



White Paper

How your organization can
realize significant economic value
by fixing its healthcare provider
information problem

An overview for business
and technology executives

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Executive Summary

Operating in today's difficult business environment, every senior executive at organizations that pay and/or process healthcare claims is under pressure to reduce operational costs and improve margins. Savvy executives recognize that better use of information is one the keys to improved operating efficiency and personal success.

Information about healthcare providers is the foundation of many of a payer's key functions, including provider and member relations, the claims cycle and network management. The symptoms of poor provider information – complaints about provider directories, claims that don't auto-adjudicate, ever increasing labor costs and clients lost due to coverage issues, etc. – are evident to many. But, because of functional metrics and budget reports, the full cost isn't visible to any top executive. In addition, because most executives believe information quality to be a specialized, tactical concern, they rarely make understanding and improving it a strategic initiative.

As a result, senior payer executives are missing a significant, unbudgeted opportunity to reduce costs and improve operating margins while also improving member and provider relations.

Enclarity, a leading healthcare information solutions provider, has carefully studied the current state of provider data at payers, PPOs, TPAs, and other healthcare organizations. Enclarity's analysis revealed significant data quality problems in the provider files of all types and sizes of organizations. The analysis showed that improvements could easily be made that would result in hundreds of thousands to tens of millions of dollars annually, based on the organization's size and scope.

Because of the high return on investment, many market leaders have selected provider information solutions in the past two years. Payer executives who continue to ignore their provider information do so at their own risk – high quality provider information is increasingly seen as “table stakes” for efficient operations. In 2007, Frost & Sullivan, a leading technology analyst firm, named Enclarity's flagship solution the “Global Healthcare IT Product of the Year” because of its rapid affect on the industry, including its adoption by four of the ten largest payers.

The forward-thinking executives who have moved swiftly to realize value from improved provider information have established and implemented business strategies for provider information by:

- Starting with an unbiased, external assessment of the quality of their provider information today and the projected savings from realizable improvements
- Understanding how provider information is used in their organization today, quality requirements by use, and how the organization acquires, stores and manages provider information today
- Gaining a high-level understanding of what must be done for an organization to have the correct, current and comprehensive provider information it needs
- Understanding their organization's internal capabilities relative to the specialized functions within provider information management
- Determining the gaps between what is required and the organization's capabilities
- Making build versus buy decisions about key information, technology and process elements

This document provides a business overview of why provider information quality is an ongoing issue for organizations that pay and/or process claims. It reviews key industry statistics about provider information, lists areas where provider information affects your margins, explains how you can assess your current provider information quality, and summarizes the Provider Information Lifecycle.

Does provider information quality matter?

Almost everyone who works in an organization that relies on healthcare provider information notices significant errors and missing attributes in the data that fuels their provider directories, claims processing, network management, compliance, fraud detection and other important areas.

But, because provider information itself is a specialized area, and often in the queue behind traditional strategic initiatives and major IT projects, basic but important questions like, “How bad is our data?”, “Is it worth fixing?”, and “Can it be fixed?” often remain unanswered, and the underlying issue isn’t addressed.

As a result, the quality of an organization’s provider information degrades over time, resulting in operating inefficiencies such as low auto-adjudication rates, extra calls to member services, high mailing costs, extra staff for file remediation projects, and sub-optimal networks that cost healthcare payers hundreds of thousands, and even millions, of dollars each year. Those all too common, significant costs are why provider information matters.

Industry statistics: Poor provider information quality affects every organization

Provider information, especially demographic data, changes continually. Based on Enclarity’s research, 2% to 2.5% of provider demographic data changes each month. Other data attributes, such as affiliations, status and sanctions, also change frequently.

It is very difficult for an organization focused on its own business to keep up with all of those changes on its own. To do even a reasonable job, an organization must find and continually monitor all of the right industry sources, accurately match records across those sources, and select the right value of each data attribute across those records. Then, it must do it all again, this time matching the external information to the records in many internal systems and databases, and again selecting the right value or values for each attribute. And, it typically must make correct, current information available on demand to people who need it, and distribute it to many systems.

How successful is the typical organization at keeping up with ever-changing provider information? Consider the following facts that Enclarity has gathered by analyzing provider files from dozens of leading payers, PPOs, TPAs, property and casualty insurers, and others over the past few years:

In a typical file	Some extreme situations
<ul style="list-style-type: none">• 40% of the records have errors or are missing data• 28% of the records are duplicates• 22% of the providers have inaccurate or missing National Provider Identifier (NPI) numbers• 15% of the phone numbers are wrong or missing• 12% of the addresses are wrong or missing• 1.3% of the providers have sanctions• .2% of the providers were deceased	<ul style="list-style-type: none">• 71% of the records were duplicates• 39% of the providers had inaccurate or missing NPI numbers• 36% of the phone numbers were wrong or missing• 23% of the addresses were wrong or missing• 3.4% of the providers had sanctions• 2.3% of the providers were deceased• A review of a Blue plan’s Provider Data Quality Index (PDQI) audit errors: 76% could have been avoided and 20% appealed

Table 1: A summary of Enclarity’s analysis of provider file quality at leading healthcare organizations as of Sept. 2008.

When you consider how difficult sourcing, matching and verifying information at both the record and data attribute levels can be, the specialized data preparation, analytical and database techniques that are required, and the myriad projects that compete for an organization's ongoing time and attention, these disappointing industry average results really shouldn't be all that surprising.

Counting the cost of poor provider information

Unlike a budget for a functional area or an advertising budget, the cost of poor provider information does not appear neatly summarized on a single line of a typical organization's standard budget reports. Instead, the costs are often spread across the organization, appearing in areas such as IT, provider relations, claims, customer service, compliance and accounting. Because the costs aren't a big, obvious number in any of those areas, they are too often underestimated and thought of as "just a normal cost of doing business." As a result, addressing the underlying issue of bad provider data stands in the queue behind other problems that executives who manage those areas have more experience solving and can address in a typical planning and budget cycle.

However, when the costs are tallied, in detail, across an organization, the cumulative cost of poor provider information often surprises executives. For example:

- It typically costs more than \$5 to process a claim manually, versus under \$1 to process it electronically
- On average, 9% to 14% of provider direct mail is returned – and it costs \$4 to \$7 to resend each piece
- Researching provider information typically takes 20 to 40 minutes and costs \$8 to \$15 per incident

There are two families of provider information quality costs:

- **Costs related to establishing and maintaining a provider information file or files.** Some examples of these costs include:
 - One-time and ongoing IT costs related to finding, updating and licensing data sources, loading source files; developing and maintaining matching algorithms; developing and/or licensing software for standardization, parsing, and the like; storage; hardware; etc.
 - The costs of ongoing integration of the data into your systems, including verification of duplicates and potential changes, and the associated downstream processes associated with those changes
 - The labor costs for additions of and corrections to provider records, including verification costs
 - The ongoing costs associated with responding to changes in regulations and for compliance
- **Operating costs caused by bad provider information.** Some examples of these costs include:
 - Customer service costs of handling inquiries about provider directories
 - Manual rework of claims that did not auto-adjudicate
 - Call, research and documentation costs required to deal with disputed claims
 - Missed discounts when providers are paid at a higher rate
 - Normal and late payment interest associated with sub-optimal claims cycles
 - Returned mail costs and missed opportunities for mail aggregation
 - Administrative costs for re-cut checks and reworked 1099s
 - The costs associated with all types of provider research

- Underperforming fraud detection and other models due to duplicate records and an inability to match provider records in a data warehouse
- Inefficient and underperforming networks due to unfilled gaps
- Hard and soft costs associated with lower National Committee for Quality Assurance (NCQA) and PDQI scores
- Payment of performance guarantees
- The costs of compliance with many types of regulation, from state laws that require NPIs on claims to national laws related to improper payments to sanctioned providers
- The hard and soft costs related to member and provider satisfaction, including the potential for lost accounts and practices that quit the network

Based on Enclarity's experience, medium and large payer organizations can reasonably expect to recover hundreds of thousands, and even millions, of dollars per year by improving provider information quality. Enclarity has, in its work with very large organizations, even identified potential eight-figure annual savings.

You can know where your provider information quality really stands

There are two main methods to find out where your organization stands in terms of provider information quality.

The first is to ask the internal organization responsible for your provider data to report on its quality. But, because that organization would fix errors in the data if it could, that question is unlikely to yield an accurate, unbiased answer. You may hear that the many costly operational symptoms of bad provider data – complaints about directory quality, rejected and disputed claims, returned mail, re-cut checks, missed discounts, network gaps, performance guarantees you have to pay, late payment interest, etc. – are the result of exceptional situations.

The second is for a third party to review and analyze your data. When you select a vendor, consider:

- **The accuracy of the vendor's information.** You want to know whether your data is right or wrong, not whether it is just different from the vendor's. A vendor should have a comprehensive industry database to compare against, be able to clearly explain what they do to make sure their database is accurate, and be able to tell you their level of confidence in the quality of each data attribute in their file – and yours.
- **The vendor's ability to match to your records with the data attributes you need.** Vendors, especially vendors whose roots are in providing marketing lists, often quote impressive-sounding numbers about their sources of information and their provider counts. Both of those things can be, but aren't necessarily, good. More sources or records might result in improved quality, or they might not – it depends on the sources and the vendor's ability to select the right data for each attribute from them, and whether the sources contain the data attributes you need. High counts might lead to more matches, or they might not – it depends on whether the counts include duplicates, inactive providers, deceased providers, etc., and even more importantly, the quality of the data attributes you need in each of the vendor's records. In the end, in order to audit your data quality, a vendor must be able to accurately match to the provider records in your file, and be able to render an accurate opinion as to whether each data attribute in each record has a correct and current value, or if it is incorrect and out-of-date.

- **The vendor's ability to express your data quality in a way that can be used to compare status over time, across systems and even as a benchmark versus other organizations.** Detailed data quality statistics are important basic measures required to manage day-to-day data operations. However, because managements' needs are better served by a single indicator that rises above the detail to effectively summarize status, a vendor should offer an elegant, relevant summary measure as well as the detail.
- **The vendor's ability to go beyond an audit of data quality to quantify the expected return you'll receive from using that vendor to improve your information quality.** Projected and realized improvements in information quality can – and should – be translated in dollars terms for business executives. From business case to project review, insist that your vendor provide summaries of value using your data and your operating costs.

For further information, or to discuss how you can learn where your organization's data quality stands, what improvement is possible, and the value you would receive from that improvement, please contact Enclarity.

The key to efficient operations: Succeeding throughout the Provider Information Lifecycle

Every organization that relies on provider information must manage that information throughout the Provider Information Lifecycle. In order for an organization to have the correct, current and comprehensive provider information it needs for efficient operations, this requires an understanding of, ongoing attention to, and success in, each of the seven stages that each data attribute cycles through.

THE PROVIDER INFORMATION LIFECYCLE

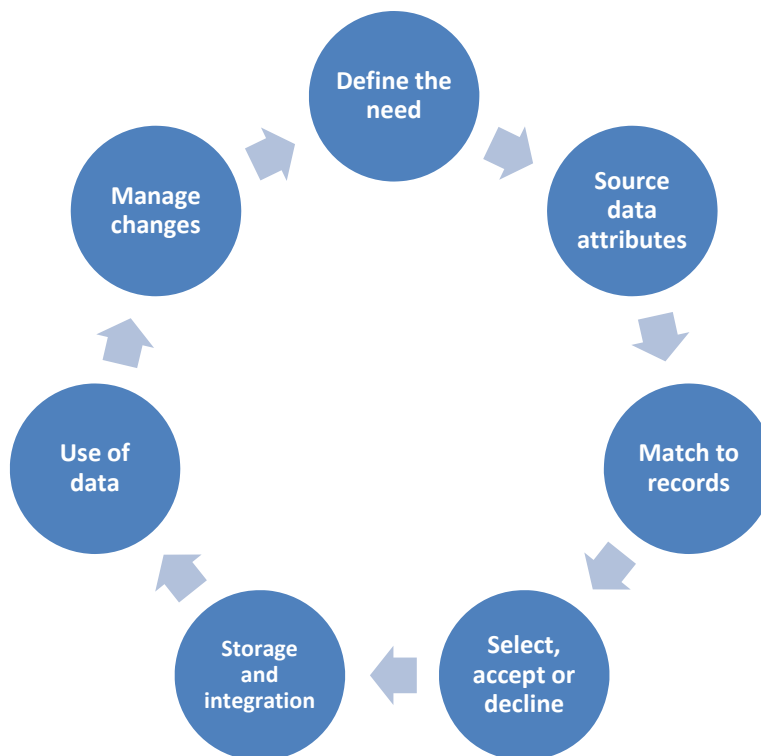


Chart 1: Payer organizations must succeed in all seven stages of the Provider Information Lifecycle to operate efficiently.

The challenges for an organization vary by stage of the Provider Information Lifecycle, as shown in Table 2. The implication is that an organization must be willing to develop significant expertise of many types. Then, once that expertise is developed, the organization must devote substantial ongoing resources to making top quality provider information readily available to all the people and systems that need it, when they need it. Alternatively, they can work with other organizations whose products and services can do some or all of that for them.

Stage	The challenge
Definition	The first step of the Provider Information Lifecycle is to define the data attributes that are needed in your operations, and to define a minimally acceptable level of quality, measured by fill rate and accuracy, for each attribute. Especially when an organization has grown via acquisition, establishing a common definition of each data attribute across the enterprise, much less an enterprise-wide data model, is a daunting and often time-consuming task. An incremental strategy for provider data, beginning with key systems, such as provider directories or claims, is a fast path that results in a visible success as well as significant savings.
Sourcing	The next challenge is to find a reliable, authority source for each data attribute. Sources that are definitive authority sources for one data attribute, such as the DEA for DEA numbers, are not likely to be definitive sources for other attributes, especially ones that change frequently, such as demographic attributes.
Matching	Data attributes from the various sources must then be matched to existing provider records or combined to create new provider records. The matching alone can be done in many ways, from simple exact matches on “common keys” (when they exist) to multi-point matches to sophisticated multi-attribute probabilistic methods. To reach the level of matching accuracy required for efficient operations, advanced data preparation, analytical and database methods must be employed to minimize the number of duplicate records while simultaneously limiting the number of “false positives” (combining records that should not be combined).
Selection	Bringing together records from various internal and external sources creates another challenge – choosing the right value or values for each data attribute. This thorny issue first occurs both when the provider record is established, then over and over again as new records bump up against the provider record in the course of daily operations. This issue is complicated in that it has many variations: selecting from more than one possible choice, making a decision on whether or not to accept or decline a change, or deciding whether or not the organization has enough confidence in any of the potential values to use them. Typically, organizations combine information sources, technology, and manual research and verification processes in this stage.
Storage and integration	Once a provider record is established, the next steps are to store it, and to make and maintain the connections between that record and the people and systems that need some or all of it so it is available when and where they need it. Success in this stage requires wide-ranging information technology prowess to deal with technical issues such as planning and performing updates, network capacity, varying file formats, search interfaces, retrieval speeds, security and so on.
Use	Oddly enough, due to the high standards of commercial applications, the day-to-day use of provider information often makes few demands on an IT organization. However, the efficiency of operational systems often masks the downstream inefficiencies caused by bad data. For example, claims are typically processed for less than \$1. But when a claim falls out and requires manual intervention, its processing costs rise to an average of \$5.
Changes	Provider data changes continually. Changes are reported in many ways, including in source systems, at the point of service, via fax, “silently” on submitted claims, etc. Providers readily communicate some changes to payers, but not others such as sanctions. Succeeding with changes requires quickly capturing the changes from all the various sources, matching them to right provider record, and triggering the internal processes to make the decision about what happens as a result of that information.

Table 2: A summary of the challenges for organizations by stage of the Provider Information Lifecycle.

As the table reveals, provider information quality is not a one-time project. It's an ongoing effort. To be successful with it, an organization must establish a strategy for managing the Provider Information Lifecycle, blending information, technology and processes together effectively and efficiently.

Until recently, due to the lack of high-quality solutions in the marketplace across the Provider Information Lifecycle, most payer organizations started by attempting to do most, or all, of it themselves. However, few have the full set of capabilities needed to achieve success with provider information on their own, so as marketplace solutions have matured, they have outsourced more of it, and achieved better results while incurring lower total costs. Even those organizations who do have the capabilities in-house typically find that specialized vendors with specific expertise and the ability to spread fixed costs across installations are able to do certain things better and more cost-effectively than they can be done in-house.

Understanding your information and technology options

There are five critically important information and technology components of the Provider Information Lifecycle. The table below summarizes the strengths and weaknesses of each component, and identifies the roles each plays in a best practices approach to provider information.

Component	Strengths	Weaknesses	Best Practices
Professional services	<ul style="list-style-type: none"> • Skill in managing large scale projects • Ability to bring experience from other engagements • Objectivity 	<ul style="list-style-type: none"> • Understanding of the provider data information problem and vendors in the space varies • Cost of engagement may be significant 	<ul style="list-style-type: none"> • <i>Project Management</i> • <i>Definition:</i> Define the data elements by application/use case
Information solutions	<ul style="list-style-type: none"> • Best source of high quality data attributes • Expert record-level matching • May include process and/or selection support • Hosted approach minimizes ongoing IT time and costs 	<ul style="list-style-type: none"> • Data goes outside of the firewall • Information must get to all the systems that need it 	<ul style="list-style-type: none"> • <i>Sourcing:</i> Creates provider records, verifies, cleans and augments data attributes in records • <i>Matching:</i> Provides high quality matching to provider records, enables matching between files without software implementation • <i>Selection:</i> Selects best version of each attribute, triggers and supports accept/decline processes • <i>Changes:</i> Keeps data attributes correct and current
Lists	<ul style="list-style-type: none"> • Readily available, often inexpensive • May include data beyond demographics 	<ul style="list-style-type: none"> • Quality is often suspect – is the data right or just different? • No matching, selection, storage or integration capabilities 	<ul style="list-style-type: none"> • <i>Sourcing:</i> Populate systems with information for an area, or for certain uses, such as marketing

Component	Strengths	Weaknesses	Best Practices
Master Data Management (MDM) and Data Services/Integration platforms	<ul style="list-style-type: none"> • Strong storage and integration capabilities • Typically include record-level matching • Many include selection support and other process support/workflow capabilities 	<ul style="list-style-type: none"> • No data included, no source of changes to data • High purchase price and total cost of ownership • Implementation is often lengthy and may require many system changes 	<ul style="list-style-type: none"> • <i>Storage and Integration:</i> Store data that is used many places, move data between operational systems • <i>Matching and selection:</i> May offer ability to work across sources and systems
Operational systems (Claims, CRM, etc.)	<ul style="list-style-type: none"> • Embody workflow, processes, etc. that enable the organization to perform a single business function very efficiently 	<ul style="list-style-type: none"> • No data included, no source of changes to data • The quality of data stored in and used by these systems is not managed • These systems rarely share data easily, don't store data needed for other uses 	<ul style="list-style-type: none"> • <i>Use:</i> Deploy data into business processes • <i>Changes:</i> Contributes changes at the point-of-service

Table 3: A summary of the strengths and weaknesses of critically important information and technology components.

Choosing the strategy that's right for your organization

The “right” combination of information, technology and processes varies from organization to organization – as does the mix of what is done internally and what is outsourced. Although many vendors who have products and services that develop, store or manage provider information claim to have “the only thing you need” for outstanding provider information today and tomorrow, in reality few vendors understand your business and the full problem well enough to know how the piece they offer fits into your organization’s puzzle. As a result, savvy executives establish strategies that fit their business goals and make the most of in-house and external resources.

The following factors are important for picking the strategy that's right for your organization:

- **Understand how provider information fits into your business strategy.** No payer can ignore provider information; it is a required part of your business. The strategic question for payer executives is how to obtain, maintain and use provider information. For example, because very high quality provider information that creates operating efficiencies is now used by market leaders, having high quality provider information is increasingly seen as “table stakes.” As a result, the potential for strategic advantage from in-house development of better provider information is shrinking.
- **Understand where you stand today and determine your willingness to let inefficiency and waste continue.** The costs of bad provider data are spread across the organization and are not easily seen in typical budget reports. So, the first step is understanding the extent of the problem across the enterprise. This can be obtained via a data audit with associated value metrics. Then, executives can make a sound business decision about how urgently a fix is needed.
- **Understand your organization's capabilities.** The sourcing, data preparation, matching and selection of provider information is a specialized discipline. Executives should make the time to gain an unbiased understanding of their organization's current capabilities, compare that to what is required for success, and decide whether it is going to be an ongoing core competency of IT.
- **Determine which stages of the Provider Information Lifecycle you will do in-house on an ongoing basis.** Most organizations take a hybrid approach, doing some of the work in-house and working with leading vendors for other aspects.

The following table summarizes, by stage, some of the key considerations for establishing a Provider Information Lifecycle strategy, with a focus on the issue of build versus buy.

Stage	Key considerations
Definition	Definitions can be developed in-house or with consulting support. In general, the more targeted an organization's effort – for example, if the focus is one area, such as provider directories – the more likely it is that the Definition stage can be done well in-house.
Sourcing	Few organizations are expert in sourcing provider data. Some have found their own data sources, or take a hybrid approach. But most rely on vendors for some or all of this stage.
Matching	Matching is the highly technical, critically important, foundation of high quality provider information. Most payer organizations have developed some level of record-matching capability in-house. And, most would acknowledge ongoing issues with duplicate records, which are the most visible symptom of significant issues with the underlying matching capabilities. As executives review their organization's Provider Information Lifecycle strategy, reviewing current alternatives in terms of software and hosted solutions is typically a key part of the process.
Selection	<p>There are two distinct parts to the selection of the best data attributes, each with different implications for the in-house versus vendor decision:</p> <ul style="list-style-type: none"> • The first part of selection is verifying the current data attributes and presenting candidates for changes. This part is typically done by whoever is doing the sourcing and matching. • The second part of selection is making the decision about each candidate. Although the decision itself is typically made in-house after following an organization's internal vetting processes, vendors can make a significant difference in the quality and efficiency of that decision by what they do in terms of the usability of their data. Top vendors will supply reliable data about each proposed change, and support internal processes via custom business rules, triggers of internal processes, and other workflow support, and by offering search capabilities that make research more efficient.
Storage and integration	Many options for database, ETL, MDM and other types of storage and integration software are available today. There are important differences among the vendors, and each organization should carefully consider them based on their urgency, strategy and capabilities. For example, vendors may offer industry-specific data models, options for MDM implementation styles, pre-configured connectivity to sources and systems, workflow support, etc., and have different levels of experience in terms of payer implementations.
Use	Similarly, there are many options available for operational systems. In addition to reviewing the options for the ease-of-use, functions and features relevant for business process support, executives should put renewed emphasis on the ease of getting information in and out of the system.
Changes	Especially when data quality is treated as a project, the complexities of sourcing and handling changes effectively is often overlooked. Because changes happen frequently and appear piecemeal in many places, including places outside the organization's walls, this stage, like the sourcing and matching stages it is similar to, is a great candidate for full or partial outsourcing.

Table 4: Key considerations for establishing a Provider Information Lifecycle strategy, with a focus on build versus buy.

It's easy to take the first step toward realizing value

If your organization has the telltale symptoms – inaccurate directories; rising labor costs from dealing with fallout, disputed and out-of-network claims; lost clients due to network gaps, and so on – it is suffering the effects of bad provider data. Because the costs are spread across your enterprise, and not easily visible in any budget report, the potential value of fixing the problem is almost certainly greater than anyone in your organization realizes.

Visionary executives in many organizations that pay and/or process healthcare claims have already reviewed their needs, their organizations' capabilities, the gaps, and what is available in the marketplace. And, they've taken action to reduce the pressure on their margins – and raised the bar for other organizations that still accept the operating inefficiencies caused by bad provider information.

You can quickly and easily gain an understanding of your organization's provider data quality, the potential for improvement, and the economic value you can realize from that improvement.

Act now. Contact Enclarity and take the first step toward more efficient operations.

About Enclarity

Enclarity® solves healthcare's provider information problem. The company delivers correct, current and comprehensive provider information solutions by blending thousands of data sources, advanced analytics and healthcare expertise. As a result, its clients improve results in many areas, including claims processing, provider directories and network analysis. Named one of the Top 100 private technology companies in North America by *Red Herring* magazine and awarded the Global Healthcare Information Technology Excellence Award by Frost & Sullivan, Enclarity is headquartered in Aliso Viejo, California.

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