

Health Care Financing Administration

THE ROLE OF TRANSLATORS:

*Do We Need Them? What Can They Do for Us?
What Are the Installation Alternatives? How Do We
Choose the Right Ones?*



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THE ROLE OF TRANSLATORS:

Do We Need Them? What Can They Do for Us? What Are the Installation Alternatives? How Do We Choose the Right Ones?¹

This paper addresses the role of the translator in meeting the electronic data interchange (EDI) requirements of HIPAA. It examines why it may be needed, what it can do, what the installation alternatives are, and some criteria for product or vendor selection.



WHY ARE THEY NEEDED?

A translator is an application program designed to convert one electronic format into another and perform additional data conversion if desired. The structure of the X12N transactions, now mandated by law, is the primary reason many State Medicaid agencies, providers, and other payers are considering use of a translator. To many, the X12N² format is an “alien” body that any legacy Medicaid Management Information System (MMIS) would surround with its white blood corpuscles and reject at first sight. What is so foreign about the mandated X12N formats? The table below shows the primary differences between the X12N and most State Medicaid electronic transaction formats:



X12N	Common MMIS Formats
Fields are variable length (with specified minimum/maximum length).	Fields are fixed length.
Transactions contain looping and loop within loop structures.	May use repeating record types (e.g., UB92).
Uses hierarchical levels.	Uses a single, flat level.
Some data elements are preceded by a qualifier (or identifier), e.g., a code to specify the type of data that follows.	Uses displacement positions to define data element, not a data element qualifier.
Uses only Standard Codes.	May use Standard Codes but in addition, many Local Codes.
Requires a minimum data set per transaction type.	Does not use all of the mandated data elements.
Requires that <i>only</i> Standard Data be transmitted.	Business rules require Local Codes not available in the Standard Data Set.
Technology-neutral. Facilitates mapping directly to an Open Database Connectivity (ODBC) application program interface.	Compatible with flat file databases.

¹ This paper draws upon material presented in the HCFA Private Sector Technology Group White Paper, *Use of Translators or Clearinghouses for HIPAA Compliance, November 2000*, [@ps-tag.org](http://ps-tag.org)

² The American National Standards Institute Accredited Standards Committee (ASC), a voluntary organization promoting standards developed by each industry for its own participants, has a nomenclature representing business sectors. X12 designates electronic data interchange, and ‘N’ signifies the insurance industry in particular, as opposed to banking, for example.

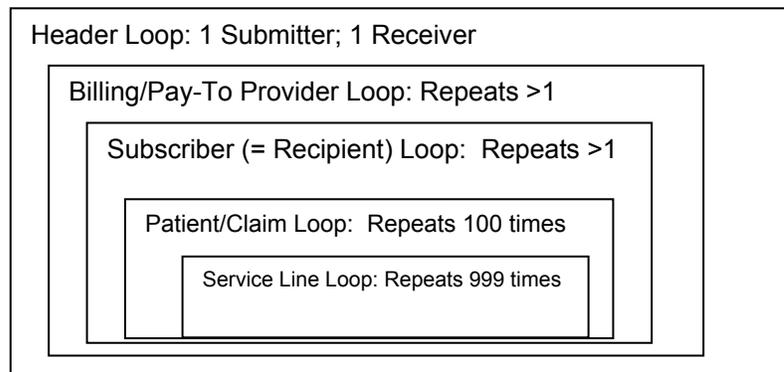
To make HIPAA compliance even more challenging, the Final Rule for electronic transactions and data sets requires providers and payers to conform to the Implementation Guide requirements which are much more detailed than the Standard itself. The X12N Standard is an outline of the major categories of the transaction. The Implementation Guide expands the outline into subloops and detailed data segments and data element requirements. The X12N standard has two major components:

- Data format and structure
- Data content and values

Data format mandates the order, position, data delimiters and separators, and identifiers. Data content mandates the internal and external codes (e.g., ICD-9, HCPCS). Data format is the most alien component, but issues regarding the required codes may be the biggest hurdle for HIPAA compliance.

The following are examples of the “foreign” X12N *data format* features which the translator can intercept and convert to a non-threatening format acceptable to the MMIS.

Loops—Loops are data segments that repeat more than one time. Major loops contain subloops which repeat 1 to many times. Using this looping structure, the X12N format can support one Submitter sending to one Receiver up to 100 claims, each with the potential of up to 999 lines, for an unlimited number of Recipients, for an unlimited number of Billers. In the case of multiple Billers per Submitter, the Submitter could be the Group Practice, a corporation, a chain drug store, or a clearinghouse.



Hierarchical Levels (HL) —The HL identifies and shows the relationship among the entities designated in the transaction, e.g., the Provider and the Subscriber/Patient. The levels can be illustrated by a traditional outline format as follows:

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BILLING PROVIDER
  SUBSCRIBER (=PATIENT)
    Claim level information
    Line level information, as needed
  
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Data Elements—The representation of data elements in the X12N format is a definite departure from traditional MMIS formatting. For example, Provider Specialty looks like this:

PRV*BI*ZZ*-

where PRV = Provider Information, * = a delimiter showing separation, BI = Billing Provider, ZZ indicates that the code that follows is from the “Health Care Provider Taxonomy” code list maintained by Blue Cross Blue Shield Association.

Data Element Identifier—Another structural element within the X12N transaction is the Identifier which contains a value from a list of codes maintained by the ASC X12 Committee. These are used to identify the information which follows in the data segment. For example:

NM1*87*2*ELLIS HOSPITAL

tells us that an individual or organizational name (NM1) follows, 87 means it is the name of a Pay-to-Provider, and 2 indicates that this is “non-person entity”.



If it is so foreign, why is it the standard? The ANSI ASC X12 Insurance Subcommittee (X12N) modeled the insurance industry

transactions on standards already in use in X12N format provides a uniform envelope to use in data exchanges in order to promote speed up transmissions, streamline and create a national pool of comparable Administrative Simplification. In the long revolutionize the way healthcare does business in the banking industry allow us to use our credit and debit cards in virtually any ATM machine.



other business sectors. The and a single language for all a paper-free environment, exchanges of information, data... in other words, enable run, these changes will just as electronic standards in the

WHAT ARE THE INSTALLATION ALTERNATIVES?

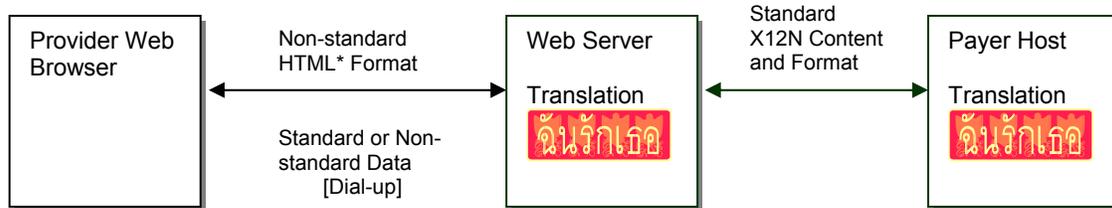
The dilemma for the Medicaid agency is that the size and complexity of the MMIS makes it a poor candidate for reengineering to accept native X12N transactions. It is expected that very few Medicaid programs will opt for the alternative of total renovation of the MMIS to accept, process, store, and transmit HIPAA compliant format and data. If the State does not modify its MMIS to import, process, and export X12N transactions, then it must convert the incoming X12N format to its own requirements. The State could opt to convert the format of the X12N transaction, but accept and use the new standard X12N *data content*. This decision still requires making modifications throughout the MMIS, but only for data values. If the State wants to maintain its current data values, then conversion of both format and data content is required. The industry term for applications designed to convert electronic formats and data content is “translator” software. Translators are not unique to healthcare. In fact, the healthcare industry is a latecomer and a small market for translator product vendors. Translator software can be acquired by:

- *Developing a translator process for the MMIS*—Gives the State maximum control over the design, quality, and functionality of the translator, but requires an investment in development, testing, and maintaining.

- *Purchasing or leasing vendor translator packages*—Provides a tested application and a range of support services including upgrades and new releases as the standards evolve.
- *Contracting with a clearinghouse to perform the translator function*— The clearinghouse offers a series of value-added services such as connectivity, a communications package, and trading partner interfaces, in addition to translation.

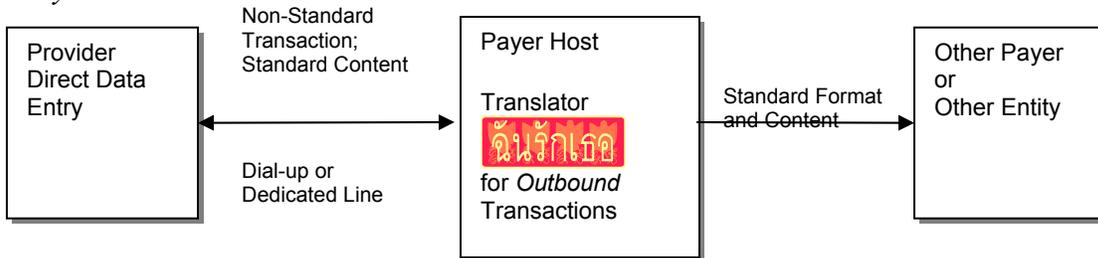
Selecting the right option for translator acquisition is only one of the decisions the Medicaid payer has to make. There are several options for exchanging data between provider and payer, and the translator can be inserted in different steps in both the front-end data acquisition process and the back-end data output process. The following installation models are not mutually exclusive. A State might choose to use *all* of these models to implement its HIPAA strategy. Examples are:

Model 1—Browser-based Data Exchange



*Model 1 depicts the use of Web server technology. The browser provides a template for providers to use in uploading and downloading data. The browser data structure will be non-standard *HyperText Markup Language (HTML). Data content in the HTML transmission must meet the X12N minimum standard, or conversion to the standard will be required. The Provider’s Web server application can perform the translation and transmit a compliant transaction. The payer will also need a translator to convert the compliant transaction to the payer’s non-standard format. Translation of data content depends on the strategy selected by the payer (i.e., accept and use standard data, or accept and translate to non-standard data).*

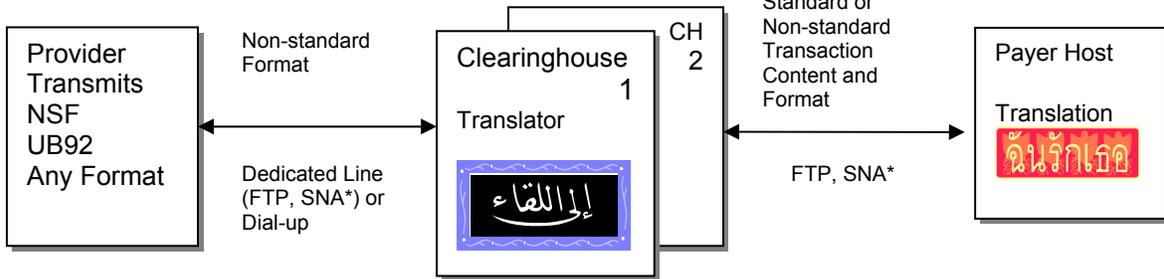
Model 2—Provider Direct Data Entry (No Translation); Translator Used for Outbound Only



In Model 2 the Medicaid agency provides a direct data entry option for the provider and bypasses translation of format. It assumes data content will meet the standard. However, if HIPAA-covered transactions need to be sent to other parties, e.g., for Coordination of Benefits, the payer must perform the translation to the standard format before transmitting. Also, if the Medicaid agency opts to convert the new standard data to its

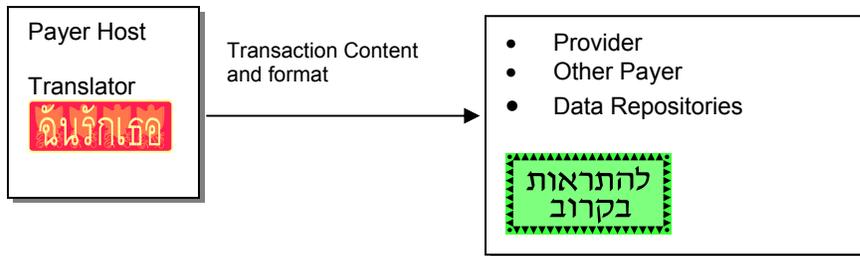
current non-standard content and values, translation of the incoming data will be required.

Model 3—Clearinghouse Provides Translation



*In Model 3, either the agency or the provider contracts with a clearinghouse to perform translation. Each one could use a different clearinghouse (CH) in which case the provider’s CH would transmit the compliant data to the Medicaid agency’s CH. The Medicaid agency’s CH reformats the transaction to meet Medicaid requirements. Or the provider’s CH can transmit directly to a payer equipped with its own translator. If the provider and the payer use the same clearinghouse, and both sender and receiver use non-standard formats, the clearinghouse must translate twice. [*File Transport Protocol, System Network Architecture].*

Model 4—Use of Translator in Back-end Processes



The translator can also be used in back-end processes to reconvert outbound data from the MMIS format to the X12N standard for transmission. This applies to all mandated transactions transmitted to providers and other payers. It could apply to reformatting non-standard MMIS data content into compliant data values for storing data in a data warehouse or sending data to entities that wish to receive X12N compliant Medicaid data. For example, HCFA could ask States to submit compliant data VALUES (NOT format) to the Medicaid Statistical Information System (MSIS) in order to benefit from the standardization of data content across all States.

WHAT TRANSLATORS CAN AND CANNOT DO

Translators are designed to convert the X12N format and data into transactions the receiving and sending system can recognize. They can perform the following functions:



- Accept incoming X12N standard formats and translate into current MMIS formats.
- Convert non-standard MMIS outbound data to X12N formats, e.g., remittance advices, inquiry responses, and claims sent to other payers.
- Convert standard data to local (MMIS) data where a 1 to 1 or a 1 to many relationships exists.
- Convert non-standard MMIS data to standard data where a 1 to 1 or a 1 to many relationships exists, e.g., for outbound transactions: remittances sent to providers, claims sent to other payers.
- Strip and store incoming standard data not needed for Medicaid business processes, and reunite the extraneous data in the outbound transaction. [Example: The standard requires the patient's relationship to insured (the X12N anticipates a Subscriber—Patient relationship), but in the Medicaid enterprise, the Subscriber *is* the Patient. The translator can strip this data element and save it for re-attachment later.]
- Generate a data element based on a combination of data present in the transaction (for example, create a Category of Service code or Type of Service code based on a combination of claim type, provider ID, and other elements).

The translator requires unambiguous rules. It can be used to crosswalk codes between a national code set list and a proprietary code set list, but the translator cannot convert to a local code if there is no standard code equivalent. This is the problem States face when there is no standard code equivalent for Medicaid codes such as Category of Service which drives many critical business processes. This is why the State Technical Advisory Group (S-TAG) National Medicaid EDI HIPAA (NMEH) workgroup which now includes forty-nine State agencies has undertaken the effort to create a national pool of non-redundant local codes in order to petition for their acceptance as standard codes.

While translators and clearinghouses can help reduce the amount of remediation needed within an operating MMIS, *significant* re-engineering will likely still be required to solve States' issues related to changes in data content. Many systems, business functions, and policies will still need to be re-vamped to deal with these issues.

HOW TO CHOOSE THE RIGHT ONE

In order to make informed decisions regarding HIPAA implementation strategies, each State should first determine the impact of HIPAA on its business processes and related



MMIS system functions by conducting a gap analysis or HIPAA assessment. This analysis will determine how wide a gap there is between the X12N format and data and those used by the MMIS. It will help States determine what business processes they need to develop to bridge the gap and, in turn, how the use of either a translator or a clearinghouse might support those needs. The decision to use a translator or clearinghouse does not need to be mutually exclusive. A State may choose to use a translator

in certain instances, and a clearinghouse in others, e.g., contract with a clearinghouse for

small volume providers, specialty services, and other data trading partners, but install a translator for large volume transactions. The following are some of the questions States will want to ask prior to selecting a translator. The same questions apply even if the State chooses to use a clearinghouse; a clearinghouse is a vendor offering translation, communication, and other value added services.

1. Does the translator support the X12N Standard for all mandated types?
2. Does the translator map all levels of X12N requirements?
3. What is the ease of adding the Implementation Guide (IG) requirements for each Standard? *(The IG is the requirement for HIPAA compliance; the translator will likely not come with the IG loaded.)*
4. Does the translator support HL7? *(Desirable, otherwise another translator will be needed.)*
5. Does the translator support any to any conversions?
6. Does the translator support mapping to ODBC (e.g., DB2, ORACLE, Sequel Server)? *Even if the State currently does not need this mapping, it may implement ODBC in the future.*
7. Can the translator strip the standard data elements not used by Medicaid and store for re-attachment to an outbound transaction?
8. Can the translator be used for other functions, e.g., legacy file conversions, data warehouse database loads?
9. Does the vendor provide a 24x7 Help Desk?
10. What does the training program cover?
11. Does the translator come bundled with other applications (e.g., transmission software)? *If so, the other applications need to meet State requirements and pass benchmarking tests.*
12. What additional services does the vendor supply, e.g., mapping, timely upgrades?
13. What are the benchmark specifications (speed of translation)?
14. What are the hardware, software, and telecommunication requirements?
15. Is the product scalable and what is its threshold for volume of transactions?
16. What are the license fee and on-going maintenance charges?
17. Is documentation comprehensive and user-friendly?
18. What other payers have used this product? (Obtain references)
19. Does vendor supply level of support needed by the State?



The following chart summarizes information provided in the Private Sector Technology Group White Paper on *Use of Translators or Clearinghouses for HIPAA Compliance*, November 2000, [@ps-tag.org](http://ps-tag.org).

Comparison of Translators and Clearinghouses

Translators	Clearinghouses
<ul style="list-style-type: none"> • The State can control its own progress and implementation schedules, since it is responsible for purchasing and installing the translator. 	<ul style="list-style-type: none"> • Clearinghouse staff can provide installation and training to State staff. Installation may be a quicker, easier solution than a translator for States with limited EDI

Translators	Clearinghouses
<ul style="list-style-type: none"> • The cost of the translator does not vary based on the number of transactions, making costs more predictable and often lower than a clearinghouse. • The translator often costs less than a clearinghouse for States with large transaction volumes. • X12N version updates should be handled by translator vendor. <i>Additional maintenance or upgrade charges may apply.</i> 	<p>experience, or States that need to implement a HIPAA solution quickly.</p> <ul style="list-style-type: none"> • As a HIPAA covered entity, the clearinghouse is required by law to comply with HIPAA. • May reduce the total number of business partner agreements the State must enter into. • If providers in a State already use the clearinghouse that the State chooses for its HIPAA solution, the impact on providers could be minimized. • Providers will need to test transactions with the clearinghouse only once, and can use that connection for multiple streams to different payers that use the same clearinghouse. • X12N version updates will be handled by the clearinghouse. Additional charges may apply.
<p style="text-align: center;"><i>CONs</i></p> <ul style="list-style-type: none"> • The State must have or hire staff or contractors who know how to install, use, and support the translator. • Legal risks remain with State. 	<p style="text-align: center;"><i>CONs</i></p> <ul style="list-style-type: none"> • The State cannot purchase a license. Clearinghouse charges continue indefinitely and are based on transaction volume. Charges can be substantial especially for States with large transaction volumes. • States may have an obligation to audit the processes and procedures of the clearinghouse to ensure that it is complying with HIPAA. • The Clearinghouse may not meet all the State's requirements for translation, e.g., strip, store, and reattach non-Medicaid standard data.

Translators	Clearinghouses
<p style="text-align: center;"><i>NEUTRAL</i></p> <ul style="list-style-type: none"> • Costs may include software license, one-time mapping/installation charge, hardware upgrades, training, help desk costs, testing and any additional functionality that may not be supported by the translator. It is important to ensure that the State chooses a translator that closely meets its needs. • State could incur additional hardware costs if its transaction volume increases. • The State and or providers may incur telephone charges for direct submission from providers (e.g., the State could pay for a toll-free number or providers could pay for direct dialed calls). 	<p style="text-align: center;"><i>NEUTRAL</i></p> <ul style="list-style-type: none"> • There will need to be a business partner agreement to ensure that data security and privacy are protected. • Clearinghouses can use multiple translators to provide any-to-any translation capability. • Costs include one-time mapping/implementation charge.

In summary, the extensive time and budget requirements to reengineer an MMIS to accept native X12N formats will lead most States to consider installing a translator or contracting with a clearinghouse. At this point, the State still has many business decisions to make. For example, the State may choose to modify its system to accept and process standard data values as opposed to converting them to the State's codes.

Based on its HIPAA gap analysis, the State will define its HIPAA implementation strategy including the use of a translator. In addition, the State must resolve other HIPAA compliance issues which a translator cannot solve, including solutions for business processes requiring codes no longer supplied in the standard transaction, the requirements of Privacy and Security, implementation of the National Provider Identifier, and coordination with all of its data trading partners.

