



ARTIFICIAL INTELLIGENCE & IMAGE ANALYSIS

***AZiA's Medical Coding Capabilities:  
Accelerate & simplify the coding process while keeping costs down.***

Automatically identify keywords & phrases from medical documentation  
& route the documents to the appropriate workflow within CAC solutions.

[www.a2ia.com](http://www.a2ia.com)  
917-237-0390  
[marketing@a2ia.com](mailto:marketing@a2ia.com)



## How do you keep your coding costs down?

**M**edical coding, like all other aspects of business, continues to face the challenge of transforming data from paper to digital and then to electronic, making it usable, searchable, reportable and most of all, allowing it to generate revenue. Not only do coders face the challenge of turning their data into electronic information, they must also prepare for the ICD-10 conversion, which has caused worry across the industry.

Experts have predicted that the transition to ICD-10 will be larger than Y2K and cause a decrease in productivity by at least 30 percent, if not more. Analysts have also explained that without computer-assisted coding, the coding process will be virtually impossible. Health organizations that begin to make the transition early, and who employ intelligent technology, will benefit all aspects of Revenue Cycle Management (RCM) — every department will be affected with this transition as it has been described as a business issue, not only an IT problem, ultimately affecting A/R and the entire payment cycle. It is true that coding remains the task at hand, but existing Computer Assisted Coding, or CAC solutions, will not be able to meet tomorrow's challenges of delayed payments and coding errors without added capabilities – ones that bridge patient care with the entire workflow, from clinical care through to the billing and revenue cycle.

Today, most coding processes use manual keying and sorting of clinical documentation, but in order to expedite billing and to remain compliant with ICD-10, medical coders must adopt a CAC process that uses intelligent technology, making use of Natural Language Processing (NLP) or Natural Language Comprehension (NLC). However, regardless of whether the application utilizes NLP, NLC or another core processor, the solution is only as accurate and efficient as the data that it utilizes.

A2iA aids in the capture of both structured and unstructured data – it provides data to the CAC solution, which can then be mapped to a list of medical terms such as those in a SNOMED dictionary, streamlining and speeding the coding process, and providing an advantage to both payers and providers.

*This document discusses the capabilities of A2iA DocumentReader™ to automatically identify key data points and medical terms on both printed and cursive handwritten documents, and then automatically route the information. Integrated into CAC solutions, A2iA's advanced recognition technology provides intelligence and meaningful use of data while streamlining the workflow of coding applications -- benefits that optimize the billing and the revenue cycles by saving time, money and delivering faster results.*

“The differences between ICD-9 and ICD-10 are significant and physicians and practice management staff need to start educating themselves now about this major change so that they will be able to meet the October 1, 2013 compliance deadline.”  
- American Medical Association



## A2iA can read a *physician's handwriting*.

“Due to the increased number of [ICD-10] codes, the change in the number of characters per code, and increased code specificity, this transition will require significant planning, training, software/system upgrades/replacements, as well as other necessary investments.”

*American Medical Association*

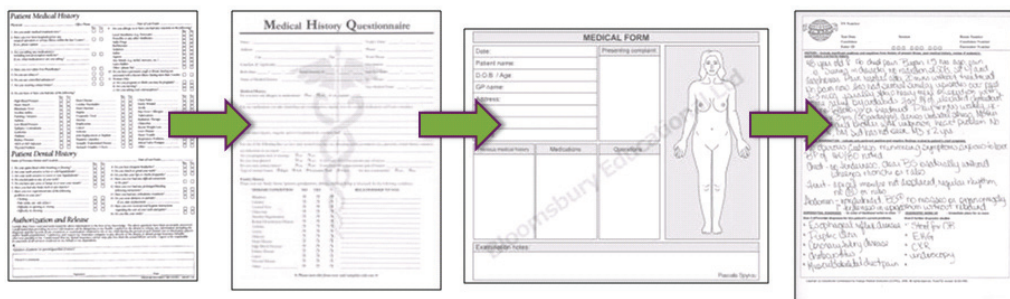
The transformation from ICD-9 to ICD-10 requires significant changes within healthcare organizations and the October 1, 2013 adoption date is quickly approaching. In today's challenging environment, yet still prior to the transition deadline, it has been reported that between 5 and 15 percent of a coders time is currently spent reading health information, and 50 percent of a record clerk's time is spent looking for information.

Experts anticipate that this percentage will only grow, as the American Association of Professional Coders (AAPC) explains that ICD-10 contains nearly 5 times as many codes and sub-codes as ICD-9 – approximately 150,000 codes. Adding to the complexity, ICD-10 codes are now seven characters versus the previous five characters, making them more complex in structure and requiring the coder to learn additional information so that they can accurately report on diagnoses and procedures.

Although the GEMs mapping system is expected to assist during this transition, it still requires manual document handling, researching and coding. Additionally, the need for even more detailed clinical documentation and progress notes from providers will only add to the amount of paper coders must read through, slowing down the process even further, even though the goal for both payers and providers is a smooth transition and one in which financial neutrality is achieved.

Integrating an intelligent recognition technology to search handwritten and printed documents, and then identify and index complex coding data, allows the revenue cycle to continue without loss in productivity. It increases accuracy and expedites data processing, making it shareable and usable for all steps in RCM including patient access/registration, coding and medical documentation, care management, billing and reimbursement, as well as payer and provider analytics and reporting.

### Gain Intelligent, Meaningful Data with the Automatic Identification of Key Medical Data Points



**Structured:**  
OCR

**Semi-Structured:**  
OCR  
ICR

**Unstructured:**  
ICR

**Freeform:**  
ICR  
IWR  
Keyword Spotting

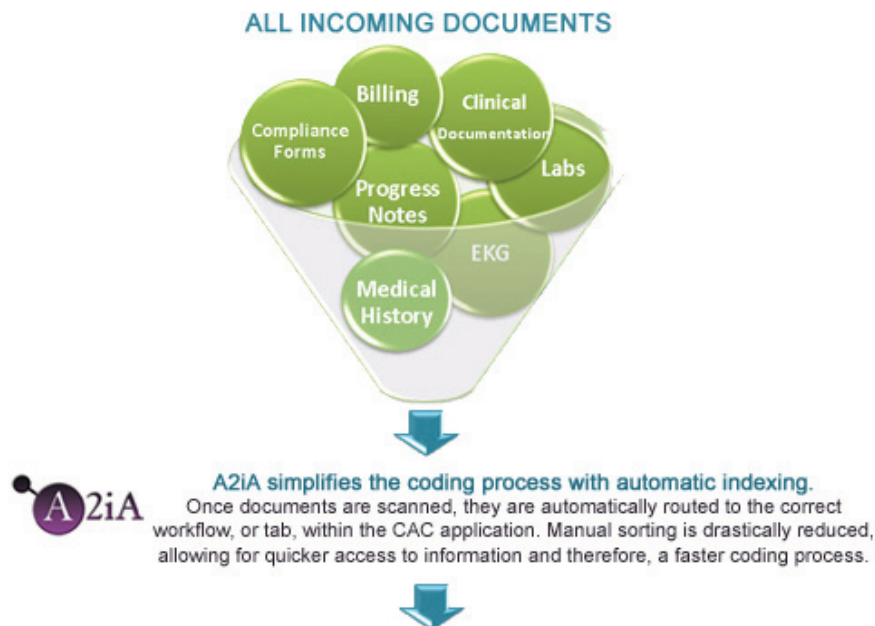




## Indexing: another step in simplifying and speeding the coding process.

The first step to the coding process is indexing, or classification, of clinical documentation and patient charts. Classification of clinical documents is crucial in the coding process because it allows documents to be broken down into proper categories for more accurate identification and transformation to codes. Clinical documentation includes the mix of documents in a medical chart, such as medical records, physicians' progress notes, billing documents, lab results, and EKG reports, which are incorporated into CAC solutions as they are scanned into a system as images. Within many CAC solutions, the image files are often just that – images, without capturing the intelligence or data inside, and then dragged and dropped into categories or tabs based on the document-type like a lab, prescription, or progress note -- facilitating the paper to digital process.

A2iA allows CAC solutions to go one, critical step further—turning digital data into usable and searchable electronic data and then automatically routing it to the appropriate category so that the coding process can be expedited and improved both in accuracy and efficiency. With the increase in codes, ICD-10 will ensure better quality reporting and documentation; therefore, there is a need for better, more automated classification systems that allow for improved integrated solutions and ultimately, enhanced documentation and handling of health information. Advanced classification systems like A2iA, integrated into CAC solutions, increase the accuracy of routing, streamline the documentation process, expedite workflow, increase cash flow and decrease the burden on administration.



Computer Assisted Coding Application

Patient Name: Joe Smith

Patient ID	Consent Forms	Administrative	Lab Images	Visits	Progress Notes	Discharge Forms		
Technologists	Medical History	Referrals	Questionnaire	EKG	Billing	Deposits	Physicals	Visits
Radiology	Consultations	Lab Reports	Surgery	Physician Orders	Films	HIPAA	Physical	Other

Fax Print Email Audit trail Notes

> Incoming Images	Date of Service	Scan Date	Pages	Patient Chart
Exceptions	01/15/10	01/17/10	05	Smith, Joe
	01/15/10	01/17/10	02	Smith, Joe
Lab Reports	05/03/11	05/05/11	15	Smith, Joe
	06/01/11	06/02/11	02	Smith, Joe



A2iA looks at scanned images of clinical documentation and indexes documents to proper files based on their layout and content. By analyzing the images, A2iA determines which category a document belongs to, based on either the type or layout of a document or keywords found within the document. Routing documents using A2iA's holistic indexing capabilities allows data to then be identified, lifted and turned into meaningful electronic, usable data for coding. Automatic indexing of clinical documentation significantly reduces manual sorting, adding a level of speed and efficiency to the coding process.

## **Address coding worries with intelligent technology: Get the job done faster and save money.**

Payors, providers and software vendors will all be affected by the challenge that the ICD-10 conversion has placed on the healthcare market. Medical coding is a complex and vital part of Revenue Cycle Management and it is important that the process be streamlined to improve the revenue cycle and ultimately patient care. By addressing the coding worries of today with intelligent recognition and automatic indexing technology, manual labor can be significantly reduced, if not eliminated, coding processes can be expedited, organizations can remain compliant, and revenue can be generated.

It is true that coding remains the task at hand, but experts agree that existing Computer Assisted Coding solutions will not be able to meet tomorrow's challenges of delayed payments and coding errors without added capabilities – ones that bridge patient care with the entire workflow, from clinical care through to the billing and revenue cycle. Seamlessly integrated into CAC solutions, and without the use of any third-party software, *A2iA DocumentReader* leaves room for customization and complete control of its technology. Its advanced recognition capabilities provide intelligence and meaningful use of data while streamlining the workflow of coding applications -- benefits that optimize the billing and the revenue cycles by saving time, money and delivering faster results.

Experts agree that existing Computer Assisted Coding (CAC) solutions will not be able to meet tomorrow's challenges of delayed payments and coding errors without added capabilities – ones that bridge patient care with the entire workflow, from clinical care through to the billing and revenue cycle.