HSI
Comprehensive EMS Claims Management

Understanding Revenue

How good is your revenue management? HSI has asked many patient transport leaders this question; it is impressive how well most billing services perform whether in-house or outsourced. When the follow-up question– "how do you know" is asked – here are some of the answers:

- "Because (billing director) is a bulldog – she holds every insurance company's feet to the fire."
- "Because we hired one of the top billing managers in the country."
- "Because we work with (outsource company) – they are expensive but they're worth it."
- "Because we work with (different outsource company) we love them; they are a delight to work with, they provide excellent customer service both to us and to our patients."

It is difficult to argue the validity of these impressions as they are not objective measures. They are subjective impressions of a very measureable process made without using measurable data. Although financial information has always has been available (in AR databases), as an industry we have not capitalized on its usefulness. Each transport service is on its own for this analysis. There are tools available to accomplish it… but does the willingness to do so exist?

HSI provides solutions that allow our clients to understand all the revenue components of a transport business. It should be understood that:

1. Ambulance services are businesses.
2. Ambulance services should be managed in a business-like manner to meet business milestones and serve patient care missions.
3. We must all agree, to effectively manage any aspect of business, we must measure and monitor performance indicators.

It is not the intent of HSI to take or support a position about whether any service should outsource the billing function or keep it in-house. This decision can only be correctly made after valid information has been analyzed to determine the proficiency of the current billing function's performance and can effectively benchmark current performance to a selective alternative. HSI does not attempt to minimize the difficulty of effectively comparing the performance of current billing services with that of other options. While the tools presented here do for the first time make such objective comparisons possible, there are market factors that in practice complicate the process. The primary objective here is to inform the transport leaders of available tools concerning the performance of your own revenue management process, whether in-house or outsourced. Using this information to make quality business decisions is the ultimate goal, but detailed, accurate, and reliable measurement has to come first.

The Arrival of Business Intelligence (BI)

A continuing hot topic in the general business world today is BI – Business Intelligence. Most businesses are awash in critically important data. The catch is being able to make good use of this data. Among the challenges are:

1. Accessing the required data
2. Ability to organize, analyze, and present data in a manner to make it actionable (what's the opportunity?)
3. Ability to trust the accuracy and integrity of the data and analysis to confidently allow the results to drive critical business decisions

Addressing each of these challenges has been a major focus of recent business software development and the resulting tools are impressive. It is now possible to manage and mine large (and even multiple) complex databases and generate rich, practical reports of highly useful information in readily digestible presentation formats – even in real time. Analytic tools make it possible to check and cross-check reported results to identify inconsistency and ensure reliability. These tools, when properly applied, have literally transformed our ability to understand our businesses, both large and small. HSI is applying these tools (highly – customized, to meet the unique needs of our industry) to the substantial stores of information in typical transport company database, including those associated with the most popular claims management applications. **You do not need new software applications to take advantage of advances in Business Intelligence** – chances are you already have everything you need but the high-powered analysis and reporting tools that can overlay your existing database(s).

The result is hugely simplified access to more useful revenue information than ever dreamed possible. Once linked to a database (or more accurately, to an automatically updated copy of your database), HSI's One-Click-Close reports are refreshed with the latest available information with a single mouse click. Ask your current billing company or manager how many hours of work each month that single click might replace, and then ask how those hours might be put to use in managing your revenue stream more productively. From the executive's perspective, however, it gets even better. With easy to use desktop tools programs you are no longer limited to reports that simply contain static data organized into summary tables, charts and graphs. It is now possible to actively and creatively mine vast data stores, analyze and process the output, and use the resulting high level information inherent in multivariate aggregates of data points to make accurate and verifiable forecasts and predictions that a few short years ago would have required a team of statisticians to accomplish.

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So what is possible to know about a patient transport company's sources of revenue and revenue management process with a good BI tool like HSI's One-Click-Close? With a high degree of accuracy, and for any period(s) up to and including the most recent month, a company can know:

- Payer mix
- Collection rates (gross and adjusted)
- Net Revenue (including future net revenue from current period transport)
- Net AR (the collectible portion of your accounts receivable)
- Average Daily Net Revenue
- DSO (a measure of collection speed)

Most importantly, companies can view these measures in a wide array of useful groupings, comparisons, and trends – by base, by sending hospital, by individual payer, against last year, trended over multiple years, and more. Since all definitions, assumptions, and calculations are applied consistently across the entire database from the first call entered years ago to the most recent call entered yesterday, truly meaningful, apples-to-apples comparisons of one time period with another are now effortlessly possible – even in the face of a definition update, assumption, or calculation.

Companies can readily track changes in market over time (payer-mix and payer-driven collection rate changes, for example), as well as trends in performance over time (adjusted collection rate and DSO, for example). Standardization of revenue analytics not only greatly enhances the value of internal trending and evaluation processes, it also sets the stage for the first meaningful external comparisons between and among transport companies as well as between and among companies and their respective billing services.

Gone are the days when any provider should take it on faith that their current revenue management system is the best it can be, that no amount of tweaking will make it better, or that an alternative approach will or won't substantially improve cash flow and access to your hard-earned money.

This new measurement paradigm is a fundamentally different approach to calculating medical revenue metrics. Think of the steps a company goes through today to estimate collection rate, which drives the net revenue number provided to finance departments monthly for reporting in the P&L statement. A reasonably sophisticated approach involves breaking programs claims into four or five major payer groupings, for each of which you have painstakingly estimated an overall average collection rate based on past (estimated) collection experience and current budgeted fee schedule. The resulting fixed percentages are then multiplied times the total billed charges in each major grouping each month to arrive at a rough estimate of future net revenue that is, unfortunately, not finely-grained enough to take into account the sometimes large payer differences within the major groupings. Even as rough as they are, these calculations are so unwieldy it is all but impossible to update them on-the-fly as underlying factors change – even in the few cases a program is able to identify what has changed (such as a mid-year rate increase).

Another very challenging number to determine with any level of confidence is the collectible portion of a current accounts receivable, or the Net AR. If the transport program borrows money, chances are bankers have asked the program to verify the Net AR value reported by the company finance department on a balance sheet. There are probably about as many different ways of tackling this problem as there are bankers and accountants – some that include a subjective and tedious claim-by-claim assessment of collection prospects.

Why do companies go through all these gyrations? Because they don't know how else to do it! They have no trust in the data. Companies can only work with the data that is available, and about the only performance related measure that can be squeezed out of billing applications is historical collection rate, by whatever payer groupings companies thought far enough in advance to create. By building an entirely separate reporting and analysis tool that sits on top of a claims management database, but does not interact with and is not limited in any way by the billing application itself, it is possible to do much better. Further, using the untapped power of the computer we can approach the challenge of calculating difficult measures from an entirely new direction that would be impossible otherwise. This power brings unprecedented consistency to the analysis of your entire universe of data, old and new.

Accurately Projected Net Revenue – The Holy Grail of Medical Revenue Analytics

Since consistency loves simplicity, HSI starts with the very simple premise that if we can accurately determine how much of a company's billed charges will eventually be collected for each transport (New Revenue), we can use this measure to accurately calculate every other revenue metric of interest. Further, each subsequently calculated metric will be as accurate as our original estimate of Net Revenue. Think how useful it would be if a program could know with a high degree of certainty exactly how much money the program will collect on each individual transport at the time the claim is submitted? While crystal ball technology may not be quite up to this challenge, HSI can now come very close. Within HSI's analysis process we have embedded a proprietary algorithm that predicts future cash collections (net revenue) from current-period flights that is accurate to within less than one percent. This ability to accurately forecast new revenue creates a powerful cascade of analytic possibilities, some of which have simply been unachievable up to now. Because it is this key that unlocks so many other "black boxes," accurately forecasting future new revenue from current period transports is in a large sense the holy grail of medical revenue analytics.

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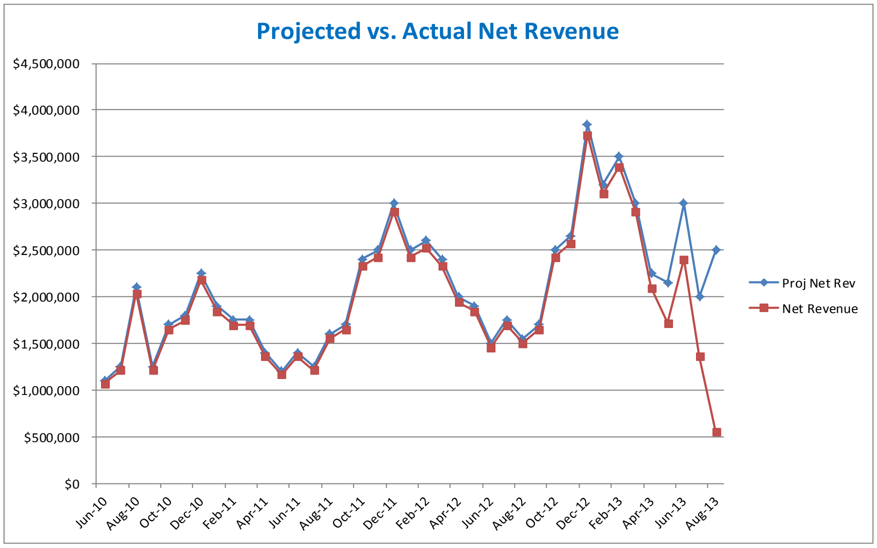

(Projected vs. Actual Net Revenue)

In this graphic, the red line – actual Net Revenue – represents actual net cash receipts collected at <u>any time</u> for transports conducted <u>within each reported month</u>. That is why the value for the red line drops off in the most recent months – cash for these recent transports has yet to come in. The blue line, or Projected Net Revenue, is derived from HSI's proprietary algorithm and predicts future net cash collections with a high degree of accuracy. It's important to realize that the values represented by the blue line are always and in every case, calculated based on what we know about transports at the time a claim is prepared, and are not modified to reflect how much cash was actually collected. The agreement between the red and blue lines is entirely attributable to the accuracy of the New Revenue projections made by HSI at the time of claim preparations and our ability to collect what our clients are owed.

Three other formerly elusive metrics that can be readily and consistently resolved once current Net Revenue is known are the Net AR, the Average Daily Net Sales (ADNS), and the Days' Sales Outstanding (DSO), an important measure of the speed of collections.

Net AR

How can it be possible to know how much of a company's outstanding accounts receivable will ultimately be collected and how much will eventually be written off simply by knowing current period Net Revenue? Well, think about how we defined New AR above. It is the uncollected portion of total net revenue over all time. Since this definition of Net AR is true regardless of how accurately we can calculate it, the accuracy of our Net AR estimate must be a direct function of the accuracy of our estimated Net Revenue, since we should always be able to know exactly how much of it we've already collected. While HSI has demonstrated it is possible to know New Revenue with a high degree of accuracy, it is also possible to separately and directly verify the accuracy of our New AR estimates that are derived from it.

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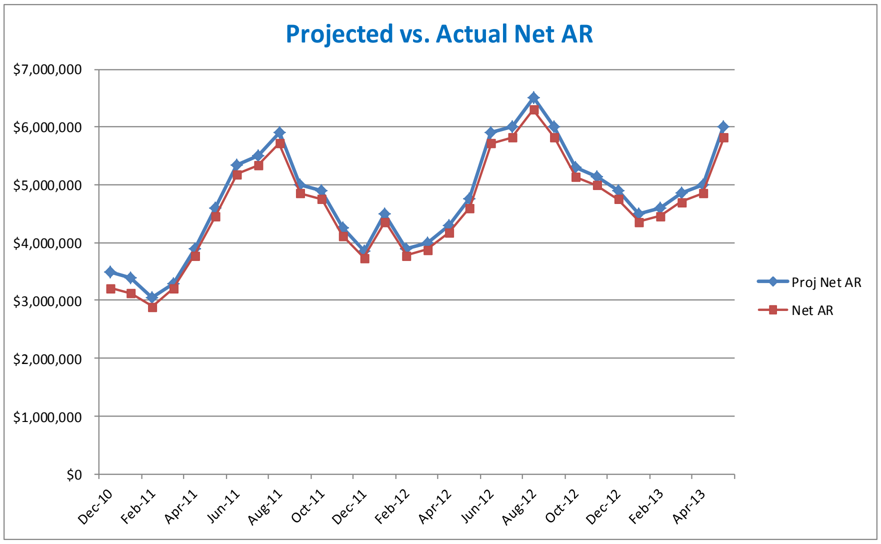


(Projected vs. Actual Net AR)

As we go back in time we eventually encounter periods for which most or all accounts are closed – periods for which the total current AR is now zero or near-zero. For these periods it is possible to compare what we projected the Net AR to be, as of any prior date we choose, with the actual amount of net cash subsequently collected (total cash collections net of overpayments). For any given prior date for which outstanding accounts receivable are currently zero or near-zero, we will call the total amount of net cash collected since that prior date, on accounts still open as of that prior date, the actual Net AR on that particular date. For more recent periods that still have open accounts, the reported actual Net AR is the sum of actual net cash receipts and remaining uncollected Projected Net Revenue.

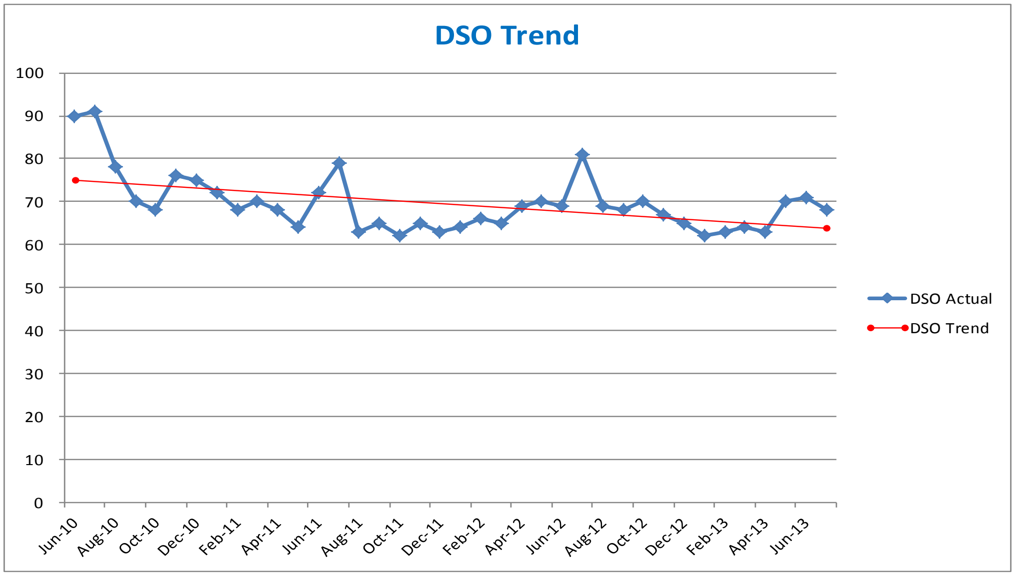
The very high level of agreement between HSI's month-by-month projected Net AR, derived entirely from our New Revenue projections, and what the Actual Net AR turns out to have been is evident from the graphic. This shouldn't be surprising, and confirms: (1) the accuracy of HSI's New Revenue projections, and (2) the Net AR is in fact the sum of total new Revenue over all time minus actual net cash collections over all time, or, stated differently, it is the uncollected portion of total cumulative Net Revenue. Logic says it should be and the math confirms it is.

Average Daily Net Sales (ADNS)

Average Daily Net Sales, which is used to calculate a measure of how long a service's money stays with the insurance companies before finally reaching a company's bank account, is also a simple derivative of projected Net Revenue. ADNS is simply total projected Net Revenue earned in a given period (HSI typically use a running quarter) divided by the number of days in the selected period, and it also must necessarily be as accurate as projected Net Revenue.

Days' Sales Outstanding (DSO)

If HSI can accurately calculate the current New AR and the Average Daily Net Sales, we can now accurately and consistently calculate the DSO – the average number of days' net revenue sitting uncollected in the AR. The DSO is a very helpful measure of billing service performance when properly calculated and responsibly used in conjunction with other performance measures (see below). Since the DSO is simply the New AR divided by the Average Daily Net Sales, like them it must be as accurate as our projection of Net Revenue. **For the first time HSI can present a consistent and reliable method of calculating this key metric that has up to now been all but impossible to compare across programs because of the many different approaches people have used to derive it.** The DSO, which is a performance measure that is highly responsive to process improvement, is most useful when viewed as a trend over time.



(DSO Trend)

The trend line, running through the middle of the somewhat erratic monthly DSO data points, is important because the raw DSO line itself is highly subject to seasonal and even monthly variations in transport activity and associated charges. For example, the Net AR at the end of a slow season or time period will likely be relatively small compared with the end of a busy summer season when it is bloated with recent charges from higher transport volume. If immediately following a period of low transport activity and associated Net Revenue suddenly increases, the Average Daily Net Sales will be unusually high and when divided into the depleted Net AR an artificially low DSO will result. The reverse effect is also true, of course. It's just the math and does not necessarily indicate a change in the performance of the billing team. Using a trend line allows these timing variations to be smoothed and gives management a clearer view of true billing service performance over time.

Cash Collection Projections

A fourth projection that becomes significantly easier to make once Net Revenue and collection speed can be accurately determined is the amount of cash likely to come in during any given month. Of course, aside from the current month, the accuracy of future cash projections is influenced not only by what has happened, but by what is projected to happen in future periods, including flight volumes and payer mixes. Accurate budget projections are important in developing accurate future cash projections. To the extent that good transport projections are achievable, however, the most significant factor impacting the accuracy of cash projections is a changing DSO.

If the DSO is trending downward (the collection cycle is speeding up), actual cash collections will exceed projections. If the DSO is trending upward (the collection cycle is slowing), actual cash collections will fall short of projections. This is to be expected because cash collection forecasts are built on recently earned new Revenue (how much money will come in) and historical DSO (how long it has been taking to collect it). If the DSO is relatively steady over time, cash collections can be projected to within a fraction of a percent, which can be confirmed by adjusting out the impact of a changing DSO.

Collection Rate

If you've read this far, you are probably among the minority who already understand how meaningless it is to directly compare gross collection rates among different programs, or even across different years within a specific program. Differences in patient charges in a payer environment heavily burdened with fixed fee payers (most notably Medicare and Medicaid) always mean that the higher your charges the lower your collection rate – in a way that is completely independent of the performance of your billing service. This is not to say the gross collection rate is not an important metric and should be ignored. Quite the contrary, it is vitally important because it is the measure that tells you what proportion of every dollar you charge will ultimately be collected as cash. Within a specific program, for example, assuming charges are the same across all bases, the gross collection rate provides a good comparison of the relative financial strength of each individual base. The problem arises in misusing the gross collection rate to compare the performance of a billing service to another company, or even to evaluate how well an in-house billing service is performing. Both of these challenges can be addressed, however, by calculating an adjusted collection rate in addition to the gross collection rate.

The Adjusted Collection Rate is simply total Net Revenue divided by total collectible charges, which are specific services gross charges minus contractual allowances. Total collectible charges are theoretically the amount of money available to be collected by a perfectly efficient billing service.

	Commercial	Medicaid	Medicare	Other Gov	Patient Resp	All Payors
Charges 12 Months	$19,630,814	$17,625,866	$11,913,761	$2,590,016	$4,836,180	$56,596,637
Contractual Adj 12 Months	$267,462	$14,039,891	$7,885,705	$904,599	$0	$25,515,747
Collectible Charges 12 Months	$19,363,352	$3,585,976	$4,028,057	$1,685,417	$4,836,180	$31,080,892
Cash Collections 12 Months	$18,937,358	$3,585,976	$3,967,636	$1,661,821	$227,300	$28,380,092
Adj Col Rt	97.8%	100.0%	98.5%	98.6%	4.7%	**91.3%**
Gross Col Rt	96.5%	20.3%	33.3%	64.2%	4.7%	**50.1%**

(Gross & Adjusted Collection Rate)

Therefore, the Adjusted Collection Rate, which adjusts out most (not all) payer mix influences by factoring out contractual allowances (government or other), is a good measure of billing service performance over time, and a much more reasonable comparison of in-house billing service with another. It still has its limitations, which is a topic of another time, but it is exponentially superior to the gross collection rate when performance assessment is the goal. As with any tool, the utility of the Adjusted Collection Rate can be undermined by using it improperly. Contractual allowances must be limited to exactly those write-offs strictly defined as those required by a pre-transport contractual agreement with a payer (government and quasi-government payers that impose unilaterally dictated fee schedules, and any voluntarily negotiated agreements a service has made with other payers for future transports). Contractual adjustments cannot include one time or periodically granted after-the-fact discounts or adjustments because by definition these are subject to discretion. The fewer adjustments and discounts authorized by management, the more cash revenue for a company (theoretically), and the greater the apparent efficiency of a given billing service. Therefore discretionary adjustments and discounts need to be retained in the calculation of the Adjusted Collection Rate as potentially collectible charges, because, in fact, they are.

Collection Write-Offs and Recoveries

It is often said that the value of the DSO as a performance metric is not only overrated but dangerous because the quickest path to a low DSO is excessive and/or premature collection write-offs. There is absolutely no doubt this is true, especially if good accounts older than 91 days are preferentially written off and collection recoveries are added back to Net Revenue (presumably minus the high collection fees). This tactic would keep the New AR artificially low without proportionately lowering the Average Daily Net Sales as calculated on a running quarter. Thus, the DSO (Net AR divided by ADNS) can be artificially reduced in a way that is not in the interest of any company, and in a way that does not accurately reflect the efficiency of a specific revenue management process. For this reason, another important performance measure is Collection Agency Recoveries. A highly efficient billing service will pass only well-cleaned bones to the collection agency, and a good measure of that efficiency is the proportion of collection agency write-offs subsequently recovered. Therefore, as long as the DSO is not an isolated measure of performance, but is always considered in the context of collection agency recoveries as well as the overall Adjusted Collection Rate, it remains a highly useful indicator of billing service performance.

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Summary

What can any company know about their sources of revenue and their revenue management process? A lot – probably a lot more than ever thought possible with less effort than ever thought possible. **By properly applying HSI's powerful business Intelligence tools and processes, customized to meet the needs of this unique industry, to any company's existing database(s) companies can now know in as real time as makes sense to you:**

- How much of what is being billing out you will eventually collect as cash – overall, by region, by base, by requesting hospital, by payer group, by individual payer, by reason for transport, and more
- How current revenue management systems are performing
- How much of total theoretically collectible charges is current the current billing company in fact collecting
- How fast is the current billing company collecting your already earned money
- How much cash will arrive in the mail, or lock box, and when
- What requesting entities do you want to take especially good care of, and what counties do you want to keep squarely in your corner
- What is the net impact of actual or contemplated rate increases on your new revenue (often pitifully small)
- What is the actual, verifiable cash value of your outstanding accounts receivable
- Trends in all of the above – and more – over time

All that now stands between you and an accurate comparison of your current billing service's performance with another is a willingness to share performance measure results. HSI is always willing to share as we are always looking to benchmark our services. Even if your decision is to do nothing, information is now available to benchmark results, monitor results, and make sure the company does not fall behind expected goals.

The best part is any company/program can know all this without expensive and disruptive replacement of your existing software applications, even though they are incapable of ferreting out most of the answers hiding in the databases they create. A company can acquire answers to important strategic questions that require information from multiple unrelated databases. Business Intelligence has come to transport medicine and our businesses will never be the same.

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