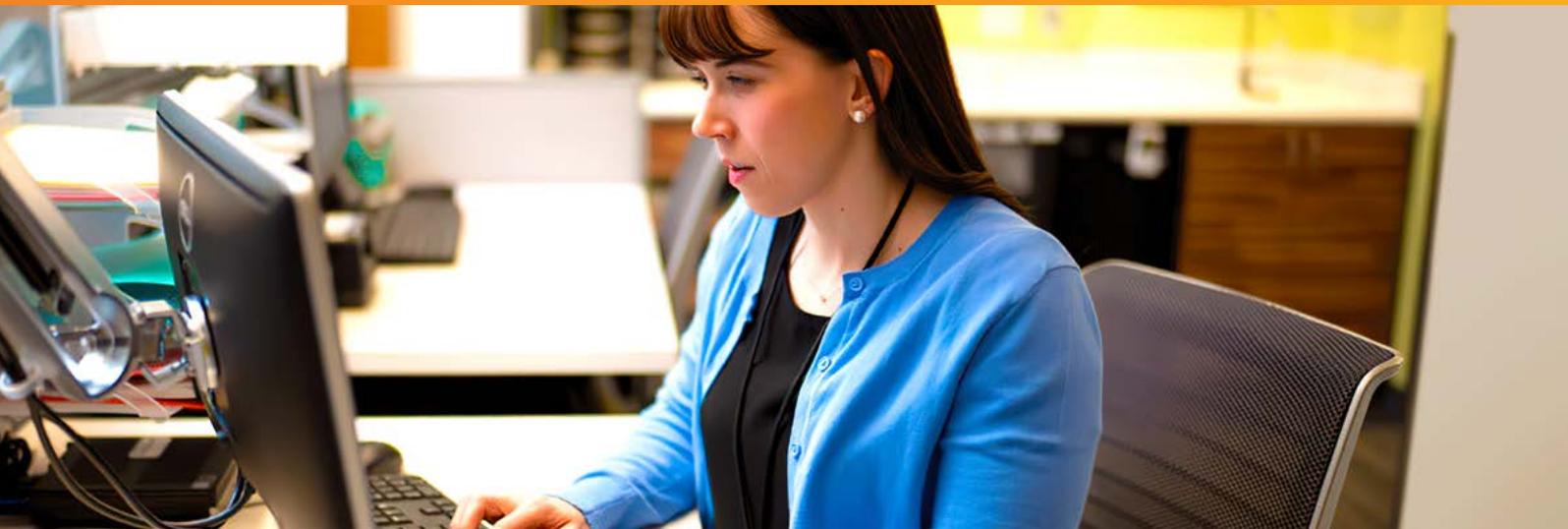


# How computer-assisted coding technology improves more than just productivity

November 2021



With the growing adoption of electronic medical records, hospitals in the Asia-Pacific region are now seeking computer-assisted coding (CAC) solutions that leverage their existing platforms to improve productivity.

The shift away from paper-based to electronic data capture provides an opportunity to use new technology to automate not only the assignment of codes, but also the many separate and disparate processes of coding and CDI workflows overall.

Experience in the US shows that implementing CAC technology solutions not only improves productivity and coding accuracy, it also enables hospitals to improve quality metrics while reducing the need for outsourcing. In turn, these solutions have a positive impact on hospital reimbursement.

Although it's early days for CAC technology in the Asia-Pacific region, results from the US provide confidence that hospitals will see a significant return on their investment for many years to come.

In this white paper you will learn:

- The factors driving the need for automation of clinical coding.
- How CAC technology improves not only coding accuracy and productivity, but also quality and financial success.
- Why hospitals in Asia-Pacific can be confident they will see a significant return on their CAC investment.

## Introduction

With the Asia-Pacific region's growing adoption of electronic medical records (EMRs), hospitals are now seeking clinical coding, grouping and clinical documentation integrity (CDI) solutions that leverage their existing technologies to streamline and prioritise workflows. This shift away from paper-based to electronic data capture provides an opportunity to use new technology, including artificial intelligence, to expedite what is currently a mostly manual process by automating not only the assignment of codes, but also the many separate and disparate processes of coding and CDI workflow overall.

Further, with the International Classification of Diseases - 11th Revision (ICD-11) on the horizon and its closer alignment with the Systematized Nomenclature of Medicine -- Clinical Terms (SNOMED CT), there is a growing view among HIM and clinical coding teams that automation of coding is not only inevitable but also welcome.

Despite initial apprehension and fear that automation could threaten their very existence, HIM and clinical coding professionals now accept and acknowledge that CAC solutions will provide them with much-needed assistance, particularly with less complex cases, allowing them to use their expertise and critical reasoning skills in the more complex areas.

The experience of our counterparts in the US has shown that uptake of CAC solutions does not reduce clinical coding teams but rather enhances their function while providing workforce relief and reduced dependency on overtime and contract coders (outsourcing).

In preparation for Asia-Pacific's move to CAC it is helpful to review the impetus for change, the experience of other regions and the results that have been achieved so far.

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## The impetus for change to CAC

### Ongoing changes and revisions to ICD

In the US, many organisations turned to CAC solutions to ease the burden of the transition from ICD-9 to ICD-10 coding guidelines in 2015. Compared with ICD-9, ICD-10 contained more specific and accurate codes to allow payers to provide more accurate reimbursement, alleviating the burden of deciphering unspecific codes. However, the specificity drastically increased the documentation burden on clinicians and coders in order to maintain consistency and accuracy.

CAC solutions use natural language understanding (NLU) technology to capture clinical narrative in the patient record and generate the appropriate clinical codes necessary for reimbursement. For this reason, healthcare organisations saw that by focusing on implementing this technology in parallel with retraining their coding, CDI, education and auditing teams, they could make the transition more seamless.

The impetus for CAC in the Asia-Pacific is not ICD-10, since many countries in the region adopted ICD-10 well before the US. It is the prospect of Asia-Pacific countries implementing ICD-11 before the end of the decade that will no doubt be the driver for technological advancements in the next few years. ICD-11 will introduce significant changes to classification, requiring substantial systematic change across hospitals, state health ministries, health insurance funds, national health agencies and coding and grouping software vendors.

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## Clinical coder workforce shortages

There is general agreement across all regions that the clinical coder is now expected to do more than ever, including keeping abreast of changes in coding guidelines, DRG revisions, admission policies, reimbursement methodologies, funding for quality and safety measures, and expectations around CDI and documentation queries.

Clinical coder workforce shortages and the burden associated with inducting newly educated coders are widely acknowledged as the reason most hospitals rely on overtime or contract coders. Combine this with an ageing population and technological advances resulting in shorter hospital stays and hence increased throughput, and it's easy to see why clinical coding is not slowing down.

## The move to casemix funding

The last decade has seen an increase in Asia-Pacific countries introducing casemix or DRG funding across the public and private sectors, increasing the importance of coded data and the need for more stringent coding turnaround times. The hospital executive now requires the data sooner after patient discharge to track activity against targets and to make meaningful organisational decisions.

However, organisations are cognisant that this emphasis on productivity gains must not be to the detriment of coding accuracy. Given that the coded data determines funding of inpatient episodes, the accuracy of the data is paramount, so hospitals need to be able to balance the two. This is a difficult feat when coding guidelines are regularly evolving along with our understanding of disease processes and with technological advances in procedural interventions.

## The burden of retrospective rework

While data accuracy is essential, there is an increasing desire within the region to limit or reduce the amount of retrospective rework performed and to ensure accuracy and completeness of the codes during first-pass coding. Hospitals are looking for ways to decrease the burden on their teams in terms of rework, retrospective auditing and clinician documentation querying.

The importance of CDI to clinical coding and quality care has become increasingly recognised in the Asia-Pacific region in recent years. However, clinician documentation querying puts a burden on clinical teams by increasing the time spent on documentation and continual education in the requirements around clinical documentation specificity.

Solutions that facilitate the uptake of dedicated concurrent CDI programs will be necessary to capture appropriate specificity and complexity in order to:

- enhance documentation integrity for patient care,
- enable coding accuracy during first-pass coding,
- improve coding turnaround times, and
- measure patient outcomes sooner post discharge.

## New technology

Increased technology is also driving the shift to CAC solutions. The move from paper to EMR has created a change to the process of abstracting through the record, with many coders citing that it now takes longer to find the information they need. Many hospitals have spent years and significant investments in implementing their EMRs and are now looking for projects to leverage that investment and improve processes. Structured electronic medical records lend themselves to natural language understanding (NLU) technologies that can extract and code patient information faster and more effectively.

The move to the EMR, as well as the COVID-19 pandemic, has also created a shift to coders working remotely. This brings the added challenges of communicating effectively within the team as well as collaborating with CDI, quality and clinical teams.

The increased requirements of the coding process have also resulted in hospitals developing multiple disparate systems to cope with the individual components of

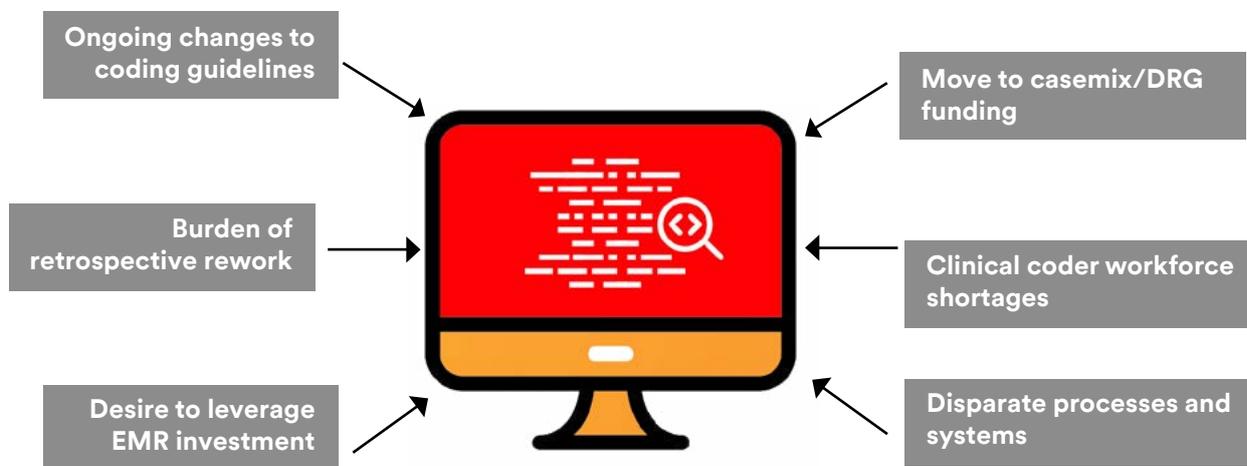
the process, from managing worklists and queries to auditing and reporting. Disparate systems add repetitive steps, waste and time to the process and create difficulties in measuring coder activity and managing workflow.

CAC solutions that also combine workflow and process management and drive collaboration between teams will be required to allow teams to work effectively.

All of these factors point to an urgent need to change and to look to effective technology to help remove wasteful processes and expedite the coding and CDI process now.

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## Drivers of change to computer-assisted coding



## What we can learn from the US experience?

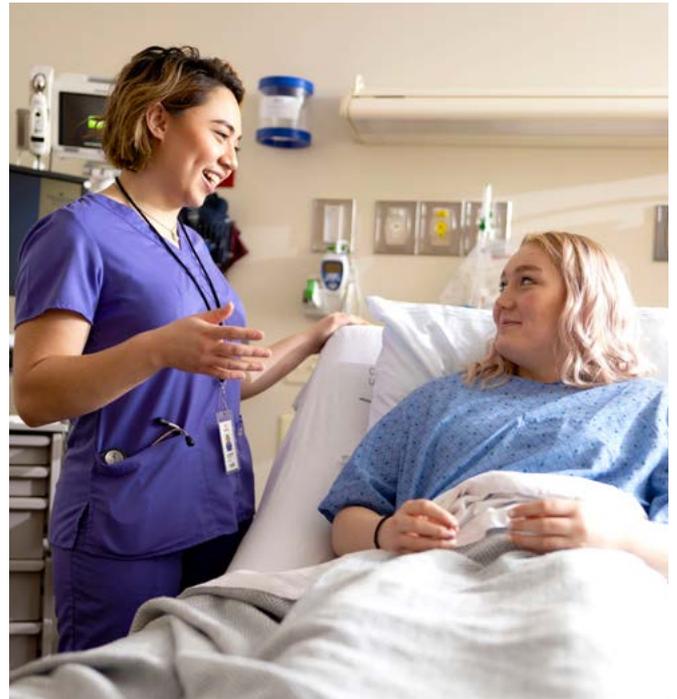
With the Asia-Pacific region now starting to implement CAC technology, it is timely to look at the US experience and consider how it may translate to our environment.

Although there are many differences in our health care systems, terminology and ICD-10 coding guidelines, the problems and issues facing coding and CDI teams across the two regions are strikingly similar. Overall, there is a common objective of balancing the need to improve coding productivity, while maintaining coding accuracy and delivering data truth for decision making, reimbursement and quality patient care.

It has been over five years since the ICD-10 official rollout in the US and CAC technology is now being used more extensively across the country. To understand the technology's impacts beyond coding productivity, 3M commissioned Xtelligent Healthcare Media to conduct a survey of US hospitals and health systems. The goal of the survey was to understand the benefits of CAC technology to health information management (HIM) and revenue cycle leaders at these organisations.

The survey showed that, beyond the transition to ICD-10, CAC technology has broad implications, including improving productivity and key quality metrics, reducing the need for outsourcing and rework claims, and promoting financial success. Continued use of the technology can ensure the realisation of these benefits and prepare organisations for any future changes in coding guidelines.

The survey results can be used as a predictor of how CAC technology might impact clinical coding processes and hospital reimbursement in the Asia-Pacific region.



## Demonstrated improvements from implementing CAC technology

### Improved coding accuracy

While coding productivity during the ICD-10 transition in the US served as the impetus for healthcare organisations to implement CAC technology, coding accuracy became the most important criteria in the selection of a CAC solution.

Most survey respondents (73%) define coding accuracy as 90% or more accuracy in their coding claims. Fewer (33%) operate according to a stricter definition of accuracy, seeking >95% accuracy of claims.

These standards are high but necessary considering the impact of coding accuracy on reimbursement levels. As coding guidelines and best practices continue to evolve, accuracy is a moving target for coders. Choosing CAC technology that promotes adaptability is paramount. Hospitals need to look for a system that can adapt to novel requirements with various configurations and setting adjustments.

### Improved productivity

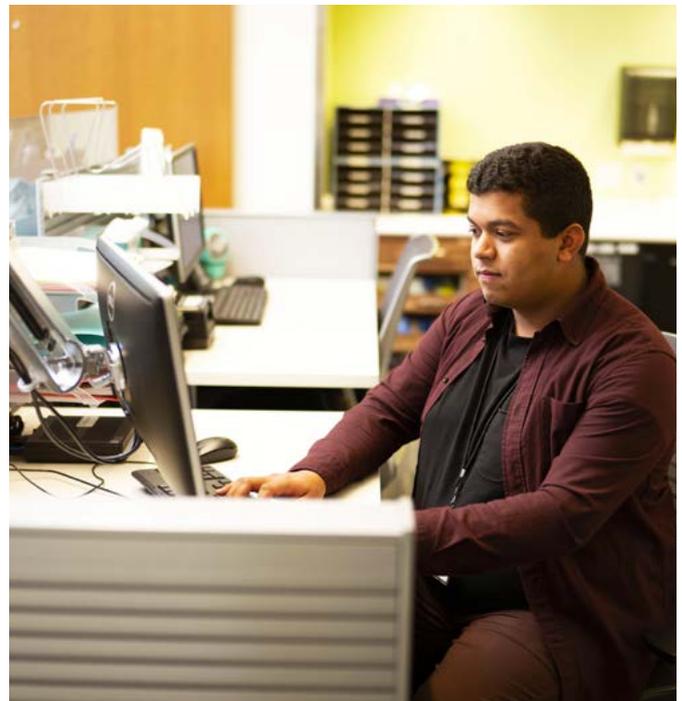
Since adopting CAC, 68% of survey respondents report that CAC solutions have improved coding productivity. Even those who have been using the technology for only one to two years report improved productivity.

And when productivity is improved, the improvement is notable. Among all respondents, 48% indicate increases between 11 and 20%. Another 36% note productivity increases between 21 and 30%.

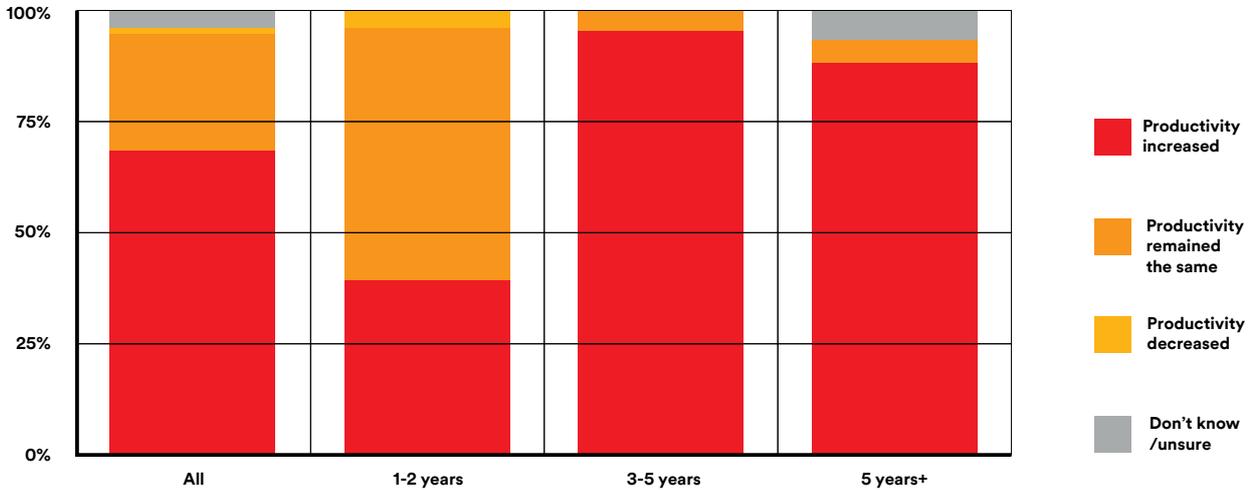
The longer an organisation uses and becomes familiar with CAC, the more pronounced the technology's impact on productivity becomes. Of the respondents using CAC solutions for one to two years, 44% report productivity gains between 1 and 10%, while 50% note improvements between 11 and 20%.

Organisations using CAC for three to five years relate more marked improvement: 83% note between 11 and 20% improvement in productivity; 13% between 21 and 30% improvement.

Superusers show the highest productivity rate as the majority (82%) report productivity gains between 21 and 30%. An additional 8% indicate an increase in productivity between 11 and 20%. 88% of those using CAC for five or more years report an increase in productivity.



## How did productivity in your organisation change after adopting computer-assisted coding?



### Improved quality measures and complexity capture

As well as improving productivity, CAC solutions have a significant impact on the completeness and detail recorded about the complexity of the episode. Incomplete or inaccurate information obviously leads to unreliable reporting. Solutions that eliminate the garbage-in-garbage-out effect will improve the quality of data available, giving hospital administrators an improved ability to manage the quality of care given in the future. This highlights the need for any CAC technology to also facilitate CDI workflows simultaneously.

The ability to capture more accurate codes and query missing information is enhanced when CAC technology is leveraged. In fact, in the US survey, 65% of respondents state that CAC helps improve quality measures.

Nearly half of all survey respondents report improvement in every quality metric the survey investigated:

- Major complication or comorbidity (MCC): 46%
- Patient safety indicator (PSI): 46%
- Hospital-acquired condition (HAC): 43%
- Complication and comorbidity (CC): 41%

Superior coding abilities with the use of technology translates into cleaner codes the first time, giving organisations the opportunity to put more focus on quality metrics such as hospital acquired complications (HACs) and improve the accuracy and reliability of these measurements.



**65% of respondents state that CAC helps improve quality measures.**

### Reduced need for outsourcing, rework

The need for outsourcing is significantly reduced when hospitals implement CAC technology, with 65% of all respondents reporting decreased outsourcing following CAC rollout. The longer an organisation uses CAC, the greater the likelihood they will experience a decline in outsourcing.

While 43% of new CAC users (one to two years) report a decline in outsourcing, those who have been using CAC for over five years note a 74% reduction in outsourcing.

Longevity and experience with CAC also correlate with fewer rework claims. Organisations with three to five years of CAC use see a drastic improvement, with 89% reporting decreases in rework patient claims.

Once organisations exceed five years of CAC use, 90% report fewer rework patient claims. Even recent adopters of CAC technology report a drop in rework claims. But the reduction depends on the duration of the organisation's CAC use, emphasising the long-term impact of the solutions.

When a hospital or health system uses CAC solutions for an extended period of time, it tends to report more significant improvements in coding speed and quality. Clearly, more experience using CAC solutions raises the probability that an organisation will see a return on their investment in the technology, improving more than just coding productivity.



*Those who have been using CAC for over five years note a 74% reduction in outsourcing*

## Improved Financial Success

Across organisations, there is general agreement that CAC will contribute to future financial success. In the US survey, 54% of all respondents report improved revenue cycle processing with the use of CAC. 38% of all respondents agree, and 39% strongly agree that CAC would enable an organisation's financial success going forward.

Even those having recently implemented CAC solutions (one to two years) are optimistic about CAC's impact on financial success: 31% agree and 10% strongly agree. This agreement strengthens the longer an organisation leverages a CAC solution. 52% of those using CAC solutions for three to five years strongly agree the technology will help improve the organisation's financial success and another 48% agree.

Organisations using CAC solutions the longest see the most significant impact on financial success as nearly three-quarters (74%) strongly agree and 18% agree with the statement. While the financial impact of CAC solutions grows over time, even recent adopters of the technology see a positive return on investment from adopting the technology.



*92% of organisations using CAC solutions the longest agree or strongly agree that CAC will enable financial success going forward.*

## Conclusion

CAC technology was originally implemented by US hospitals and health systems to help with the transition from ICD-9 to ICD-10. Five years later, this technology has grown beyond its initial purpose for the better. The adoption of CAC has been shown to have positive effects on auditing, quality, and reimbursement.

Not only have CAC solutions improved productivity and coding accuracy, but they have also enabled hospitals to improve quality metrics while reducing the need for outsourcing.

In turn, these solutions have had a positive financial impact on hospitals' reimbursement. Many leaders believe CAC will continue to positively impact their organisation's financial success in the future.

In the long term, CAC technology will continue to deliver returns on the initial investment beyond productivity. CAC has impacts across a hospital or health system that will continue to improve the financial health, quality, and collaboration of the organisation for years to come.

Although we are yet to see the impacts of CAC technology in the Asia-Pacific region, results from the US experience provide confidence that hospitals will see a significant return on their investment.

*“CAC has impacts that will continue to improve the financial health, quality, and collaboration of the organisation for years to come.”*

# About 3M

As health information departments continue to innovate and adapt to an ever-changing landscape, 3M has continued to provide customers with the market's most trusted coding solution in 3M™ Codefinder™ Software, but also to help shape the move to concurrent clinical documentation integrity with the 3M™ Advanced CDI services program.

But how do hospitals ensure coded data is complete sooner for monitoring against performance targets and for payment, while at the same time maintaining CDI and data accuracy, all on a background of clinical coder shortages and increased workload? How can hospitals reduce costs, improve productivity, remain data compliant and enhance the quality of patient care simultaneously?

The answer is by deploying the 3M™ 360 Encompass™ System, an end-to-end solution with all CDI, coding and quality needs in one integrated platform. The 3M 360 Encompass System helps organisations streamline processes, capture complexity, ensure appropriate reimbursement, promote data compliance and make data-informed decisions.

With decades of experience in the field, 3M has developed the 3M 360 Encompass System to redefine what is possible with a clinical coding solution to truly help hospitals improve efficiency through computer-assisted coding and find new ways to improve quality of care for patients through CDI.

For more information on how 3M software and services can assist your organisation, contact your 3M sales representative, call us toll-free:

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