



Healthcare Excellence Institute

New Generation Revenue Cycle Metrics

1523 W. Whispering Wind Drive

Ste. 150

Phoenix, AZ 85085

623.889.7124

<http://healthcare-consulting.org>

info@healthcare-consulting.org

New Generation Revenue Cycle Metrics

The lack of precise measurement of revenue cycle performance has long been an area of concern. While the industry currently uses a set of ‘accepted’ performance indicators, most leaders are well aware of the shortcomings of the current measures (table 1).

Traditional KPI	Issue
Net A/R days	Influenced by revenue cycle performance and accounting policy and execution. Does not consider total net revenue liability, but only the current A/R liability. Can be manipulated with simple journal entries. Can be highly distorted due to accounting practices. Does not provide associate level actionable information. Relies on accounting estimation of net revenue not recorded liability on accounts. Does not consider fundamentally different payment modal (self pay vs. insured)
Cash as a Percent of Net	Uses accounting net estimate versus liabilities at account level. Numerator of metrics does not match opportunity set in denominator, therefore creating a fundamentally 'noisy' definition.
Cash	Cash is an outcome measure, not a results to resource ratio. It is impacted not only by revenue cycle performance, but sales (total charges) volume and contract mix (payer mix) of the charges.
Denials	Denials are defined differently between and even within most organizations. Definition of denials versus write off denials make this metric highly dependent on very detailed definitions which rarely match between units of comparison

Table 1: Sample Current KPIs

Up to now, many organizations have been comfortable using the standard, “ tried and true” measures for monitoring revenue cycle performance. These measures, while helpful, merely show whether the revenue cycle is headed in the right direction – if Net A/R days are down, all appears well at the surface, but if they’re up, something’s amiss. The problem with today’s measures is they do not and cannot accurately pinpoint process effectiveness or efficiency issues, so, in a sense, we’re running blind!

Today’s economic reality is creating an urgency for understanding revenue cycle opportunities at a more precise level. After all, even a change as small as a 3 percent in cash receipts, month after month, can substantially change the financial outlook for many organizations. Driving additional funding from the revenue cycle is imperative for most healthcare organizations. It is also one of the easiest places to find it, as organizational containment allows for rapid change, versus the longer time periods required for driving changes into the clinical organization. Empirical evidence across many provider facilities has proven that the opportunity residing even within the best run revenue cycles, as determined by today’s performance indicators, often exceeds 7 percent, meaning net operating margins could have been improved by 7 percent or more by making revenue cycle changes alone. No other area in a provider

organization has this kind of leverage, which should put revenue cycle improvement activity on the short list of must-do activities.

So, what are the shortcomings and issues associated with traditional measures, and why is measurement so important?

First and foremost, to quote Lord Kelvin (1824-1907), “If you cannot measure, you cannot improve.” This statement is, of course, relative. If a revenue cycle is clearly amiss even looking at traditional benchmarks, reasonable corrective action can be derived from the traditional measures. In other words, if the gaps are large enough, even an imprecise measurement system is sufficient to indicate what the issues are. As a revenue cycle approaches ‘acceptable performance,’ however, the ‘noise’ in the traditional measurement system become so large that opportunities, although existent, are no longer clearly visible. This logic also extends into any pay for performance discussions. If pay for performance, a bonus, is being considered for a revenue cycle, then it must be based on precise metrics, otherwise the ‘reward’ will be given or withheld mostly due to measurement issues rather than true process performance. Lastly, imprecise metrics such as the ones prevalent today pose significant benchmarking issues, as there is no consistent definition between providers making comparisons near to impossible!

Technical and Definitional Issues

A classic example of the phenomena outlined above is the measure of **Net A/R days**. This key statistic is considered a primary measure of revenue cycle performance, and is often quoted in benchmarking comparisons of revenue cycle operations. There are several severe issues with this measurement making it less than desirable as a performance indicator! While Net A/R days are impacted by revenue cycle effectiveness, they are also affected greatly by accounting policies and their day-to-day execution. For example, accounting policies for managing bad debt will impact Net A/R days substantially. In some organizations bad debt write-offs and reserve decisions are made on an account-by-account basis, often with non-repeatable decision criteria. Even with this issue, the simple fact that bad debt decisions impact the metric in the first place introduces a large, non-revenue cycle related variable into the measurement. Any changes to the policy that occurs as part of the on-going accounting process influence Net A/R days greatly. This situation poses a challenge for the revenue cycle executive as performance changes may be due to revenue cycle performance or accounting policies or adherence to accounting policies. Who would know, exactly?

Net A/R days are also significantly impacted by the mix of insured business to un-insured business. The payment modals of insured business versus uninsured business are inherently very different. Net A/R days are therefore not a useful metric of inter-organizational comparison, which is how the metric is often used. Even with equal accounting policies and their execution, Net A/R days will be severely impacted by payer type mix.

Due to all these reasons, this crown jewel of revenue cycle metrics is very difficult to use to drive meaningful action to improve operations. In fact, due to all the issues associated with the metric, using it to manage operations is likely to produce counterproductive actions.

Cash as a Percent of Net is another example of a troublesome revenue cycle metric. Cash as a percent of net is traditionally calculated by first summing all cash received, for a given month, and then dividing it by an estimate of the net revenues generated in the last 30 days (or at times the average monthly estimated net revenues of the last 60 days). Inherently, this metric attempts to address many of the pitfalls of the raw cash metric. However, the issues with this traditional measure are multifold.

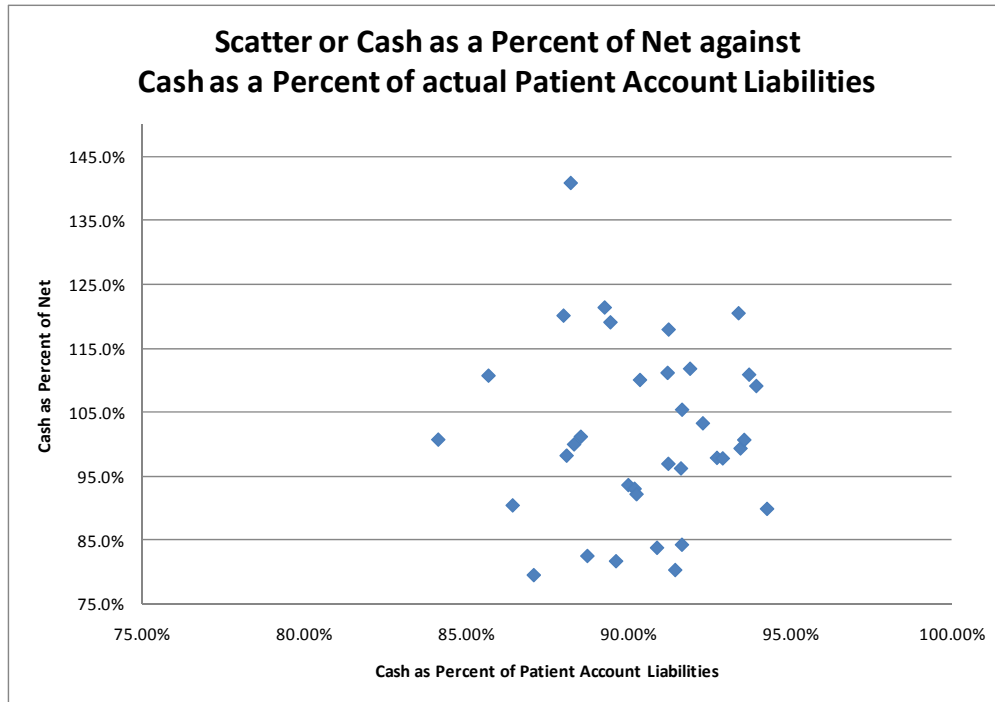
First, the cash received over the last 30 days is ultimately generated from the entire A/R available to collections during the last 30 days. As such, a very large proportion of the cash received in the last 30 days is in fact not associated with accounts discharged in the last 30 days; much of it is based on much older accounts. And secondly, the cash receipts for the accounts discharged within the last half of the 30-day time period cannot realistically be received until a later date due to the processing requirements for the revenue cycle and the payers.

This measurement is further complicated because the ability to estimate net revenues is somewhat limited due to all the issues outlined earlier in the discussion of Net A/R days (plus the potential impact of bad debt reserves), since this metric uses the accounting interpretation of net revenues, which includes a reflection of reserves, write-offs and recoveries, not actual net revenues generated. The issue of reserves and write-offs being taken as deductions from 'raw' revenues present an especially interesting problem. Since reserves and write-offs are generated using past experience (look-backs), the net revenues used in this metrics are actually not representative of the liabilities that the revenue cycle should collect against, but a lowered estimate of liabilities. Since the estimate is lowered using historic performance, and since this expectation of future performance is based on the past, the definition of this metric creates a false sense of doing well, even if historic performance has been less than ideal. In a way, this metric lulls one into believing that the revenue cycle is doing well, even if it is not!

As a result of these issues, the traditional cash as a percent of net metric is very imprecise and its definition introduces high volatility into the metric itself. Much of the variation in this measure is attributable to the issues with its definition, not due to process performance variation. This measure defies logic itself for many organizations. There will be months of Cash as a Percent of Net well above 100%, and other months that are much lower. Of course a number above 100% is largely due to the imprecision in the metric, which is then averaged out in later months, hardly a measure with any precision. Again, as stated before, if this measure is linked to pay for performance plans, randomness will be rewarded much more so than performance. When managerial action is taken based on this metric, tampering will ultimately result in long-term process deterioration (see Wheeler, Understanding Variation, The Key to managing Chaos).

All of these issues can be easily visualized when Cash as a Percent of Net is plotted against Cash realized from the actual insured liabilities from patient accounts. If Cash as a Percent of Cash was a good indicator, then it would correlate to the measure of percentage of liabilities realized as cash. As the

figure below indicates, this clearly is not the case, proving that this measure consist in fact primarily of measurement error, not valuable information.



Organizational Deployment Issues

In summary, the traditional measures currently in use are imprecise and only marginally useful due to definitional issues, which really cannot be resolved, since they are definitional in nature. No amount of pondering these metrics will ever address the fundamental definitional issues. In addition to this limitation, they are also of limited usefulness due to the organizational deployment issues that they present. Metrics by themselves bring no business value to an organization, but rather, the actions taken as a result of interpreting the metrics, the changes made, ultimately generate the additional value. In other words, metrics are only as good as their ability to trigger change. In this area the traditional metrics are deficient yet again. **Net A/R days and Cash as a Percent of Net**, to name the two top metrics being used today, are metrics aggregated in such a way that decomposition to the account level is not directly possible. Net A/R days are driven simultaneously by age and account value, where Cash as a Percent of Net is even more convoluted, as outlined above. At the associate level, where change must occur to improve the overall outcome, these measure have no direct meaning at all. Managers must go through a transformational process, breaking the metric down into sub-components, which may or may not translate well.

So in this process, we started with measures that are imprecise due to a definitional issue, which must now be translated to something meaningful to the associate level for real change - are hardly a path to

success. Good metrics are directly aggregated, and thus, easy to dissect for the associate level - none of the traditional metrics have this characteristic. This key element is just as important as the precision of the metric itself as only the change driven from the metric delivers an actual change in results.

Definition of Good Metrics

This analysis begs the question, *what are the elements and criteria that make up good metrics*. First and foremost, metrics are supposed to measure process performance. So good metric design must start with defining what process performance is for a particular process, which, in turn, requires defining what the fundamental purpose is for that particular process. Only after having defined the process purpose, in detail, can a discussion be had about the measurement of performance to that purpose. In the case of the revenue cycle, the fundamental purpose can be defined as converting net revenue, the amount 'owed' to the provider organization by the payers as defined in contractual agreements, to cash.

In more general terms, business metrics are defined as quantitative assessments of business and process performance. The primary purpose of metrics is to monitor performance and aid in the derivation of effective corrective action plans if performance is sub-par. The definition of sub-par is also another interesting topic. Some organizations rely exclusively on external benchmarks, while others strive for perfection never accepting current performance.

Secondly, metrics are used to provide organizational focus to ensure that resources are aimed at the correct activities. To further this concept, select metrics and associated goals are used to define incentive pay plans to motivate staff towards the achievement of results.

With this in mind, there are several criteria that apply to all useful metrics:

- Metrics must directly measure the degree of fulfilment of the process purpose
- Metrics must be measurable and quantitative
- Metrics must be objective and precise
- Metrics must be traceable over time
- Metrics should be of a nature such that all organizational levels can relate to them
- Metrics should be additive across organizational layers, ergo they should also be de-constructable from top to bottom

While the business performance monitoring objective of metrics is apparent to most, the human component evades many. Metrics play a major role in not only the motivation of staff, but also in the communication of purpose to the staff. In high performing organizations, associates have a sense of purpose relating to their daily activity, and metrics play a fundamental role in communicating how the fulfillment of this purpose is achieved. Said differently, the metrics themselves serve as a daily reminder to all of the fundamental purpose, which then aids in keeping the organization focused.

Metrics Caveats

Metrics are key business tools. However, several considerations, most related to the human factor, also have to be weighed when providing metrics.

1. The 'bandwidth' of the human brain is limited. Much research has been conducted with respect to this topic, some of it dating back as far as Pollak's studies in 1952 and published in the American Journal of Psychology. The results, no matter the study, clearly indicate that the human brain is limited in its ability to discriminate and assimilate across information. The 'magic' number appears to be around 7; 7 different informational elements are about the maximum most human brains can process at a time. A metrics-related example is to ask managers to derive actions by considering 15 metrics in parallel, an exercise that will most likely result in bad outcomes.
2. A picture speaks a thousand words. The human brain is a phenomenally good pattern recognition processor. In a graphical representation humans are able to interpret pictures quite well. The human ability to quickly digest information presented in 'number graveyard format' (raw data in numeric form) is much lower, thus metrics should be presented in easy to interpret graphical formats, such as run charts.
3. Outcomes don't mean much by themselves. Often, metrics measure outcomes. The problem with outcome measures is that they do not consider the resources consumed to achieve the outcome itself. Therefore 'good' outcomes may not be so good at all when the resources consumed are considered. Whenever possible, metrics should be stated in terms of results (outcomes) to resources (opportunity) ratios.
4. Metrics by themselves can turn into pure disaster documentation. As mentioned above, metrics serve a) the purpose of monitoring performance and b) metrics should drive motivation. However, if metrics are purely watched and there is no good corrective action process in place, defined as arriving at actions using the Pareto principle, they will not serve the organization well in the long term. Creating a management process that leverages knowledge gained from metrics, and then executes to that knowledge, is orders of magnitude more difficult than defining and generating the metrics themselves.

A Different way of Thinking about Revenue Cycle Metrics

Given the caveats associated with the traditional measures, and given the outlined fundamentals of metrics design, more meaningful and precise revenue cycle metrics can be defined. As stated before, the initial step is to define the purpose of the revenue cycle, which we will define as:

To convert payer, service, contract and demographic information into cash

A revenue cycle ultimately is the receiver of much informational content, which once digested, determines net revenue, which is then converted to cash. Once phrased like that, the outcome measure of course is obvious, cash. However, as outlined before, an outcome measure is not entirely useful, the key or most valuable resource consumed should be considered. The most valuable resource of a revenue cycle is of course unrealized net revenue itself (not revenue cycle labor, a common

misconception), ergo, a good measure is the cash received compared to the net revenue that was 'consumed' in the process. While this logic has resemblance to the traditional cash as a percent of net metric, the key difference emerges from here, in how the data is processed to arrive at the measure. The traditional metric utilizes data that has first been aggregated by calendar month, which then leads to the issues we outlined earlier.

In the new approach, each account is first assessed for performance given its individual timeline. Each account is discharged at some point in time, and from a business standpoint, the discharge date marks the completion of a credit sale. It is therefore logical to measure the performance of the revenue cycle against the discharge date. A timeline can therefore be created, at the account level, for cash realization for this individual account. In our *patent pending* process, each account is aggregated in 30 day intervals from day 30 to day 720, and the performance is evaluated using a Net to Cash (NTC) metric, where cash receipts at those intervals are compared to the net revenue associated with the account. The accounting disposition of the account, accounts receivables or bad debt, are therefore entirely irrelevant to the measurement, as from a revenue cycle standpoint a liability was created that should have resulted in cash receipts. This is a much more stringent measure in many ways than the traditional measure.

Only once the aggregation has been completed at the account level, is an aggregation completed at the calendar time frame level. For example, one can aggregate all accounts by discharge month and look at a comparison of discharge months over time, for example the performance of all accounts at the 30 day mark, or the 60 day mark, etc. The picture across varying aging brackets now presents not only a clear picture of revenue cycle performance, but it also has predictive capability. Lackluster pipeline performance by day 90 should trigger managerial analysis and action.

The logic outlined here is also be applied to the differences in payer modals. In order to make a true 'benchmark' comparison, accounts must be assigned to mutually exclusive modals in order for the comparison to be valid.

This metric, NTC for Net to Cash, is but one example of how revenue cycles can be measured to change performance. The second element is the introduction of a scientific corrective action process. Corrective action generation should span all organizational levels, especially given the complexity of revenue cycle operations. The input of all eyes and ears should be solicited continuously. Any corrective action should also be data driven, using the array of analysis tools including basic statistical methods if warranted.

ScoreLogix™, HEI's proprietary ASP delivered Revenue Cycle Scorecard provides a plethora of precise measures to revenue cycle executives wanting to take revenue cycle performance to the next level. For more information and details about the new generation metrics and ScoreLogix™, please contact Healthcare Excellence Institute.

Healthcare Excellence Institute -- Contrarian Revenue Cycle Solutions for a New Reality

Healthcare Excellence Institute was founded on the premise that substantial additional cash will be generated by applying non-traditional methods to revenue cycles. We have demonstrated that operating margins can be increased in excess of 8% year after year using this approach.

HEI's product and services portfolio offers solutions for customers ranging from those needing a limited scope solution, to those desiring a comprehensive revenue cycle redesign and to organizations desiring to outsource the entire revenue cycle.

Samples of our Product and Services Portfolio:

- **New Generation Revenue Cycle Scorecard & Management System (ScoreLogix™ -- ASP Software)**
The traditional revenue cycle measures of Net A/R days, Cash as a Percent of Net, etc. are too imprecise and inherently 'too noisy' to provide the business intelligence needed to minimize cash leakage from net revenues. As our presentation at ANI2008 demonstrated, the new generation revenue cycle metrics enable a comprehensive performance management system that allows cash realization to increase quickly.
- **Extreme Makeover Events (Consulting)**
Many revenue cycles suffer cash leakage due to specific process failures that should be addressed quickly. With our extreme makeover events our experts work with local associates to assess current operations, design new and improved processes and implement these processes in a one-week time frame. Results from this method of process change are immediate and visible, giving leadership a proven, practical and economical change management tool.
- **Scientifically based Collections Optimization (CollectLogix™ -- ASP Software)**
Collection efforts can be leveraged substantially via our patent pending prioritization index in conjunction with dynamic job aids that assist collectors in achieving maximum effectiveness. Metrics beyond productivity measures provide the insight to actively manage collections and predict outcomes.
- **High Performance Organization (Consulting)**
Technology plays a vital role in revenue cycle operations, it being a data processing 'business'. That said, organizational makeup, culture and maturity will ultimately determine success. Operating a truly world class revenue cycle is not a matter of doing a few things well and using some high end technologies; what is needed is an organization with a structure that intrinsically improves itself all the time. Our High Performance Work Team structure is the basis for building a 'self healing' organization.

HEI has used its 12+ year experience of applying Toyota Production Systems / Lean Six Sigma with Fortune 100 companies and applied this expertise to healthcare business operations. It was founded in 1997 and is based in Phoenix, AZ. HEI's healthcare clients have won multiple international awards for their world-class onsite business processes.