

The HIE Master Provider Index: More Than a Yellow Pages Directory

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HEALTH MARKET SCIENCE

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Introduction

Achieving Stage 1 meaningful use requirements for e-prescribing and sharing lab results and summary care reports will require accurate, comprehensive provider directories. Health Information Exchanges (HIEs) must have a means of assuring that clinical data transactions are routed and delivered to the right recipient and that the recipient has the appropriate credentials to merit authorization to receive these transactions. The main challenge is that providers have two identities: a personal identity and a professional identity. Therefore, the HIE must verify both of the provider's identities before allowing the transaction to take place. This will require that two types of provider directories be incorporated into the HIE infrastructure: a "Routing Directory" and a "Yellow Pages."

- The "Routing Directory" contains digital certificates to verify a provider's personal identity and information required to electronically route transactions to the appropriate person.
- The "Yellow Pages" lists provider demographics such as address, phone, and fax number.

But while a Yellow Pages-type directory may provide sufficient information to contact a provider, the minimal data set does not contain enough information to verify a provider's professional identity or to fulfill the other business needs of diverse HIE stakeholders. A detailed "Master Provider Index" that is flexible, accurate and scalable enough to store a wide variety of data elements about each provider would allow HIEs to verify a provider's professional identity and current standing with confidence because it continuously aggregates this data from multiple sources across all 50 states and applies rules-based algorithms to consolidate this information into a provider "Golden Record" or "Source of Truth".

The Master Provider Index should have sophisticated and adjustable matching logic to facilitate finding the correct provider record including the ability to search by NPI, state license #, DEA#, nickname, first and middle name reversals, and vanity city names. (A vanity city is the name of a locality that has the same zip code as a United Postal Service city name. The National Payer and Provider Enumeration System NPI lookup contains over 100,000 vanity city names for service address and over 100,000 vanity city names for mailing address.)

In addition, a comprehensive Master Provider Index could support a wide variety of other business needs for HIE stakeholders:

- Public health agencies need accurate provider contact information to send out emergency alerts and for quality reporting.
- Health plans and PPOs rely on affiliations, addresses, tax id numbers and other provider data for claims adjudication or repricing, network development, contracting, credentialing and fraud and abuse investigations and their proprietary network provider directories.
- Hospitals, medical groups, home health agencies and other provider organizations use the data for billing, revenue cycle management, marketing, credentialing, and referrals.
- Retail pharmacies and PBMs need accurate provider data to fill e-prescriptions and for pharmacy claims adjudication.

This paper discusses the value and utility of the Health Market Science (HMS) National Master Provider Index in more detail.



The Complexities of Provider Data

Historically, providers have been lax about updating changes to their profiles with their trading partners, in spite of contractual obligations to do so with state license boards, the DEA, CMS, NPPEs, and others. Unless these changes will impact their revenue stream or disrupt services for their patients, the providers have no real incentive to update their information in a timely manner. In addition, the provider may not feel that it is necessary to update all the changes to his information, placing greater emphasis on updating his credentials than his demographics. Entering new data into an application or attestation email takes time, and it is human nature to take the path of least resistance and enter the least amount of information. Therefore, deactivating an old address, phone, fax, or adding a new address, phone fax for an additional office will not create a sense of urgency as long as the provider can continue to receive his remittances electronically at the same account or by paper at his primary address.

Healthcare provider data resides in multiple, disparate sources including health plans, PPOs, group practices, hospitals, state license boards, the DEA, CMS, etc. As such, the data for the same provider at each of these sources is fragmented and incomplete. Each of these data sources maintains its own set of data attributes, some of which are the same and others completely different. In addition, each of these sources has its own process for updating the data—ranging from self-reported updates to email and/or telephone validation to web harvesting—all on different time schedules. Which source has the correct data – the right answer? Hospitals and health plans only re-credential their providers every two to three years. Many changes to the data can occur during that lag period. Provider data files are full of errors, inaccuracies and inconsistencies as a result of:

- Unverified self-reported data
- Manual data entry errors
- Name changes due to marriage or divorce
- Practice status changes due to retirement, sanctions or death
- Address, phone, fax changes due to moving or expanding to additional locations
- Multiple locations that may cross state lines
- Multiple state licenses
- Sanctions from different authoritative bodies
- Multiple tax id numbers
- NPIs that were never retroactively crosswalked to historical provider information



HIE High Value Utilization of a Master Provider Index

Keeping up with changes to provider data is a time consuming, labor-intensive task which requires access to multiple quality sources of provider information plus a quality control process to ensure that the data is accurate. Each source must be vetted on a regular basis to make sure that it is maintaining an acceptable level of data integrity.

Health Information Exchanges can realize the greatest value by using a Master Provider Index for the following business processes:

- Provider Enrollment/Registration
- Privacy and Security Provider Verification
- Shared Provider Directories
- Provider Contact Information for Care Coordination
- Historical Contact Information for Fraud and Abuse Investigations
- Provider Profiles for Health Plan Administrative Business Processes
- Provider Profiles for Consumer Evaluation

Provider Enrollment/Registration

All HIEs must enroll providers wishing to participate in the Exchange. Enrollment applications can be pre-populated with information from a Master Provider Index, making the enrollment process faster and more user friendly. Providers can correct erroneous information by exception and pass them along to the Master Provider Index administrator for validation. The HIE can also require specific data elements as part of the enrollment process which can be added to the Master Provider Index and can be leveraged by various HIE stakeholders, such as health plans and public health agencies, to help them to achieve operational efficiencies with more accurate provider data for their distinct business needs. In addition, a Master Provider Index can facilitate “on the fly” enrollment of an unfamiliar provider from outside of the HIE medical trading area and fabric of trust in the event that a patient traveling out of town seeks treatment from such a provider.

HIE Privacy and Security Provider Verification

HIEs have a responsibility to deny exchange authorization and/or data privileges to providers with sanctions and/or inactive or suspended licenses and credentials. The Federal Health Information Technology Strategy for Privacy and Security requires that HIEs: implement security methods to ensure appropriate authorization and electronic authentication of health information, improve privacy and security protections for health information, and prevent unauthorized or inappropriate access to protected health information. The penalties for unauthorized use of healthcare data are significant. Under the American Recovery and Reinvestment Act, penalties have increased from a maximum of \$25,000 to a maximum of \$1.5M.

Although HIE participants are required to maintain accurate provider information as part of the “fabric of trust”, hospitals and health plans only re-credential providers every 2-3 years, provider data from participating HIE healthcare organizations may not be up-to-date, and differences in credentialing and provider file maintenance schedules across multiple disparate systems in the same organization and same HIE frequently result in provider profiles that may not be in sync across various departments at these organizations.



In addition, since NPPES does not verify state license information, anyone with a social security number can fraudulently obtain an NPI which will enable him to fraudulently bill for healthcare services and fraudulently write prescriptions.

While the public is concerned with medical identity theft of patient information, there should be just as great a concern about provider identity theft, because it is easy to research a provider's NPI and state license number and fraudulently bill an out of state health plan for services as an out of network provider at a new billing address. Furthermore, there is typically a lag time between when a provider dies and when his state license board is notified of his death. It would be a simple matter for a fraud to temporarily assume the dead provider's identity and bill for healthcare services.

A Master Provider Index with historical information about a provider can be leveraged to generate "secret" or "challenge" questions to identity-proof an unfamiliar provider. (For example, "What year did you graduate from medical school? Which medical school did you attend? What are the last 4 digits of your DEA number?")

Shared Provider Directories

The HITECH Act encourages contiguous states to share provider directories to facilitate interstate data exchange. A National Master Provider Index can be easily segmented into specific Statewide Master Provider Indices to help enable this communication pathway with information about another state's provider addresses, phone numbers, fax numbers, and affiliations.

Provider Contact Information for Care Coordination

Coordination of care requires easily accessible address, phone, fax, and email information for primary and referred-to-providers as well as for non-registered providers mentioned in patient summary histories who may need to be contacted.

Historical Contact Information for Fraud and Abuse Investigations

A Master Provider Index with robust historical information can facilitate fraud and abuse investigations and enhances the provider identity proofing process.

Provider Profiles for Health Plan Administrative Business Processes

Health plans need accurate provider information to ensure that the correct payment is made to the correct provider at the correct address. They also need information for network development, to maintain proprietary network provider directories, to reduce mailing misdirections, for fraud and abuse investigations, and to optimize provider customer service.

Provider Profiles for Consumer Evaluation

If a consumer has not established a level of trust with his primary care provider, he needs provider profile information including years of experience, specialty, and education to make an educated decision about whether to authorize a provider to view his protected health information.



The HMS National Master Provider Index

Most Health Information Exchanges recognize the need for a Master Patient Index (MPI) to aggregate patient information that is scattered in a federated fashion across multiple sources including hospitals, physician offices, labs and radiology centers. Healthcare providers, payers and administrators need an “enterprise” patient-centric view to optimize clinical care as well as administrative services. There is a general consensus that building a National Master Patient Index cannot be accomplished without a unique patient identifier. Regulations prohibiting the use of the social security number as that unique identifier have rendered the concept moot.

Ironically, the healthcare industry has yet to embrace the concept of a Master Provider Index, opting instead for local provider “directories” with minimal data sets which are equivalent to phone book listings or mailing lists that contain basic contact and demographic information. Such thinking is short-sighted and analogous to the “just enough” philosophy of building a three-lane highway to accommodate today’s traffic volume when such a highway will be inadequate for the traffic volume five years hence and will require major new construction at a later date which could have been avoided with better planning and more foresight.

This is similar to what happened with the National Plan and Provider Enumeration System (NPPES), which had a golden opportunity to build a definitive National Master Provider Index but settled instead for an NPI Yellow Pages. However, NPPES did succeed in assigning a unique provider identifier to most providers in the U.S. Although NPPES has not validated most of the self-reported information in its database, Health Market Science (HMS) has taken advantage of the NPI and incorporated this unique provider identifier into the HMS National Master Provider Index to crosswalk every provider’s information across all data elements and across all 50 states to create a comprehensive Provider “Golden Record”.

The HMS National Provider Master File is an accurate, comprehensive database that contains detailed information about 5.1M individual providers and 1M provider organizations. Health Market Science continuously aggregates provider credential data from 1,700 primary provider data sources including state license boards, the DEA, OIG, SSA death file, CMS, etc. This includes all of those states that have multiple license boards for the various practitioner types. A primary data source is an authoritative body that issues indisputable authoritative provider information. Since HMS receives this data in electronic format, there are no fat finger data entry errors.

HMS augments this with demographic information from 800 secondary data sources including web harvesting, telephone validation, and a Provider Data Consortium of retail pharmacies and health plan claims specialists who send us provider demographic changes on a daily basis which are then validated before being added to the Master Provider Index.

A typical provider record in the HMS National Master Provider Index will contain all of a provider’s identifiers including his NPI and all of his state license and DEA numbers, date of birth, date of death, name of his practice, affiliations, sanctions, USPS standardized addresses, phone and fax numbers, email addresses, education, and a history of each place he has practiced including those addresses, phone and fax numbers.



Because HMS primary sources the SSA Death File, we typically have the date of death entered in the Master Provider Index before it gets reported to the provider's state license boards.

The HMS National Master Provider Index is maintained by Health Market Science. HMS can host it or it can be delivered in a variety of formats via secure ftp transmission on a business-defined update schedule. It is also available as a National Provider e-Directory. In addition, it can be segmented into specific Statewide Master Provider Indices. Alternatively, the HMS Provider Verification web service enables direct xml queries to the HMS Master Provider Index for specific provider profile information and/or provider professional "secret" or "challenge" questions for provider identity proofing.

Conclusions

A Yellow Pages-type directory, with its limited data set and risky reliance on a "trust fabric" for accurate provider contact information, is a shortsighted, simplistic approach to the complex problem of securing the exchange of clinical data between providers. A Master Provider Index should be a required component of an HIE's infrastructure. It will enhance the privacy and security of protected health information, sensitive health information, and personal identification information, thereby mitigating the risk of a data breach. A Master Provider Index would enable HIEs to comply with meaningful use stage 1 requirements by making available accurate contact information to better coordinate care through e-prescribing and the exchange of lab results and summary care reports between authorized providers. The comprehensive data set can also address key business needs of various HIE stakeholders. HIEs do not have to invest time and money into building and maintaining a Master Provider Index - Health Market Science has already done so and as a result, the HIEs can leverage this data today.

Let our experience work for you.

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