



Industry Paper  
A2iA'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.*

Medical 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.

Health organizations who employ intelligent technology see benefits throughout all aspects of Revenue Cycle Management (RCM). It is true that coding remains the task at hand, but existing Computer Assisted Coding, or CAC solutions, have shortcomings and often don't meet today'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.



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.

Clinical documentation includes various types of documents that contain both machine print and handwriting, and very often the handwriting is the complex, cursive handwriting of a physician. In order to provide billing information, diagnoses and medical terms must be identified from charts, physician notes, and various other medical documents and transformed into the universally accepted CM codes.

A2iA's intelligent recognition technology relieves the medical coder of full research by automatically performing keyword or keyphrase spotting on all types of documents, including those that contain machine print, handprint and cursive handwriting. A2iA's user-defined, keyword spotting dictionaries can interface with a **SNOMED** dictionary, allowing for the accurate identification and lifting of complex medical information – including alpha, numeric and alpha-numeric data points.

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.

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



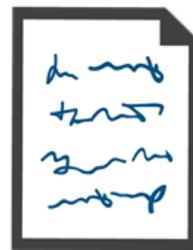
Structured



Semi-Structured



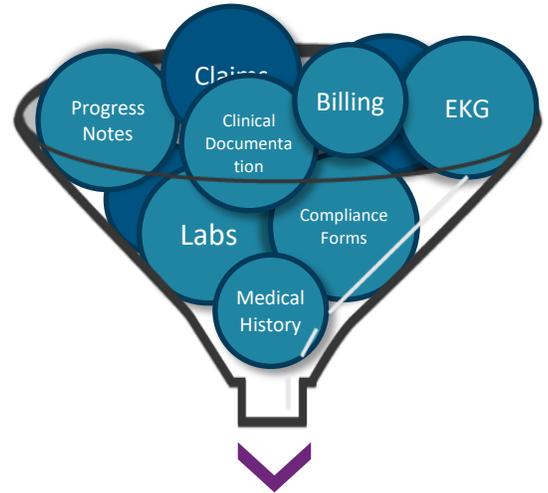
Unstructured



Freeform

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.

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 processing 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.



Once scanned, all documents are automatically routed to the correct workflow or tab. Manual sorting is drastically reduced, allowing for quicker access to information.

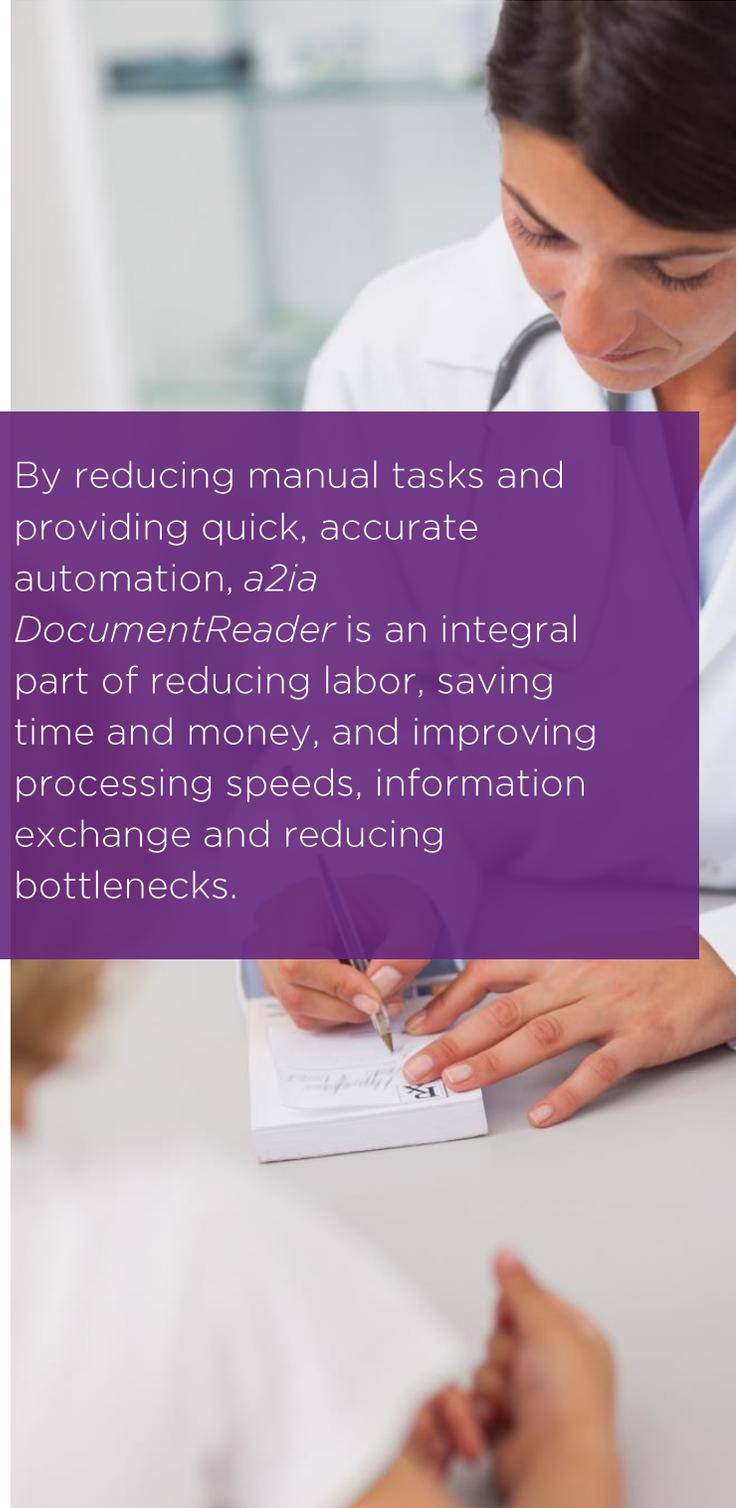
Computer Assisted Coding Application			
Patient Name: Joe Smith			
Patient ID	Consent Forms	Administrative	Lab Images
Technologists	Medical History	Referrals	Questionnaire
Radiology	Consultations	Lab Reports	Surgery
Exceptions	01/15/10	01/17/10	05
Lab Reports	01/15/10	01/17/10	02
	05/03/11	05/05/11	15
	06/01/11	06/02/11	02

*Addressing 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.



By reducing manual tasks and providing quick, accurate automation, *a2ia DocumentReader* is an integral part of reducing labor, saving time and money, and improving processing speeds, information exchange and reducing bottlenecks.