



Comprehensive Provider Data Management for Insurance Exchanges and Online Directories



End-to-end data management for provider directories

The move toward a consumer-centric healthcare model demands a new approach to empowering consumers to make informed healthcare decisions based on individual preferences. This shift has made it increasingly evident that **access to desired providers** is one of the most important criteria considered by consumers during the plan selection process. Enabling consumers to utilize provider network information requires **managing the complexities of provider-based datasets**. From sourcing data from thousands of networks to delivering multi-payor provider search solutions, Strenuus has the **experience** managing provider information that is necessary to deliver a consolidated and reliable provider dataset.

Implementation

Collection

Direct Data Acquisition

A history of working with the health plans means Strenuus has strong industry relationships built on trust.

- Established data collection relationships
- Previously-supplied plan data “at the ready”
- Familiarity with contracting and data permission procedures

Data Elements

Flexible data specifications will outline the data elements required to fit your needs and support your exchange functionality.

Public Directory Data

If a carrier does not deliver data, Strenuus has a solution to keep your critical networks intact. Our proprietary technology enables us to gather any public directory data and merge it with other data feeds to deliver a comprehensive directory.

Validation

QA Validation

A comprehensive QA baseline is established based on health plans' unique data structures and custom business rules for your organization.

Count Validation & Gap Analysis

- Normative reporting
- Harvest validation
- Carrier and client reports
- Previous submissions
- File consistency

Independent Data Validation

Independent data validation is an important aspect of ensuring data consistency. Harvested, directory-sourced data is an invaluable resource for validating network data that provides an unquestionably accurate and current comparison, that will distinguish your data in the marketplace.

Processing

Reliable Data

An important consideration in managing user-ready data from multiple sources is ensuring data consistency. Strenuus uses monthly updated geographical data and latest best practices in standardization to prepare each set for merging into its master file.

Internal Multi-Step Processing

- Cleaning
- Standardization
 - Names
 - Addresses
 - Specialties
- Duplicate checking
- Normalization
- Geocoding
- Domain mapping

Comprehensive • Accurate • Reliable • Efficient

Enhance your exchange's **consumer focus** with integrated decision support tools that allow users to select the plan that best meets their unique needs and preferences. Consumers repeatedly cite **"doctor in network"** as the most important factor when selecting health insurance.

ProviderNexus™ delivers the data needed to support highly **personalized plan recommendations** for exchanges based on their users' unique provider needs and preferences.

Matching

activematch

ActiveMatch™, our proprietary dynamic matching algorithm, is designed to fit each client's unique needs. Developed and refined over ten years, ActiveMatch allows for intelligent and fuzzy comparisons to ensure high confidence matches.

- Variations or misspellings in provider or facility names
- Nicknames, abbreviations
- Multiple practice locations
- Differences in the presentation of specialties and addresses
- Accurate identification of providers at multiple locations

Individualization

Accurately identifying unique providers is the key to delivering meaningful information.

- Physician type matching
- Hospital and facility matching

Delivery

Complete, consolidated, provider dataset for your unique single or multi-payor provider directory and search portal needs.

Integration

Provider Nexus API

Secure, state-of-the-art, cloud-hosted

- Provider Search
- Personalized Directories
- Network Ranking

Development support

The exchange client utilizing Strenuus-hosted APIs will have ready access to a senior software developer to provide code samples and assist with development around the API.

Self-Service Portal

A fully-automated system for data receipt and processing allows for data deployments to happen continuously.

- Payor view for data review and sign-off
- Client view for optional data approval and business rule management

Updates

Data Feed

Regular updates ensure the data is always current and reliable and that information can be used by consumers to make meaningful decisions. Once approved by the data supplier and (optionally) the client, data is immediately available in production.

Scalable

As your exchange grows, adding both products and members, ProviderNexus adapts to your needs without unnecessary investments on your end.

Account management

A successful project implementation involves interaction with Strenuus on a variety of fronts. A dedicated account manager will coordinate business rule implementation, data and application testing, status updates, and overall account support to ensure the highest level of service that is the basis for maintaining our strong client relationships.

ProviderNexus empowers you to provide **meaningful decision support tools** that deliver a **personalized, dynamic shopping experience**

Managing provider data involves understanding the complexities of provider datasets

Provider Data Challenges

Data Quality

Data quality is a pervasive issue in healthcare. Some sources are diligent about maintaining data; others are not. This is often the direct result of *where* data is stored and maintained. Many plans use their claims 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 may bill individually or as part of a group; bills may be sent via a PO box or through a clearinghouse; and typically, no process is in place to purge old office locations. Information is often missing and duplicates are prevalent in provider records, leading to poor quality data. Ultimately, provider data supports many critical operations of a health plan, including credentialing, claims, contracting, provider directories, and network analysis. Each function has its own unique business needs. By making provider data *appropriate* for all business needs it becomes *not ideal* for each one.

Heterogeneous Data

Every health plan manages provider data in a different way. What is captured in one system may not be captured in others (e.g., SSNs, TaxIDs). Everyone uses their own specialty coding schema and

even seemingly minor variations in how provider names are stored create significant problems for organizations with no experience matching provider data across sources.

Individualization

Perhaps the greatest challenge in matching providers across multiple sources involves 'individualization' - or uniquely identifying providers and keeping that identification across each processed data feed over time. The absence of provider search features on many multi-payor exchanges demonstrates the challenges of delivering the data required to support meaningful network comparison tools, even when all data elements are required and supplied. These challenges arise as a result of variations in data elements across sources: providers are often listed under different names; like, William, Will, or Bill, and they may practice at multiple locations, but how do you determine that Dr. William Smith practicing at 1000 Main St in Portland, OR is Bill Smith, MD practicing at 2000 Broadway in Portland, Oregon? The ability to effectively manage identifying unique providers across data sources is key to delivering a reliable, comprehensive provider dataset.

The Strenuus solution to comprehensive, accurate data

Strenuus delivers a sophisticated process of sourcing and managing network data on behalf of our clients. These customers depend on Strenuus to relieve them of the complexities of preparing the data so they can focus on the results for the benefit of their bottom line.

Direct Data Feeds - A history of working with health plans means Strenuus has established data collection relationships built on trust. We work with clients to establish a delivery schedule and data specifications that fit their needs. Direct data means you receive the most current and complete data directly from the carrier.

Public Directory Data - Our extensive experience dissecting site navigation and page layout combined with our proprietary technology to quickly harvest complete datasets from public directory sources and merge them with other data feeds allows Strenuus to deliver a reliable dataset when direct data is not available.

ProviderNexus™ removes the complexities of collecting and processing data, ensuring your users have reliable information

Data Standardization

Name Standardization

Strenuus' standardization processes has been developed to deliver the most accurate record for the specific item.

Providers - Strenuus will parse names into their component parts, (first, middle, last, suffix, degree). This automated process is used to identify anomalous names that may not have parsed correctly in order to present those anomalous names through an interface for a QA analyst to review, correct, and approve.

Hospitals - Hospitals (GAC, children's and women's hospitals) are matched against a master list managed by Strenuus, and the final name presented will match the presentation from other referential sources, such as the AHA or the NPPES registry.

Other Facilities - Non-hospital facilities will undergo some in-line standardization, but will largely be left unmodified. These standardizations include handling of abbreviations (ie, Med Ctr), punctuation (St. vs. Saint) or business types (ie, Inc, LLP).

Address Standardization

Strenuus uses third-party software for address validation and geocoding. This address validation process may make in-line corrections to the data for things like street name misspellings, incorrect or outdated zip codes, directional indicators (ie, N, NE, W) or street features (ie, St, Ave, Dr).

Validated Addresses - The vast majority of addresses will be street-level verified. These will be stored in USPS preferred format. Geocodes (latitude and longitude) will be specific to the address location.

Non-validated Addresses - Addresses that cannot be validated will still be standardized to the USPS preferred format. The geocodes assigned will represent the zip code, not the address.

Unusable Addresses - If the address and the zip code cannot be validated, the record is not included in the downstream output.

Provider Attribute Standardization

Based on the type of data element, Strenuus may perform some in-line standardization to certain types of provider attributes.

Specialties, Provider Types, and Languages - Display values for certain provider attributes, can vary widely from one source to the next. Ear Nose and Throat, ENT, and Otorhinolaryngology all mean the same thing, but can create significant obstacles to analysis and usability. Strenuus manages master domain values for these types of attributes and uses an automated process for mapping these attributes to a 'Strenuus standard'.

Provider Identifiers - While there is usually no easy way to determine if an identifier for a provider is correct, there are often mechanisms for identifying incorrect values. Taxonomy rules exist for many types of identifiers (such as tax ID and NPI) that allow us to eliminate incorrect data.

Data Matching using ActiveMatch™

Once data has been standardized, Strenuus identifies matching records across sources. ActiveMatch, developed and perfected in the integrative processes supporting thousands of data feeds since 2001, provides the accuracy of a manual match with the speed of an automated match, ensuring high-confidence matches. Strenuus developed this proprietary process for provider matching between disparate data sources to require minimal human intervention and has successfully used it to support many provider search applications. The ActiveMatch approach includes:

- Comparing names, nicknames, suffixes, addresses and specialties.
- Utilizing a proprietary scoring algorithm that allows 'soft' or 'fuzzy' comparisons of address and name components
- Utilizing tie-breaker criteria (such as phone numbers, specialties, etc.) to confirm or negate low-confidence matches.

ProviderNexus™ delivers comprehensive and reliable provider data you can use with confidence

Data Aggregation

Any downstream deliverable of data from Strenuus' Provider Nexus solution includes two views of data.

Source-specific Data View

A source-specific view of data will allow the recipient to recreate data as it was supplied by each source.

Aggregated Data View

An aggregated view of data will allow for easy searching across sources. For web / directory projects, this aggregated view is relegated to the presentation of the name of the provider or facility. In order to support a user-friendly search feature, Strenuus uses an algorithm that selects the most complete name among the different variants, with weight given to name variations that can be confirmed against the most independent sources.

Provider Nexus API

The Provider Nexus API is hosted in a high-availability data center.

Web / API

- RESTful API using JSON. Application layer is built using node.js.
- Security authentication is performed using client-specific API keys and IP restriction.
- Web layer is load-balanced across multiple availability zones for fault tolerance and performance guarantees.

Database

- Data is stored in a PostgreSQL (v9.4) database.
- Data is replicated to secondary servers in separate availability zones for fault tolerance and performance guarantees.
- Transactional data is backed up hourly; full backups are done weekly.

Infrastructure

- The API is supported by AWS (Amazon Cloud), one of the most flexible and secure cloud computing environments.
- This environment provides an extremely scalable, highly reliable platform.
- Enables customers to deploy applications and data quickly and securely.
- Handles unexpected spikes in volume at a fraction of the time and cost that would be required for non-cloud based systems.

Logging and Monitoring

- Internal systems are used to process all system and application logs and to alert operations staff for critical events.
- Server Density is used to monitor the performance, availability, and disk space of the hardware.

Reference Data Endpoints

- The API will include one endpoint for each of the following resources: plan, specialty, specialty group, provider type..
- Each endpoint will support GET functionality and sorting.

Consumer **decision support tools** that **enable users** to find their **best-fit plan** are an important aspect of an exchange solution

A successful exchange strategy demands a proven approach to provider data. At Strenuus, provider data is our singular focus. Let Strenuus handle all aspects of your complicated provider data requirements and we will deliver a unified, individualized, high quality provider dataset that will give you a competitive advantage. Even though your provider network data comes from multiple health plans, your users get clear, concise and accurate provider results without having to leave your exchange application.

Q What makes Strenuus' data management solution better than other provider directory solutions?

Flexible Solution is built to fit your business requirements, including, process implementation and data integration solutions that are tailored to each client's unique needs.

Comprehensive Provider Database that Strenuus maintains is the most accurate national database of network-tagged providers, providing a baseline to validate new data submissions.

- Hundreds of network sources
- 250M provider searches per year

Complete Dataset can be delivered by utilizing direct-supplied data as well as public provider directory harvesting, Strenuus can fill in the gaps from sources that aren't timely in delivering the data.

Instant Deliverable ensures your timeline stays on track. It is difficult to quickly develop software that "does everything." Strenuus' existing tools and modules mean speedy deployment.

Current Data with weekly, monthly or quarterly updates – depending on the needs of the project.

No Additional IT Infrastructure Investment is needed; all of the data processing is done on our secure servers.

A Strenuus is the only company that offers both direct data collection and data harvesting, to fill in the gaps and ensure that the data is complete, consistent, and reliable.

Experienced Team. Proven Results. The Strenuus team has strong relationships with existing contacts in the managed care industry; including established data collection relationships with plans and a familiarity with each plan's contracting and data permission procedures. These relationships mean that health plans and large benefits consultants have trust in our data expertise and delivery. Strenuus sources data from thousands of networks; this strong history of managing provider data means Strenuus has the experience necessary to deliver a consolidated and reliable provider dataset. With more than 20 years of experience in the health industry, Strenuus' dedicated team is driven to deliver the results that matter to you.

Scalability means that we can facilitate your growth. As your exchange engages more plans and adds more members, Strenuus will give you predictable costs and increased flexibility to add hardware quickly.

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About Strenuus

Strenuus' roots are in the development of the very first online provider directories. This experience means our team knows the ins and outs of online directory systems and healthcare provider data - the lifeblood of these directories.

Today, Strenuus has a range of software and data solutions centered on the management of healthcare provider data and our unique ability to match the individual doctors and hospitals in one health plan's network with those of other networks, ultimately enabling us to maintain a comprehensive list of providers with robust information about their affiliated health plans and networks. Our expertise in working with provider data combined with our unique ability to manage and process this data has made Strenuus the go-to resource for a variety of industry stakeholders who need actionable information about provider networks.

In addition to Strenuus' role supporting network optimization efforts for payors, it has become the backbone for integrated search solutions for exchanges and online directories. Strenuus offloads the provider data 'headache' for these exchanges, allowing them to focus on what they do best.

