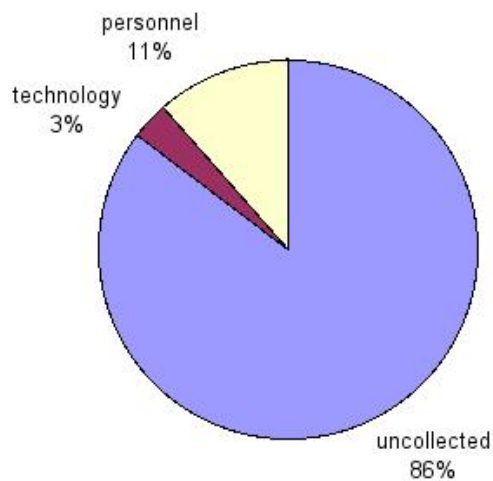


Figure 2. In-house Billing Cost Distribution

Therefore, while the practice saved \$136,000 on personnel, it still lost an estimated \$660,000 because of inferior billing quality despite the newly installed technology. The lesson of this illustration is that the costs of billing function may be grossly underestimated because of the following common pitfalls:

Pitfall #1: Focus on costs of individual components of the billing function instead of computing the bottom line cost to the practice.

Pitfall #2: Underestimate the costs of these components such as benefits, sickness, management, replacement, education, and vacations in case of personnel costs.

Pitfall #3: Focus on the numbers or quality of claims instead of billed and paid numbers of dollars.

2. Bottom-Line Alternative

An alternative, bottom-line oriented approach, guarantees improved revenue before spending a dime:

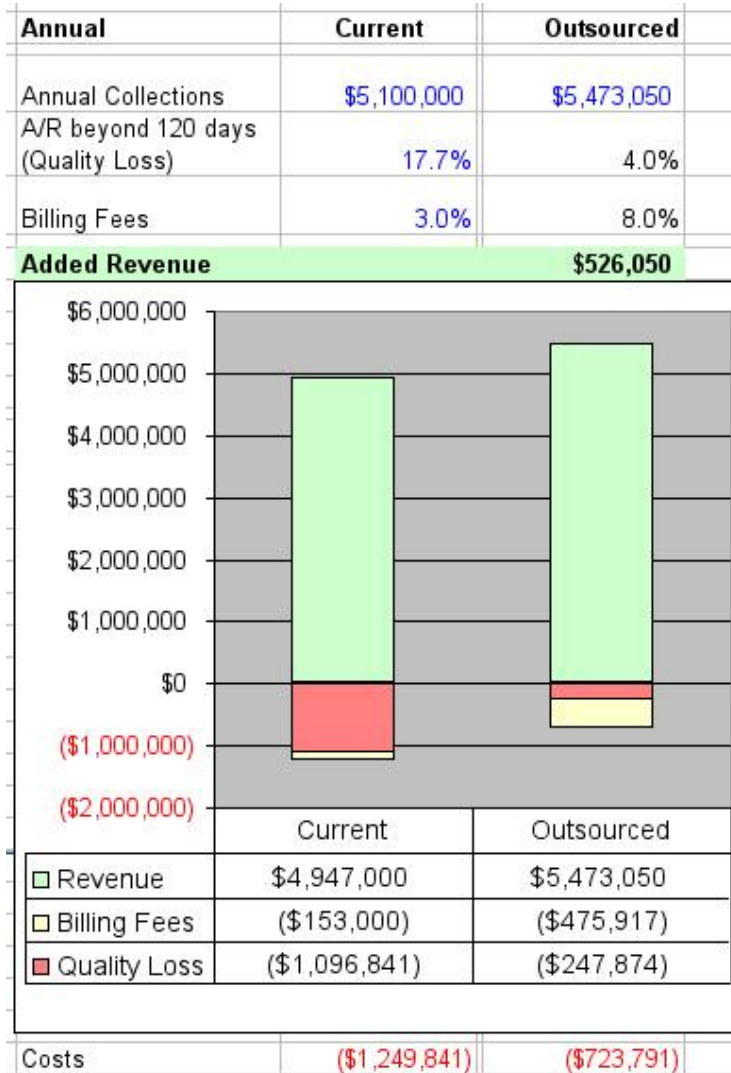
- A. Measure your current percentage of A/R beyond 120 days and assume (for the sake of conservative management) that money is lost.
- B. Find a billing service provider with significantly higher performance levels than your own solution

C. Base your management decisions on total cost/performance metrics.

A billing service provider with guaranteed performance levels would typically charge a percentage of payments. This approach

aligns the interests of the biller and of the physician and results in dramatically lower A/R beyond 120 days, often as low as 4% and even 2% (see Table 1 for a comparison of the real costs of billing).

Table 1. Improved Billing Quality Raises the Entire P&L Bar Higher and Adds Revenue Despite Higher Billing Costs



In this case, the difference in remittance between the two approaches amounts to \$526,050 or 10.31% of the bottom line.

Note that billing quality is a key component of the billing cost computation and the decision to outsource the billing service is based on a multi-fold improvement in billing quality. Such an improvement must be so great that only a

specialist-billing provider can create and maintain the required volumes and economies of scale. Therefore, one should consider outsourcing only after due diligence establishing that the billing provider delivers superior performance, the difference in performance is quantifiable and significant enough for a bottom-line growth, and such performance can be verified independently and continuously. The

rule of thumb is that the new combined percentage of fees and uncollected revenue must stay below in-house A/R (billing quality measured in % of billed amount in A/R beyond 120 days).

Note also that by outsourcing to the right billing service provider, the practice liberates itself from multiple additional issues associated with the process, personnel, and technology aspects of billing. Specifically, the only remaining billing function for the practice owners is the periodic review of cash flow and accounts receivables, in other words, an entirely bottom-line driven supervision. There is no need to micromanage the submission process, reconcile rejections, appeal to the payers, etc. Similarly, there is no more need to manage billing employee team, their vacations, sick days, benefits, teamwork, and turnover. Finally, there is no more need to deal with any technology issues, such as installation, maintenance, backups, disaster recovery, HIPAA compliance, and upgrades.

3. Sensitivity Analysis

Previous analysis shows that total cost of billing depends on uncollected revenue. Therefore the method and vendor selection decision (in-house

vs. outsourced) depends on the difference in remittance quality. Basic decision criteria can be formulated as

**If $R_o + RF - R_oF < R_i - C_p - C_T$
Then the practice should consider
billing function outsourcing (Table 2)**

“The difference in remittance ... amounts to \$526,050 or 10.3% of the bottom line.”

Note that both the billing service providers and the practices can use the above rule to establish the limit values for service rationalization as well as fee negotiation. For instance, if our illustration

physician group improves its in-house remittance quality so that its A/R beyond 120 days drops from 17.7% down to below 8.34%, then, subject to remaining constant parameters, the practice will do better by keeping the billing function in-house. On the other hand, if the group quality is at the 17.7% then any fee below 17% (!) is worth paying as long as the provider guarantees the A/R beyond 120 days below 4%. Finally, if the practice prefers establishing a fee limit, then it may be used to determine the required quality guarantee. For instance, if the provider agrees to pay a fee at 12% then any A/R below 10% benefits the provider.

Table 2. Decision Rule Parameters

Parameter	Meaning
R	Total billed revenue
R_o	Quality of the outsourced vendor, measured in terms of A/R beyond 120 days
R_i	Quality of the in-house function, measured in terms of A/R beyond 120 days
F	Outsourced fee
C_p	Cost of in-house personnel
C_T	Cost of in-house technology

4. Pricing of Outsourced Billing Service

Given practice revenue, internal costs, and quality rates for in-house billing, we can now plot the values for optimal billing rate as a percentage of total revenues and a function of

outsourced quality. Assuming outsourced quality range between 2% and 18% and constant in-house quality rate of 17%, 12%, and 8%, the optimal billing graph looks like the chart lines in blue, pink, or yellow colors respectively in Figure 3.

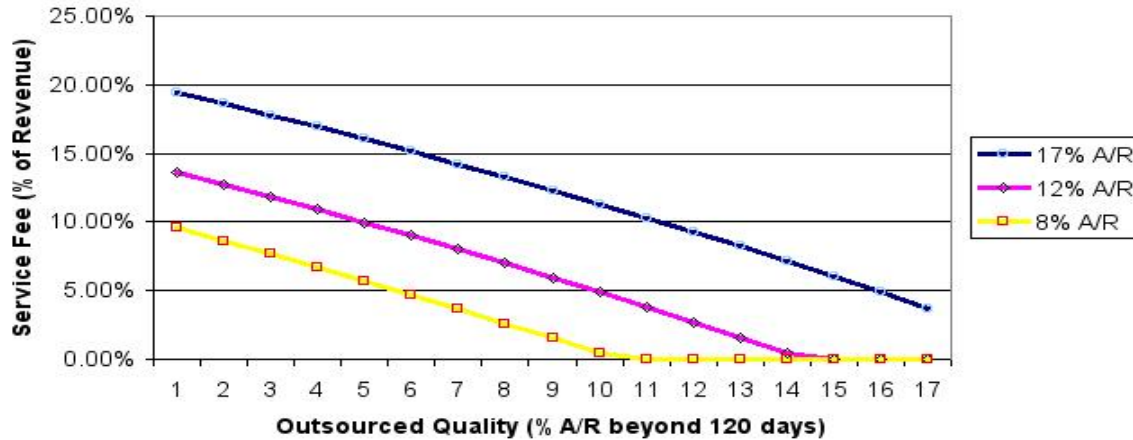


Figure 3. Outsourced Billing Rate Family for In-house Quality of 17%, 12%, and 8%. Outsourced Quality Range Spectrum is [2%, 18%].

5. Conclusions

Analysis above offers three lessons about how to compute the cost of billing and its implications in terms of decision criteria and selection process for the better billing service provider:

- A. Costs: Billing costs may be grossly underestimated because of neglect of uncollected revenue for
 - 1) In house billing
 - 2) Outsourced billing
- B. Decision-Making
 - 1) The financial difference between in-sourcing and outsourcing may be huge depending on the difference in respective performance
 - 2) The billing service provider selection must be based first of all on billing quality
- C. Selection: Prior to hiring an outsourced service provider, make sure that the provider
 - 1) Guarantees billing quality and,
 - 2) Provides tools for continuous quality verification (transparency)

References:

1. S. Donato, "Three Steps to Fewer Denials. Getting Claims Management Under Control", Physicians Practice, April 2003.
2. R. Lowes, "Practice Pointers: How to Cut A/R", Medical Economics, September 3, 2004.