

A Cost and Profit Analysis of Hernia Surgery

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ABSTRACT

The vast majority of surgeons who are in the active practice of their particular field have little time to evaluate their individual practices from a "business perspective." This fact is critical to the future of any entity that is engaged in the delivery of goods and services. Without such an analysis, few businesses will continue to function in such a manner that ensures the financial viability of that enterprise.

We have attempted to accumulate the available data to analyze the practice of surgery as it relates to the cost and profit of hernia repairs. Given this information, it is easily extrapolated into other procedures, open or laparoscopic, that are performed by the general surgeon. The herniorraphy analysis indicates that one cannot hope to generate enough income to rely upon a financially successful business. The information presented should be considered a national average and not specific to an individual practice situation. It is meant to serve as a template for which each surgeon can (and must) evaluate his or her own practice profitability.

Key Words: Laparoscopy, Hernia repair, Cost analysis.

INTRODUCTION

There is a relative paucity of information regarding the various socioeconomic issues that face the general surgeon. There is even less data available that address these facts in a manner specific to hernia repair. Historically, the practicing general surgical community has not seen a need to evaluate individual practices from the standpoint of the business entity that it truly represents.

In view of the relentless pressures that physicians face each day that have resulted in a significant decline in reimbursement rates, the time has come to assess the practice of surgery from an analytical business perspective. This article will attempt to initiate this task. It must be realized, however, that the available data needed to perform an in-depth analysis is limited. The following data and conclusions are based upon an exhaustive effort to locate the most comprehensive, up-to-date and accurate statistics that we have been able to identify. The opinions contained herein are those of the authors and are not endorsed by any group. The reader may have criticisms of the conclusions reached within this paper. The authors would be anxious and eager to hear any comments regarding these thoughts. Additionally, if the reader can provide other data, we would welcome this kindness also. The goal that we are trying to reach is the establishment of a source that can be referenced not only by the membership of the American Hernia Society (who conceived the initial survey), but also by any surgeon who desires the use of such a reference. This source could then be used in the negotiation of third party contracts, the assessment of the profitability of the addition of a new associate, and the performance of a critical analysis of the "business" aspects of the practice of surgery.

MATERIALS AND METHODS

This study began with a survey that was sent to all of the American Hernia Society members. This was undertaken as an initiative of the Society's Socioeconomic Committee, of which the lead author serves as its chair. Of the 240 questionnaires that were sent out, 77 (32%) were returned. In the majority of these, every respon-

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dent did not answer each question. Therefore, not all responses will equal these 77 survey responses. The questions posed were as follows:

- 1) How old are you?
- 2) How long have you been practicing general surgery?
- 3) What percentage of your practice involves the treatment of hernias?
- 4) What percent of the treatment decisions of the hernia patient are made solely by you (not including patient)?
- 5) If you do not make all the decision regarding the hernia patient, then who intervenes?
- 6) Have you ever had to alter your surgical decision because of one of the above?
- 7) If yes, how so?
- 8) What is your average fee to perform:
 - a) an open inguinal hernia repair?
 - b) a laparoscopic inguinal hernia repair?
 - c) an open ventral hernia repair?
 - d) a laparoscopic ventral hernia repair?
- 9) What is your average reimbursement for:
 - a) an open inguinal hernia repair?
 - b) a laparoscopic inguinal hernia repair?
 - c) an open ventral hernia repair?
 - d) a laparoscopic ventral hernia repair?
- 10) How can the Socioeconomic Committee of the American Hernia Society serve to improve the practice of herniology as it interfaces the various socioeconomic forces such as HMOs, managed care, employers, etc.?
- 11) What do you feel is the most pressing single socioeconomic issue at this time?

The responses to these questions are shown in **Tables 1-8**. Questions 7, 10, and 11 required a written response.

The affirmative responses to question no. 6 and its accompanying question no. 7 ("Have you ever had to alter your surgical decision because of one the above; in question no. 5?") were multiple and varied. All of the individual responses could not be included. A few representative answers include the following:

Age (years)	Responses (percentage)
30-39	7 (10)
40-49	22 (30)
50-59	26 (35)
60+	18 (25)
Total	73 (100)

Years	Responses (percentage)
0-9	7 (10)
10-19	27 (38)
20-29	25 (34)
30-39	13 (18)
Total	72 (100)

Percentage	Responses (percentage)
0-25	27 (39)
26-50	29 (41)
51-75	4 (6)
76-99	3 (4)
100	7 (10)
Total	70 (100)

Percentage	Responses (percentage)
0-25	3 (4)
26-50	3 (4)
51-75	4 (6)
75-100	60 (86)
Total	70 (100)

Table 5.

If You Do Not Make All the Decision Regarding the Hernia Patient, Who Intervenes?

Third party	Responses (percentage)
Primary care physician	12 (28)
Medicare	5 (12)
Workman's Compensation	12 (28)
Insurance Company	9 (20)
Other	5 (12)
Total	43 (100)

Table 6.

Have You Ever Had to Alter Your Surgical Decision Because of One of the Above?

Answer	Response (percentage)
Yes	15 (26)
No	42 (74)
Total	57 (100)

Table 7.

What Is Your Average Fee (in United States Dollars) for:

a) an open inguinal hernia repair?	
Range	Average
\$750-3000	\$1348.31
b) a laparoscopic inguinal hernia repair?	
Range	Average
\$750-4000	\$1551.45
c) an open ventral hernia repair?	
Range	Average
\$950-5500	\$1672.81
d) a laparoscopic ventral hernia repair?	
Range	Average
\$950-5500	\$1910.00

Table 8.

What Is Your Average Reimbursement (In United States Dollars) for:

a) an open inguinal hernia repair?	
Range	Average
\$300-1400	\$619.31
b) a laparoscopic ventral hernia repair?	
Range	Average
\$300-1000	\$632.39
c) an open ventral hernia repair?	
Range	Average
\$300-2800	\$842.57
d) a laparoscopic ventral hernia repair?	
Range	Average
\$450-1670	\$876.54

"Managed care company may reschedule more tests, reschedule the operation, deny the procedure and/or the aftercare."

"HMO refused to pay."

"Patient with diastasis recti and an incarcerated umbilical hernia; the insurance company refused to let me repair both laparoscopically. The diastasis was symptomatic."

"Insurance company not paying for laparoscopic bilateral repairs."

As the reader can appreciate, the major problems that were noted by the survey participants were the denial of appropriate care and the diminution in their ability to decide significant clinical decisions. It was apparent from the tone of the responses that medical judgments are being superceded by the policies of the third-party payors.

Question 10 ("How can the Socioeconomic Committee of the American Hernia Society serve to improve the practice of herniology as it interfaces the various socioeconomic forces, such as HMOs, managed care, employers, etc.?") had similar responses. Samples of these opinions were the following:

"Insure that elective hernia surgery is accessible. Develop clear statistics and guidelines, etc., regarding the risks of non-operative treatment to prove the need for elective repairs."

"Tell insurance companies that Medical Doctors should make patient care decisions; laparoscopic hernia repairs should get better reimbursement."

"Cost-effective analysis."

"By defining valid quality criteria for hernia surgery, it's monitoring and control, as well as schedules for training of surgeons within an international Total Quality Management project."

"Oversee and help gather information on new repairs, Kugel, etc."

"Negotiate a more equitable reimbursement."

"Stabilize pricing of the procedure; not encourage lowest price being acceptable."

What do you feel is the most pressing single socioeconomic issue at this time? This question (no.11 within the survey) was associated with a voluminous response that had a comparable general theme. The gist of this can be

realized by the following quotes:

“The insurance/managed care companies.”

“Physician reimbursement.”

“Limited resources being managed by inappropriate gatekeepers/administrators; excess administrative fees by insurance company bureaucracy.”

The vast number of responses dealt primarily with the declining reimbursement rates and the increasing influence of non-medical personnel regarding medical decisions. It was felt that surgeons are forced to deal with the “business” of medicine while lacking any significant negotiating clout (ie, physicians are limited by both the Internal Revenue Service and the antitrust legislation unlike most other service industries), which serves to strengthen the position of the third-party payors.

Based upon this information, the authors have sought to identify the resources that can provide the essential information necessary for the surgical community to regain the influence that is legitimately its to possess. While several sources are available, only a limited number can provide accurate, meaningful and useful data. A few of these references are provided at the end of this article.

The most productive information was found from the American Medical Association’s Center for Health Policy research. Two references are available based upon the results of 1997 Socioeconomic Monitoring System surveys. The data is published in the 1997/1998 edition of Physician Marketplace Statistics¹ and the 1997/1998 edition of Socioeconomic Characteristics of Medical Practice.² The data collection methodology employed by the Center for Health Policy Research is detailed in each of these books. As this information is based on survey results, there is inherent variation in some of data that will be apparent to the reader in the review of these materials. The following data from these references regarding general surgeons was utilized in the analysis that follows:

- 1) On average, 60.2 hours per week is spent in professional activities¹;
- 2) On average, the physician works 47.5 weeks per year¹;
- 3) The average general surgeon performs 9.5 surgical procedures per week, excluding assists¹;
- 4) Total practice revenue for self-employed general surgeons averages \$453,400¹;

- 5) Mean annual professional expenses is \$203,400¹;
- 6) Net annual income after expenses and before taxes per self-employed general surgeons is \$251,700¹;
- 7) The distribution of general surgeons by employment status revealed that 75.8% are self-employed, 22.6% are employees, and 1.6% are independent contractors.¹

The following analytical estimate of cost allocation is based on the data above: according to the American Hernia Society Survey, 39% of the respondents (**Table 3**) noted that herniology represented 25% or less of their surgical practice. Using a cost-basis type analysis, this will be the amount of practice expenses allotted to hernia surgery of the overall annual expenses of \$203,400. Therefore, \$50,850 ($0.25 \times \$203,400$) is attributed to the cost (ie, overhead) of the open repair of inguinal hernias in that surgeon’s practice annually. The average reimbursement rate for each open inguinal hernia repair noted in **Table 8** is \$619.31. To break even, the surgeon would have to perform \$50,850 worth of open inguinal hernia operations annually. This would require 82.11 ($\$50,850 \div \619.31) cases per year. As each physician works an average of 47.5 weeks per year, this will mean that 1.73 ($82.11 \text{ cases} \div 47.5 \text{ weeks}$) inguinal hernia repairs per week would need to be performed. In other words, an average of 1.73 open inguinal hernia repairs per week must be done to meet the expenses of the practice that are allocated to this procedure. This does not account for the appropriate remuneration for the cost of the physician’s time and expertise.

The application of this analysis to those physicians in which herniology represents 50% of their practice (**Table 8**), results in \$101,700 ($0.50 \times \$203,400$) being expensed annually for open inguinal hernioplasties. This would represent 164.22 ($\$101,700 \div \619.31) cases per year, which requires 3.46 open inguinal hernia repairs to be done per average week to cover the expenses only.

Table 9 illustrates these calculations above and for those surgeons with larger portions of their practices related to the repair of open inguinal hernias alone. It is realized that the average general surgeon performs inguinal as well as ventral hernia repairs. The above relates to the unrealistic assumption that only inguinal hernioplasties are performed.

Table 9.
Required Inguinal Hernioplasties to Meet Expenses.

	Expense Allocation / Practice Allocation to Herniology			
	\$50,850/25%	\$101,700/50%	\$152,550/75%	\$203,400/100%
Inguinal Hernia Repairs Per Week	1.73	3.46	5.19	6.91

The more reasonable approach to this evaluation would assume that, of the hernia repairs that the individual surgeon performs, 85% are inguinal repairs and 15% are ventral hernia repairs. The expense allocation for the surgeon's practice that is 25% allocated to herniology would then be calculated by $0.85 \times \$50,850$, which equals \$43,222.50 for inguinal hernioplasties and $0.15 \times \$50,850$, which equals \$7,627.50 for ventral hernioplasties. From the survey data, the average reimbursement for an open ventral hernia repair is \$842.57. Consequently, this would translate into a volume of 69.79 ($\$43,222.50 \div \619.31) inguinal and 9.05 ($\$7,627.50 \times \842.57) ventral hernia repairs per year. At the 47.5 weeks of work, the surgeon must perform 1.47 ($69.79 \div 47.5$) inguinal and 0.19 ($9.05 \div 47.5$) ventral hernia repairs per week, respectively. **Table 10** outlines the results from similar calculations for the surgeons with the hernia practice allotment of 25%, 50%, 75% and 100%. This table illustrates the number of open inguinal and ventral hernioplasties that the practicing general surgeon must perform during an average week to break even. As noted earlier, no valuation of the surgeon's time and expertise is made in this analysis.

The data from the survey and from the AMA's Center for Health Policy Research can also be approached from a profit-center analysis rather than that of a cost-center analysis. The average self-employed general surgeon's income after expenses but before taxes is \$251,700/year. The average number of procedures (excluding assists) performed per week is 9.5. The reader will recall that the average year has 47.5 weeks of work. This amounts to 451.25 ($9.5 \text{ cases/week} \times 47.5 \text{ weeks}$) general surgical procedures per year. The cost of these cases is \$203,400. Therefore, the cost is \$450.75 per individual procedure ($\$203,400 \text{ expenses per year} \div 451.25 \text{ cases per year}$).

The average profit per case can then be calculated by subtracting the average cost from the average reimbursement. The open inguinal hernia procedure would therefore yield \$168.56 ($\$619.31 - \450.75) in profit per case. The open ventral hernia procedure would yield \$391.82 ($\$842.57 - \450.75) in profit per procedure.

The typical general surgeon with a practice that is devoted 25% to the repair of hernias in which 85% are inguinal and 15% are ventral will be exemplified by the following analysis. With the income noted above, \$62,925.00 ($0.25 \times \$251,700$) of the annual income is attributable to the

Table 10.
Required Open Inguinal and Ventral Hernioplasties to Meet Expenses.

Expense allocation Inguinal Ventral Percentage of practice	Required number of cases per week Inguinal Repairs Ventral Repairs
\$43,222.50 \$7,627.50 25%	1.47 0.19
\$86,445.00 \$15,255.00 50%	2.94 0.38
\$129,667.50 \$22,882.50 75%	4.41 0.57
\$172,890.00 \$30,510.00 100%	5.88 0.76

hernia proportion of his or her practice. The allocation is further delineated into the open inguinal and open ventral repair components. This is a \$53,486.25 (0.85 x \$62,925.00) profit for the inguinal repairs and a \$9,438.75 (0.15 x \$62,925.00) profit for the ventral repairs.

For the inguinal hernioplasties to generate this amount of profit requires 317.31 inguinal hernia repairs per year. This is determined by \$53,486.25 annual profit allocation ÷ \$168.56 profit per procedure. The amount for the ventral component is 24.09 ventral hernioplasties per year (\$9,438.75 annual profit allocation ÷ \$391.82 profit per case). This requires that the surgeon performs 6.68 inguinal and 0.51 ventral hernia repairs per week as an average to achieve the profit allocation that has been determined from the data above. **Table 11** outlines the profit analysis performed above for the differing percentages of practice volume dedicated to herniology.

Another manner of profit analysis involves the amount of profit that must be achieved per procedure to reach the income figure above of \$251,700 annually. This income would be reached if the above number of cases calculated above per year divided this \$251,700; therefore, $\$251,700 / 451.25 = \551.78 . This represents the amount of profit per operation that is necessary to achieve the average amount of annual income noted by the AMA's Center for Health Policy Research. Given the cost figure of \$450.75 for each procedure, the revenue from every case should be \$1008.53 ($\$551.78 + \450.75) to achieve the income figure above. This calculation is verified by comparing the total income realized annually to the income found in the AMA survey. The income noted in this study is \$455,099.16 ($\1008.53 revenue per case x 451.25 cases annually). This closely approximates the total annual practice revenue of \$453,400 for the general surgeon noted in the AMA study.¹

This will apply to all surgical procedures regardless of the percent of herniology practiced. From the prior averages of reimbursement (**Table 8**), the amount of gain or loss can be calculated. If \$1008.53 per case is required to have the necessary profit, then each open inguinal hernia repair will incur a loss of \$389.22 ($\$1008.53 - 619.31$). The open ventral hernia will be \$165.96 ($\$1008.53 - \842.57) of loss of profit by this analysis. For the Medicare allowable amounts, these figures are even more disconcerting. The loss of profit for the open inguinal repair is \$625.15 ($\$1008.53 - \338.38), and for the open ventral repair it is \$462.11 ($\$1008.53 - \546.42). This analysis is most distressing.

The profit-based analysis requires a larger number of procedures to be performed than the cost-based analysis (at best). The profit necessary to achieve the average income of the general surgeon is impossible to realize given the pricing structure that exists today. Indeed, the repair of a hernia never results in a positive impact on the income of the surgeon if the profit analysis is applied.

DISCUSSION

The authors would be remiss in not acknowledging the fact that the analysis above can be subjected to numerous criticisms. The mathematical exercises and business concepts, however, are considered relevant. The authors are aware of several comments that are justified if one is to critically evaluate these data as shown. We would be less than candid if the most significant of these issues were not discussed. The methodology employed in the collection of the survey from the membership of the American Hernia Society certainly could be considered biased. The fact that one is a member of specialty society predicts certain data flaws. In general, however, the reader can surmise from that same data that 80% of the respondents stated that hernia surgery represented 50% or less of the practice (**Table 3**). Additionally, despite an extensive effort, the authors have been unable to identify any other private source that could have provided the fee and reimbursement data that was used above.

The wording of the questions in the AHS survey were not subjected to any intense analysis by a third party. A few of these questions (eg, questions 4 and 5) were either vague or difficult for the reader to interpret. This was unintentional and unfortunate. This did not appear to affect the fee and reimbursement data. These latter questions were purposefully kept limited. Additionally, no attention was given to bilateral inguinal hernias, recurrent or other types of abdominal wall hernias. This was done to focus the survey and to limit the amount of details to be assessed by the respondent.

The small sample that was attained in that same survey stands as a major problem. One could be critical of that fact alone. For most surveys, however, a 32% response rate is considered excellent. It must be pointed out, however, that similar studies have been used by insurance companies to deny certain surgical procedures, such as laparoscopic herniorrhaphy based upon a survey sample size of only 55 panelists. Indeed, 10% of those individuals had not performed even one open herniorra-

phy, and only 49% of these 55 physicians had performed laparoscopic herniorrhaphy.³ This current report is part of the efforts of the Socioeconomic Committee of the American Hernia Society. It is to be considered a “work in process.” We hope that the information that is generated from these efforts will encourage a broader and more enthusiastic response from those surveyed in the future.

From the data in **Table 7** and **Table 8**, it is apparent that there is a tremendous discrepancy between the average fees charged and the average reimbursement that is realized. This is not felt to be a new discovery. **Table 12** outlines these differences in detail.

These data are not felt to be that different than that noted in the general population of surgeons at large. This information represents the realistic statistics that impact the “business” of the practice of the surgical profession today. The variances between these two amounts are more magnified when the Medicare allowable amounts are compared to the figures above. This is considered below.

It is easily noted that there was no evaluation of the differences in reimbursement between the open or laparoscopic repairs of inguinal and ventral hernias. **Table 8** identifies that the average reimbursement of the laparoscopic inguinal hernioplasty is \$632.39. This represents a two-percent increase over the reimbursement for the open repair. This difference was not felt to be significant enough to warrant a separate analysis given the inherent difficulties with the data utilized. Similarly, the four-percent difference between the laparoscopic (\$876.54) and open (\$842.57) ventral hernia repairs noted in **Table 8** was not evaluated. It is felt that the additional consideration of these small differences in reimbursement would not have an appreciable effect on the overall impact of the analyses presented within this paper. Within the respondents, only one-third of the surgeons performed laparoscopic repairs of any kind. Additionally, some of the individuals who used the laparoscopic technique for inguinal hernias did not use this method for ventral hernias. The wide variation in the practices of the respondents made such an evaluation inherently inaccurate.

This paper has not dealt with specific intricate aspects of a cost analysis of this business. No amplification upon the types of costs was analyzed. This would include fixed, variable, direct, and indirect costs. The expansion

into these areas would greatly complicate the analysis. Certainly, most will acknowledge that the majority of the costs associated with the practice of surgery will be of the fixed rather than variable type. This would explain the reasons why a hernia procedure could possibly be considered a “loss leader” rather than an income generator. It also explains the fact that those physicians, in whom herniology represents 50-100% of their practice, can, in fact, earn a living.

It should not be forgotten that the analysis contained herein is based upon averages of reimbursement. Those individuals fortunate enough to generate more than the average of revenue per procedure will enjoy greater incomes. One should acknowledge that a certain percentage of the surgeon’s income is also generated by assisting other surgeons and another portion, albeit small, is produced through non-surgical activities. The authors would also recognize that there are several other methods to compute the cost and profit data. Consideration of all possibilities would have been too burdensome to the reader and would not have enhanced the message of this study.

The specific data collection that is employed by the American Medical Association’s Center for Health Policy Research is conducted in a scientific and statistical manner. The exact details of this methodology can easily be found in the Socioeconomic Characteristics of Medical Practice 1997/98 and Physician Marketplace Statistics 1997/98. The authors relied heavily upon this information. The data that were used applied to the self-employed physician. This represents 75.8% of the total possible physician population¹ and serves to affect the data.

The cost per case that was identified to be \$450.75 is much higher than the authors anticipated. This is usually the result of any critical evaluation of any business venture. This number as well as its analysis is to be considered a template or “the national average.” While this number may be an accurate figure in many practices, it should not be assumed that this is the correct cost basis upon which to evaluate every surgeon nor every procedure in all cases. It should be viewed as a starting point in which one can intelligently analyze the very personal economic impact of decisions that are made by the various third party payors.

Data from the Health Care Financing Administration

reveals that the Medicare allowable charge for 1999 is \$383.38 for an open inguinal hernia repair. The allowable charge for a laparoscopic inguinal hernia repair is \$375.36 (\$8.02 less than that of the open technique). These are fixed levels of reimbursement and are significantly below what was determined to be the cost per case from the data noted above. Given this data, the hernia surgeon will incur a loss of \$67.37 and \$75.39 for the inguinal hernia that is repaired by the open technique or the laparoscopic technique, respectively, on the Medicare patient. While this may not pertain to each individual surgeon, one must be careful in accepting a contract that reimburses at the same rates as Medicare or below. To break even, the surgeon could only accept a level of reimbursement that is 118% of Medicare rates. To generate a profit, the rate must be above 118% of the Medicare allowable amount, at a minimum. If not, the physician is not charging for his level of skill, training, expertise, or the level of expenses that are incurred to perform that procedure. Any rate less than that amount results in a known loss to the surgeon (ie, business entity).

Regardless, given the available data, every inguinal hernia repair upon a Medicare patient will result in a loss of profit to the business. There will be a point in time when the physician will deny the procedure of choice to the Medicare or managed care patient because of cost constraints. The federal government has yet to identify the fact that medicine must generate profit to survive. Vehement denials to the contrary, the physician will testify to the fact that medical decisions are frequently removed from the physician and made with little regard to the medical condition of the patient. This is used to the advantage of the third-party payors. In addition, the basic instinct to help and treat the patient is used to the disadvantage of the physician. The surgeon has continued to treat these patients at what could be shown to be a cost rather than a profit to that physician because he or she has not considered the business of the practice. This will change.

This example can be applied to the open repair of ventral hernias, as well as any other operation within the realm of the general surgeon. The Medicare allowable amount for this open ventral hernia repair is \$546.42. This results in a profit of \$95.67 per case. This is much different than the \$391.82 of average profit per open ventral repair that was calculated from the American Hernia Society survey. This represents only 24% of the profitability of that amount per procedure between the aver-

Table 11.
Profit Analysis for Hernioplasty.

Income (Profit) allocation Inguinal hernia Ventral hernia Percentage of practice	Required number of cases per week Inguinal hernia Ventral hernia
\$53,486.25	6.68
\$9438.75 25%	0.51
\$106,972.50	13.36
\$18,777.50 50%	1.01
\$160,458.75	20.04
\$28,316.25 75%	1.52
\$213,945.00	26.72
\$37,755.00 100%	2.03

Table 12.
Fee/Reimbursement Discrepancy.

Open Hernia Repair	Fee / Reimbursement	Difference (%)
Open Inguinal	\$1348.31/\$619.31	\$729.00 (-54%)
Laparoscopic Inguinal	\$1551.45/\$632.39	\$919.06 (-59%)
Open Ventral	\$1872.81/\$842.57	\$1030.24 (-55%)
Laparoscopic Ventral	\$1910.00/\$876.54	\$1033.46 (-44%)

Table 13.
Profit Loss from Hernia Repairs.

Procedure	Private Insurer Loss / Medicare Loss
Open Inguinal Hernia	\$389.22 \$625.15
Laparoscopic Inguinal Hernia	\$376.14 \$633.17
Open Ventral Hernia	\$165.96 \$462.11
Laparoscopic Ventral Hernia	\$131.99 \$297.11

age reimbursement and the Medicare allowable amount of reimbursement. This represents the amount of reimbursement that will be paid to the operating surgeon, whether the patient is considered to be an outpatient or if the patient is hospitalized for several days. If the patient remains hospitalized for four days, the reimbursement to the surgeon will be less than \$25 per day. With little thought, it is easy to realize that this reimbursement is less than the minimum wage established by the federal government for the average worker within the United States. Few entities consider this fact, particularly insurance companies and the Health Care Financing Administration. As a business, this detail should be considered in every case. The profit margin will be greatly impacted by this important detail of patient care.

These considerations must be made both on an individual and a national basis. This becomes apparent when one notes that on average, 39% of the general surgeon's revenue is generated from Medicare.¹ The percentage of revenue from managed care averages 45.4%.¹ It is also worthy to note that the percentage change in median income for all surgeons from 1995-1996 was an increase of 2.2%,² while the average total professional expenses increased 7.9% between 1995 and 1996.² This represents a 5.7% loss in income for the average surgeon. No industry can remain viable if it incurs a consistent loss from the operations of that business. The industry of medicine is not immune to this reality.

Rarely does any surgeon perform a cost-based analysis of his or her business. Rarer still is a profit-based analysis of a medical practice. This type of evaluation will result in the numbers noted in **Table 11**. It would be difficult for the average practicing hernia surgeon to achieve this number of cases per week on a consistent basis. In fact, more often than not, most business entities find it difficult to achieve the volume of business that would be necessary to define the appropriate profit margin. Nevertheless, much can be learned from the thoughtful perspective that is gained from the presentation of that information. From that type of consideration, no business would seek to lose the \$165.96 to \$670.15 per unit of service for any reason. **Table 13** itemizes these losses. Unfortunately, no one considers this type of impact to the individuals who care for the nation's patients. Such an approach would force the surgeon to consider his or her true worth and profit potential as a real business entity.

The intended purpose of this paper is to focus upon the fact that the practice of general surgery is a business. The analytical type of business evaluation must be applied to the practice of medicine in general. This article addresses the herniology portion of a general surgery practice. The example regarding Medicare reimbursement above should be applied to every operation. Using this information, one could make a rational determination regarding the acceptance of every contract that is presented to the "business." The reader is encouraged to perform a similar analysis of his or her own practice for every procedure that is done by that surgeon.

Additionally, the individual portion of the expense allocation of the \$450.75 can be further evaluated by the proportional allocation of each cost associated with the medical practice -- that is, the proportion of this \$450.75 that could be attributed to medical malpractice insurance, employee payroll, data systems, etc. For example, the average cost of medical malpractice insurance (with a \$1.1 million limit) is \$24,700.¹ This represents 12% of the average expenses of \$203,400 annually. Therefore, 12% of the \$450.75 cost per procedure or \$54.09 is attributable to malpractice insurance. A critical analysis of each cost, such as the example above, would provide a basis upon which to consider cost reductions or streamlining of processes, etc. This would allow one to become a more "cost-effective" provider to one's own practice, thereby increasing productivity and, hopefully, profit.

SUMMARY

The practice of surgery is a business. While the surgical community, as a whole, has been slow to accept this concept, the insurance industry has embraced it with a vengeance. This has been exploited to the detriment of the individual surgeon's professional life. The application of the business practice methodology shown in this paper must be expanded. A strong database that is collected and managed by surgeons should be produced. The authors would enthusiastically accept any input and/or criticisms regarding the above data and its analysis in the effort to build such an informational resource. This source would allow the competent and comprehensive analysis of each procedure cost. Certainly, from the data that was evaluated above, the profit margins for the repair of hernias are marginal, at best. In most cases, it may not exist at all.

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