

NETWORK COMPETITIVE INTELLIGENCE IN MANAGED CARE

Abstract

Managed care is a highly competitive industry where market share is seen as a competitive advantage. Competitive analysis of the market is difficult due to the scarcity of reliable publicly-available information. Premium and benefit structures alone are not enough to determine the rates paid to suppliers of health care, and reimbursement rates are typically considered to be proprietary (and therefore confidential) information. One facet of managed care that lends itself to competitive comparisons, however, is the composition of the provider network. Accessibility metrics have long been an integral part of the RFP process, but only recently have

managed care organizations begun to realize the value of knowing exactly which providers in a given market are contracted with the competition. Due to a multitude of factors, acquiring a competitor's managed care network provider listing now takes less time and costs less than ever before. And once the provider data has been acquired, organizations are doing more with that information than ever before. Strenuus is at the forefront of these developments, and provides an efficient and economical end-to-end solution to the problem of acquiring competitor's provider network data and making the best use of it to improve market position.

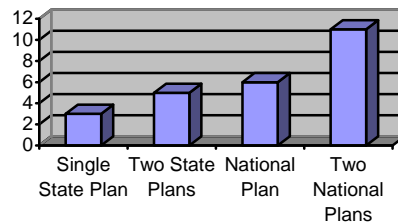
Data Acquisition Methodology

Strenuus' method of acquiring provider network data is simple. Strenuus queries publicly-available online provider directories to compile provider network data. We have developed technology that allows us to do this quickly and quietly, with a minimum amount of disruption to the host website. This represents a huge advantage in both cost and accuracy over the old method of scanning or manually entering provider network information from a printed directory. And the data is as current as the last time the site was updated, usually a matter of days.

Turnaround Time

The amount of time it takes Strenuus to acquire competitor network data depends on the geographic extent of the network, the complexity of the host site, and the response time of the host site. Generally, a regional or local network can be sourced and acquired within a matter of a few days; entire national networks might take a couple of weeks. One of the advantages of using Strenuus for data acquisition is that we don't re-use stale data gathered for previous projects unless the client specifically requests it to shorten the project duration. You can always be confident that the data we provide is the most up-to-date data available. Another advantage we have is that our understanding of the managed healthcare industry and the knowledge of

Turnaround (Days)



provider directory delivery systems enables us to collect data faster than most organizations.

Quality Assurance

Strenuus uses several quality assurance methods to ensure that the acquired network is both accurate and complete. Combined with our automated QA checks, our team members verify a statistically relevant number of searches manually for every project. We also QA the data throughout the collection cycle. This pervasive QA enables us to react quickly to any problems or changes that we encounter during data acquisition. Our extensive experience working with managed care provider data is further assurance that the data we deliver meets strict quality standards. Our QA methods have been repeatedly tested by many clients and have always produced exceptional results.

The Data Matching Challenge

Anyone with an IT background understands that matching data from heterogeneous sources is a challenge. And when you don't have reliable primary keys (or any primary keys), this task becomes far more difficult. This is the problem facing the managed care industry as a whole. Unreliable data creates a perception of inaccuracy for the whole organization.

The Provider Data Challenge

There are several factors that affect matching provider data across (and even within) sources.

Heterogeneous Data

Every health plan manages provider data in a different way. What is captured in one system may not be captured in others (ie, SSNs, TaxIDs). They may hold contracts at the group level. They may assign unique identifiers at the provider-location level versus the contract (or even different IDs for each network). Everyone uses their own specialty coding schema. Even seemingly little variations in how the provider names are stored can create significant problems in matching data.

Data Quality

Additionally, data quality is a pervasive issue in the managed care market. Some sources are diligent about maintaining data; others are not. In many cases, this can be a direct result of *where* they store data. Many plans will use their claim system as the source of their provider data. This has some obvious advantages in ensuring information is current; the downside is that the data is notoriously, and systematically, error-prone. Physicians will sometimes bill individually and sometimes as part of a group. Sometimes bills will be sent via PO boxes or through a clearinghouse. And typically, there is no process in place to purge old office locations.

The Net Effect

The net effect is that raw data in the organization can be inaccurate and incomplete. This can create significant issues in managing information within a system, and even more significant across systems. So when comparisons across systems have to be made, one of two situations will likely occur:

"Most enterprises don't fathom the magnitude of the impact that data quality problems can have. One of the biggest causes of poor data quality is the habit by company executives of passing along the data acquisition chore to IT, which may not have a clue as to what data actually is needed and why."

- Ted Friedman, Principal Analyst, Gartner

Under-Matching

This occurs when the comparison criteria is either too restrictive or based on data elements that are incomplete. A restrictive match, for instance, would be one that requires an exact match on all name and address components, and will miss common situations like:

- ◆ Hyphenated last names
- ◆ Nicknames
- ◆ Address with or without suite numbers
- ◆ SSNs (thus missing any facilities or records without SSNs)

The end result is that fewer records match than should have. This can have a dramatic and negative impact on situations like disruption analysis.

Over-Matching

This occurs when the matching criteria is too loose, usually as a reaction to under-matching. An example would be matching on just last name and zip code. This may work with uncommon last names, but creates significant problems for common names in highly-populated areas. While this may increase the appearance of matching (for things like disruption analysis), the over-matching is usually easy to identify and raises questions about the validity of the analysis as a whole.

Manual Matching

Most people in this industry are aware of the challenges and repercussions of under-matching and over-matching. They feel like the only alternative is to use one of these methods to get partway, and rely on manual review to complete the analysis. Of course, this is a laborious process, and the value quickly erodes as the provider networks change.

The Strenuus Solution

The Strenuus data matching process provides all the accuracy of a manual match and all the speed of an automated match. We have developed a sophisticated and rigorous process for provider matching between disparate data sources without any form of human intervention prior to the quality assurance review. Our automated matching process involves several steps designed to maximize the probability of a high-confidence match.

Data Standardization

We parse and standardize the names and addresses to remove abbreviations, punctuation, and case disparities. Addresses are converted to US Postal standards, verified, and, if possible, geocodes are assigned from the most up-to-date GIS databases. Phone numbers, where available, are standardized and area code / exchange combinations are validated to correct outdated area codes. Specialties are also translated and standardized, as are other available data elements that may be required to properly match the sources. In addition, an audit trail is created so that each transformation of the raw data can be traced from start to finish.

Data Matching

Once data has been standardized, Strenuus identifies matching records across sources. This includes:

- ◆ Matching records will be identified by virtue of comparing names, nicknames, suffixes, addresses and specialties.
- ◆ A proprietary scoring algorithm developed and refined over five years is used that allows 'soft' or 'fuzzy' comparisons of address and name components to ensure the highest possible match.
- ◆ 'Tie-breaker' criteria (such as phone numbers, tax IDs, specialties, etc.) are utilized for low-confidence matches to confirm or negate matches.

Individualization

Perhaps the greatest challenge in provider data matching involves 'individualization' logic. The challenge of matching providers across data sources is well-documented. The existence of address information helps in this process. However, this doesn't help in the situation where you want to match individual doctors across sources, regardless of office location. This type of analysis is fundamental in answering even simple questions like:

- ◆ How many doctors are in my competitor's network?
- ◆ What percentage of all doctors do I have under contract in a given area?
- ◆ How much of the volatility in a network is related to contracting, and how much is related to physicians changing offices?

The Strenuus Approach

Similar to the matching process described earlier, we have employed a fully-automated approach to solving the individualization problem. Our approach hinges on not relying on any single criterion, and instead using all available information in determining uniqueness. This system of 'hints' can involve:

- ◆ Identifying patterns based on name, specialty, and proximity.
- ◆ Using source-specific provider identifiers, where available.
- ◆ Using 'Transitive' logic to identify individual providers (i.e., $A = B$, $B = C$, therefore $A = C$).

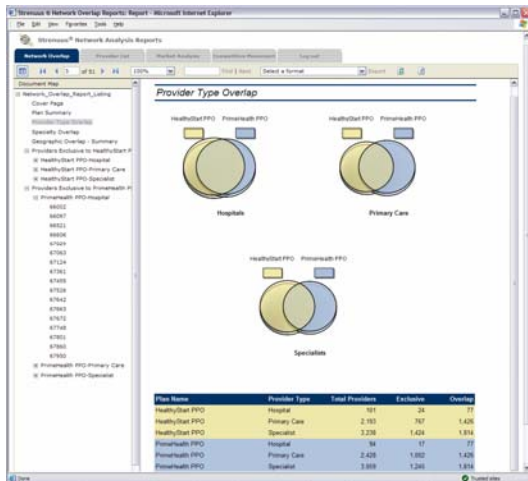
The end result is a highly accurate algorithm that allows analysis at any level: provider location, or unique providers.

Reporting

Once the data has been acquired, standardized, and matched with your network data, Strenuus has several reporting options available so that you can turn raw data into usable information, and information into a competitive advantage.

Reports Available

- ◆ **Network Overlap** reports show providers in common and exclusive provider statistics in graphical and list form, by provider type, specialty and geography.
- ◆ **Provider Listing** support allows you to generate provider candidate lists, or capture the competitor's entire network for your own internal analysis.
- ◆ **Market Analysis** is useful for comparing a network to the universe of known providers in a given market to determine market penetration and generate candidate listings.
- ◆ The **Competitive Movement** report details provider movement in and out of the network over time giving you a historical view side-by-side with the current data.



Strenuus® Network Analysis Reports

Network Overlap | Provider List | Market Analysis | Competitive Movement | Log out

Step 1
Select a Project and the report type
Sample [v]
 Provider-Location Based Individual Provider Based

Step 2
Select the base product: HealthyStart PPO [v] | Select the comparison plan: PrimeHealth PPO [v]
Select Project Generation: 11/3/2005 [v]

Step 3
Select the state filtering: KS [v] | ... and the geography grouping: County [v]
 Display Only Top Areas

Step 4
Include Provider Listing: | Select a Provider Type: [v]
View Report

* Indicates optional selection.

Report Options

All reporting is presented through our secure online reporting utility so that you can access, customize, print and download reports or raw data from any computer in your organization. This means that your organization will not be burdened with managing data; rather, you can know that the online system will always contain the most up-to-date information about each competitor.

Drop down boxes on the report selection page allow you to filter by state and provider type, and select the geographic granularity (state, MSA, county, or zip). Reports are offered using provider-locations or unique providers as the unit of measure.

Numerous output options are included. You can view or export reports in the following formats:

- ◆ PDF
- ◆ Microsoft Excel
- ◆ TIFF
- ◆ XML
- ◆ Comma Separated (CSV)

Benefits

Competitor provider network data and reporting are only useful to the extent that the organization derives tangible benefits from access to the information. Strenuus is helping many top organizations in managed healthcare solve real problems.

Sales and Marketing

Sales and Marketing professionals use Strenuus Competitive Analysis to highlight key network strengths in certain regions or specialties, establish a baseline for network overlap to determine the validity of incumbent data used in RFP situations, and identify physicians in incumbent data that could not even be verified against the incumbent's own physician directory.

Network Development

Network development professionals use Strenuus' Competitive Analysis to assess the impact of potential leased networks, compare potential leased networks against one another or against key competitors in a region, and identify direct contracting candidates based on highly targeted criteria:

- ◆ Which providers are in my competitors' networks but not mine?
- ◆ Which candidate providers do I already have under contract for other products?
- ◆ Which providers already have admitting privileges at my network hospitals?
- ◆ Who has received recognition from outside organizations such as NCQA?

Dispute Resolution through Objective Analysis

Some organizations use Strenuus Competitive Analysis to resolve a dispute between different areas within their company or to show the strength of their networks to the executive management. In one instance, sales department was concerned that the network's competitive position was causing lost sales. Network development was able to show the sales area that the composition of the network was superior to the competition, and efforts to improve sales results were appropriately focused elsewhere.

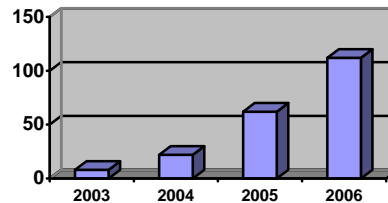
The Strenuus Advantage

Strenuus' data consultants all have extensive experience working with provider data and have been involved in the health care industry for many years. That experience translates into products of high quality and high efficiency.

Strenuus is a privately held company and our independence is our strength. We treat all of our clients in the same professional manner and have no ties to any particular managed care organization.

We take ownership in the quality of the product we deliver. We are not satisfied simply fulfilling a request; we work with our clients to understand their needs and strive to identify the best and most economical way to address those needs. Our focus on quality is unsurpassed. Because client satisfaction is our primary focus, we ensure that our product is delivered in a timely manner with accuracy being of utmost importance. Our quality assurance includes several checkpoints, which allows us to know that we are confidently delivering the most accurate and complete service as possible. We focus on long-term,

Plans Harvested by Year



personal relationships. Client success and satisfaction is the greatest indicator that we have in measuring the success of our mission.

In short, we deliver **better results, better value, faster.**