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The Provider Data Management Imperative

How health systems enhance patient care, revenue, and brand using better data

The term provider data management refers to the tedious, time-intensive administrative job of acquiring, maintaining, and managing complete and accurate information on all healthcare providers who have a relationship with a specific health system. Healthcare industry research paints a picture of systems struggling to create a single source of truth for their provider data in departments and across facilities and the enterprise. Now is the time to examine the reasons why traditional approaches to provider data management have failed. This article reviews shortcomings of the status quo and looks at how a provider data management solution can create unique provider information profiles to drive productivity in three critical areas of the business: clinical, financial, and marketing.

The data feed for critical healthcare operations

Today, health systems seek to increase market share and improve revenue cycle efficiency. Maximizing clinical and financial performance—and now marketing efforts, to keep pace with consumers' demand—is a constant pursuit.

Patient scheduling, billing, care coordination, and referral management are among a system's most vital processes. But each is only as effective as the quality of the provider data employed. Accurate provider information supports the patient lifecycle at your health system by assisting:

- Patients seeking the right providers
- Registration and scheduling departments to onboard patients and providers
- All departments that request provider data updates, across multiple systems
- The organization in protecting itself against referring provider license/sanction compliance issues

Today's hospital electronic health records (EHRs), credentialing, and other software were not designed to manage and update constantly changing provider affiliations, locations, and license status. Using sub-par technology for the tasks, staff must scramble to manually update thousands of physician profiles in dozens of siloed systems.

Too much of a good thing?

Sometimes there really is too much of a good thing, especially in health systems. For example, consider something simple like providers' names. Does the multimillion-dollar EHR system have that information? Well, yes and no.

As a quick test, do a search on yourself in the EHR (if you are a physician) or on someone who is a physician. You will probably find not one, but many entries.

Now, multiply the result by the number of other critical clinical and administrative systems used enterprise wide and you begin to sense the magnitude of the problem. That's too much of a good thing, because you have no way of knowing which version to use for care communication, administration, billing, or marketing purposes.

As health systems move to a patient-centered data access strategy, accurate provider information is fundamental for search. Consumers, providers, and call centers are constantly searching for providers and coming up with erroneous data because there is no unified provider data management solution.

Then there's the problem of the "provider on the fly." The scenario is typical: A patient is admitted, typically via the emergency department, and when asked, provides their primary care physician's name. Sometime later, a nurse or billing clerk searches for the provider information on the EHR system but cannot find any such provider or finds multiple listings. Then the detective work begins and with luck it eventually gets sorted out.

The cost of poor-quality provider data

In healthcare delivery, timely communication and data-sharing is essential. Yet, even today, information-sharing failures persist and are one of healthcare's most enduring problems.

Here's another example from the administrator of the radiology department at a large health system in the northeast:

"On average annually, about 11% of our faxes fail for various reasons related to the fax number we have on file. It's a symptom of bad data and no cleanup. Numbers are missing or are invalid, the number is a voice line instead of fax line, etc. Across our 10 facilities, that constitutes over 33,000 events that need to be addressed. Some will be quick to resolve, others not. Figuring a conservative estimate of five minutes per event, it would require 1.5 FTEs of effort just to address this one fax-related issue."

At another large academic medical center in the northeast, the CMIO there said 10-12% of annual admissions involve a "provider on the fly." These instances result in an average revenue push of $10,000 per admission, or $70 million on an annual basis. The hospital is paying the cost of capital on that $70 million due to delayed billing (usually two to four weeks), and that does not include the administrative time needed to clean up the file. With thousands of these admissions, the cost adds up fast.

Administrators at The Ohio State University Medical Center, writing in a professional journal, described their data problem. This will sound familiar to peers nationwide even today. Over 30 silos (disparate data processing systems) contained their physician data. Each system was independent and unable to communicate electronically with any other system and no single system contained all the information. The systems include: EHR, credentialing, emergency department, practice management, cardiology, home medical services, neonatal, gastrointestinal lab, analytics, patient management, mobility, documentation review system, IT security, trauma services, pharmacy, medical records access, clinical documentation, perinatal, oncology, scheduling, radiology, and trauma. The result was a financial and administrative mess from multiple angles.

The leaders there further described problems including:

- **Delayed revenue:** Errors such as unknown physicians, duplicate records, misspellings, missing billing numbers, and multiple wrong addresses were common. Due to missing billing numbers or inaccurate data, claims were held up, delaying billings and accounts receivable, until someone from the billing office manually corrected the errors.
- **High labor costs**: More than 10 FTEs maintained the systems, but no single person bore responsibility for verifying and updating the complete set of provider data.
- **Siloed systems**: Data updates and changes in one system were not shared with other systems.
- **No user interface**: Clinicians or billing staff could not correct the data themselves when they had the immediate need or opportunity to do so.
- **Lack of ownership**: Quality assurances or checks and balances to ensure that information remained up to date did not exist.
- **No provider data management discipline**: There was no enterprise approach to comprehensively and effectively correct inaccurate provider data.

Added to all of those problems was a lack of compliance with the Centers for Medicare & Medicaid Services (CMS) Meaningful Use guidelines for "light" credentialing. Note that CMS requires annual general compliance training for Accountable Care Organizations (ACOs). The Medicare Shared Savings Program requires ACOs to certify its CMS-generated ACO Provider/Supplier List prior to the start of every performance year, at a minimum. ACOs must also notify CMS during the performance year within 30 days of a change to its ACO Provider/Supplier List.

Such fragmentation of provider data causes delays/failures of communication and has the potential to put patients at risk. The adverse consequences to patient well-being are serious as demonstrated by the following statistics:

- Miscommunication among medical staff while transferring patients contributed to 80% of serious medical errors.[i]
- Communication failures were a factor in 30% of malpractice cases associated with 1,744 deaths and $1.7 billion in costs.[ii]
- Improved communication among medical staff during shift changes can reduce injuries from medical errors by 30%.[iii]

There are also economic consequences when providers must spend hours daily trying to contact each other for consults, admits, discharges, test results, care coordination, and bedside updates:

- About $12 billion is wasted annually in U.S. hospitals as a result of communication inefficiencies between providers.[iv]
- A 500-bed hospital loses more than $4 million annually as a result of communication inefficiencies.[v]

In case health systems need any more incentive to fix the provider data problem, the federal government will do its part: Through the CMS Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey, patients' scores can cause hospitals to either lose or gain up to 2% of their Medicare payments. With a growing amount of revenue at stake, hospital leaders are looking for strategies to improve the patient experience and boost HCAHPS scores.

A new world awaits healthcare IT executives

In the political landscape surrounding healthcare, affordability and access are receiving unprecedented scrutiny, and healthcare executives are in the thick of it. There are high hopes and expectations that investments in healthcare IT can eliminate much administrative paperwork, enabling the healthcare workforce to be more productive and better protected from fatigue and burnout.

With that in mind and aided by generous federal subsidies, health systems have collectively invested billions of dollars in EHR systems. However, many EHRs fail to adequately address the disparate provider data problem.

Many healthcare IT executives mistakenly think or assume that their costly EHR systems create a single source for provider data, but in fact these systems do not. The EHR essentially creates an additional data silo, albeit a big one, added to many others within the organization. But even as large as the EHR silo is, the provider information is often incomplete and becomes more outdated over time because:

- Health IT systems were designed to manage patient information not provider data
- EHRs don't connect to all systems
- Health IT systems lock down access to provider data that could impact their revenue cycle
- Adding provider data to, or deleting it from, health IT systems is a manual process

The root problem: No single source of truth

As highly competitive enterprises, health systems must be able to communicate with all providers (both referring and credentialed) who either work with or could work with a health system. This includes not only hospital-based and clinic-based physicians, but nurses, physician assistants, lab technicians, radiology technicians, nutritionists, physical/occupational/speech therapists, clinical psychologists, and more. This again underscores the point: The ability to share high-quality information from a trusted source in a timely manner is essential for effective patient care.

To comply with federal and state regulations, health system must maintain accurate information on providers' professional credentials and licensure; government identification numbers (NPI, DEA, social security); primary office address; emergency and non-emergency phone, email, fax; contact preferences; affiliations; and so on. As noted, CMS requires health systems to verify who is in their ACO annually.

Many departments and individuals are authorized to access portions of the patient and clinical information systems and require high-quality provider information. Marketing departments need to know which providers (and their specialties) are most active and engaged with the health system. Human resources uses the data for tax, insurance, and personnel administration purposes. The business office needs data for billing purposes. In a large academic medical center, the groups of providers and facilities can be quite large, as Table 1 illustrates.

All on-staff providers	Referring providers	Facilities	Generic Providers
Attendings	External MDs/DOs	Urgent care clinics	MRI centers
Residents/fellows	External advanced practice providers	Community clinics	Generic MDs/DOs
Advanced practice providers	Chiropractors	Hospital transfers	
Scheduling providers, therapists (physical, occupational, speech) pharmacists, dietitians, etc.)	Optometrists, dentists, clinical psychologists	Refer-to sites (support services, surgical sites)	Scheduling providers, therapists (physical, occupational, speech) pharmacists, dietitians, etc.)

Table 1

Provider information typically exists in multiple siloed healthcare IT systems, each with its own fields, authorized users, requirements, and limitations. EHR systems, for example, allow providers to have only one fax number listed, although providers often have more than one. In a typical large hospital or healthcare organization, provider information likely exists in the data silos listed in Table 2.

EHR	Home medical services	IT security	Medical staff services
Emergency	Neonatal	Trauma services	Medical records access
Radiology	GI lab	Pharmacy	Voice recognition systems
Practice management	Analytics	Mobility	Clinical documentation
Cardiology	Patient management	Documentation review	Perinatal
Scheduling	Marketing	Corporate communications/ public affairs	Professional relations

Table 2

Sometimes the provider data is high quality (i.e., complete, accurate, current), but more often it is not. CMS urges health systems to ensure, and warns providers to verify, that their provider information is correct. They also advise them to check that social security numbers, individual tax-payer identification numbers, state license numbers, and other sensitive information that may have been required during the application process were not mistakenly entered into incorrect or optional fields by the providers, making it potentially accessible to unscrupulous users.

What's missing from the hospital IT landscape? A central data warehouse where all provider data is securely collected, managed, and accessed. This is a critical omission. Without it, if a hospital or health system wants to optimally manage provider information it must employ IT and data specialists in more than 10 departments at an average cost of $80,000 per year per resource. Doing do, however, still would not address the problems of information quantity and quality, since each department manages its own provider database. Together these challenges can quickly add up to hundreds of thousands of dollars annually.

For a real-world example, Table 3 contains data from a large healthcare organization in the northeast. The system includes a large main hospital, a mid-size hospital, and two small hospitals. Across the system, about 10 FTEs are dedicated to collecting, validating, and managing provider data. This adds up to an annual cost of about $800,000, excluding the costs for medical staff office (MSO) processes and software (sub-totals rounded).

Departments	Large hospital FTEs (1,500 beds)	Medium hospital FTEs (400 beds)	Smaller hospitals FTEs (200 beds)	Total FTEs
Referral call center	2	5	5	3
Radiology	1	.5	.5	2
Lab	.5	.25	.25	1
Billing	.5	.25	.25	1
Cardiology	.5	.25	.25	1
Emergency	.5	.25	.25	1
Provider group	.5	.25	.25	1
Total	5.5	2.25	2.25	10

In addition to the costs related to direct expense and lost productivity, the most important aspect of healthcare suffers too: patient care. Poor quality provider information impedes information exchange among providers and hinders care coordination. In addition, unmanaged provider data can increase the risk of licensure/sanction issues.

In sum, conventional healthcare IT does not effectively support the active management and improvement of provider data across clinical, financial, marketing, and other domains. While most healthcare IT systems focus on managing patient and payer information, simply put, they largely overlook provider data management. They lack an efficient system for continuously updating the provider data to create a single source of truth. What's needed is a provider data management solution.

The solution: Provider information management

The good news is that cloud computing and related advances in IT architecture now make it feasible to have a single source of truth for provider data that actually improves that quality of the information the more and the longer it is used. New cost-effective provider data management solutions automate activities to gather, manage, and share information from disparate data silos, enabling interoperability and presenting a user-friendly interface.

A provider data management solution doesn't replace the EHR; it feeds it. In fact, it sits above the EHR system and all other information systems (e.g., credentialing, radiology, laboratory, marketing, provider outreach, patient-facing websites, etc.) and exchanges high-quality provider information with them in real time.

Unlike existing EHR systems and other directories, a provider data management solution uses both push and pull technology—a critical distinction. Providers receive electronic notifications that remind and enable them to update and validate their profiles with accurate contact information, with minimal effort on their part.

By using provider-validated information, a provider data management solution ultimately ensures the quantity and quality of the information and eliminates the need for additional FTEs. The push/pull technology enables the system to improve over time as it continuously collects more information from providers and federal and state authoritative information sources.

Another crucial contribution of a viable provider data management solution is that it is embraces the fundamental principle that provider information (just like patient information) is a valuable enterprise asset that requires a solution that supports the information-management cycle within health systems. A provider data management solution designed to support core provider information principles will empower health systems by giving them the highest quality provider data in the key systems that drive patient encounters, increase provider engagement, and support value-based care.

Provider information management principle	Provider information management principle
Quality	Must be valid, consistent, and comprehensive
Efficiency	Must be requirements-based, non-duplicative, timely, and managed well fiscally
Governance	Must adhere to established policies for pivacy, security, records management confidentiality, integrity, compliance, and availability
Sharing	Must be engaging, understandable, accessible, and interoperable

In summary, to be useful, effective, and trustworthy within the increasingly technology-based healthcare environment, a provider data management solution must offer these specific features and capabilities, at minimum:

- One composite profile for each provider
- Merges internal and external data sources (ACOs, CINs, etc.)
- Constantly refreshes content from external sources
- Feeds data in real-time into patient lifecycle systems (patient access, EHR, revenue cycle, compliance)
- Is designed based on an information management framework
- Drives efficiency through workflows
- Ensures controlled and secure access
- Presents a user-friendly interface designed for non-technical workers

A provider data management solution is a cost-effective approach for a specific health system problem not addressed by any other healthcare IT module or enterprise software. Even with the set-up charge and ongoing monthly maintenance/access fees, health systems can expect a provider data management solution to significantly reduce the cost of maintaining existing processes—down to the equivalent of approximately 1.5 FTEs system wide. That's a savings of hundreds of thousands of dollars annually in direct costs and excluding productivity gains.

Perhaps more importantly, a provider data management solution dramatically enhances the ability to share provider information, thus improving the quality of patient care and billing/revenue cycles. Providers appreciate it, because it frees them up to deliver more care and they feel more confident that the patient care team is functioning smoothly.

The future is now

It is estimated that administrative costs account for 14-18% of total healthcare spending in the U.S. The affordability of and access to healthcare will remain under intense scrutiny from legislators, regulators, insurance companies, consumer advocates, and others. Administrative costs will be one of the prime targets.

Improvements in IT are the key to achieving administrative efficiency. A provider data management solution can play important role to enable health systems to do more with less while improving both care quality and safety.

Hospital and health system administrators will continue to feel intense pressure to cut costs and yet not jeopardize patient well-being. They've already collected the low-hanging fruit and now must turn to technical innovation to drive further optimization across the enterprise. Meanwhile, healthcare costs continue to outpace overall inflation, and healthcare consumes an ever-increasing share of the nation's total annual output of goods and services.

Unfortunately, the painful reality is that despite investing vast sums on information technology to eliminate manual, paper-based systems and become more efficient, some key processes have remained immune from the automation push. Provider data management is one of those weak links that continues to sap productivity.

Moreover, wasteful and inefficient processes are more than just a financial issue. They lower the quality of patient care and add unnecessary risk to patient safety by hindering clinical communications and diverting human and material resources away from direct patient care. A provider data management solution can help health systems stay focused on their core mission: delivering high-quality and affordable medical care.

Looking for help in tackling your data challenges?

Now you can integrate all your provider data into one central hub with our robust software solution. To learn more visit: **symplr Directory.**

i "Joint Commission Center for Transforming Healthcare Releases Targeted Solutions Tool for Hand-Off Communications", Joint Commission Center for Transforming Healthcare, Jun 27, 2012.

ii "Malpractice Risks in Communication Failures", CRICO Strategies National CBS Report, 2015.

iii "Changes in Medical Errors after Implementation of a Handoff Program", The New England Journal of Medicine, Nov 6, 2014.

iv "Quantifying the economic impact of communication inefficiencies in U.S. hospitals", Ritu Agarwal, Daniel Zev Sands, Jorge Diaz Schneider, Journal of Healthcare Management/American College of Healthcare Executives, July 2010.

v "Ibid"

About symplr

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