

Healthy Data

Health information management and patient welfare



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In recent years, Australian healthcare providers have found themselves in a perfect storm of information management challenges.

As the population ages, the sector is under greater strain with less time and money to spend on optimising information workflows. And yet, in order to properly look after the increasing caseload while retaining good staff, it is being forced to modernise its information management systems. Inevitably, this results in health information management (HIM) lagging behind many other sectors.

Fortunately, private sector solutions are emerging with the goal of helping healthcare institutions optimise information management in line with emerging confidentiality, accessibility and environment concerns. This report will address the key areas of weakness presented by current HIM practices and evaluate the solutions.



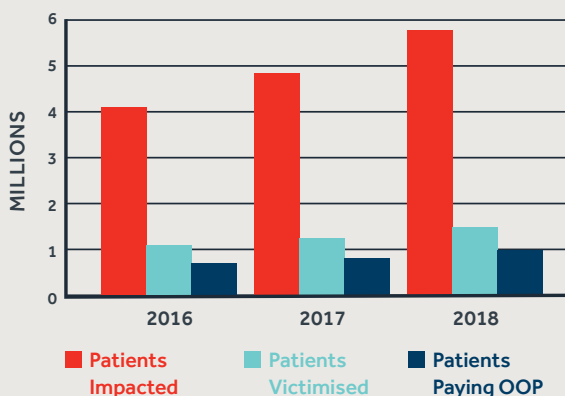
Care & Confidentiality

Confidentiality has always been important for healthcare institutions. Keeping patient records safe and secure is integral to ethical operation and compliance. But where healthcare data privacy was once a simple matter of keeping records in a locked room and using computer screen savers,¹ it is now an area of very real vulnerability with serious ramifications for patient welfare.

As the cyber arms race intensifies and cybercriminals seek out paths of least resistance, healthcare institutions are becoming an increasingly attractive target. "We're seeing many other sectors becoming just much faster fish," says Dave Coughanour, director of security and information management at K&L Gates. "It's harder to hack into a bank, it's harder to hack into a defense-contractor or critical infrastructure company, so hackers are shifting their focus to what they perceive to be the weaker link in the chain."²

Healthcare is showing similar recalcitrance to the legal sector in this area, but it is unique in terms of the quantity and depth of the data in its custody.

Medical and personal information theft due to healthcare provider data breaches will impact 1 in 13 patients.



1. www1.health.nsw.gov.au/pds/ActivePDSDocuments/PD2012_069.pdf

2. www.lawyersweekly.com.au/corporate-counsel/20837-legal-profession-lagging-behind-on-cyber-security-front

3. www.experian.com/assets/data-breach/white-papers/2017-experian-data-breach-industry-forecast.pdf

4. www.computerworld.com/article/3090566/healthcare-it/hackers-are-coming-for-your-healthcare-records-heres-why.html

Not only is pilfered health data easier to monetise than other personal information, but the stakes are higher in the event of information loss

— meaning it doesn't need to be stolen to be valuable to hackers, just rendered inaccessible.

In May 2017, the WannaCry ransomware attack crippled NHS facilities across England. Unlike other affected sectors, critical care providers were relying on access to their information management systems to save lives and didn't have the luxury of waiting to see if another solution would become available. Their duty of care forced them to pay.

The attack came five months after Experian Data Breach Resolution released its fourth annual Data Breach Industry Forecast. In it, the company predicted that the industry hit hardest by cyber security breaches in 2017 would be healthcare.³

Cory Kennedy, lead information security engineer at CenturyLink, spoke to Computerworld about the problem: "I really think in terms of ransomware, the stories of about hospitals paying the ransom are spreading among attackers, letting them know that they're a successful place to attack."⁴

This issue will be a resilient one, especially with healthcare funding having limited room for sophisticated ICT overhauls. “Traditionally healthcare providers [have been] in the business of saving lives,” says Lee Kim, HIMSS director of privacy and security, “so [IT security staff] have a difficult time competing for budget dollars.”⁵ And yet, the cost of doing nothing may be higher. According to a Ponemon Institute study released in 2016, the average cost to a company per record breached is AU\$142.⁶

Healthcare providers now have a duty to pay the same attention to cyber security as they do to hygiene and infection control, as both have the potential to directly affect treatment outcomes and profitability. They need to find affordable information management solutions with the ability to protect their systems — and their patients.

Paper records also present challenges for confidentiality. When archives are stored off-site, healthcare providers may inadvertently expose their information to compromise during transit, especially over long distances where multiple handovers are involved. Very few information management companies have a secure chain of custody across all their delivery locations. Instead, when they have to deliver outside certain geographical boundaries or times of day, they outsource to contractors. This adds one or more unnecessary steps to the information transmission process. While it may only increase the risk of breach by a slight margin, it elevates the risk of data loss significantly.

Paper-based information workflows also have greater potential to impede accessibility and increase the risk of human error. We discuss this and other accessibility challenges in the next section.

5. www.darkreading.com/attacks-breaches/major-cyberattacks-on-healthcare-grew-63--in-2016/d/d-id/1327779

6. Ponemon Institute, *2016 Cost of Data Breach Study: Australia*, p. 1.z

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• Accessibility & Accuracy

As touched on in the previous section, the ease and speed of information access has very real consequences for patient welfare.

A lack of information access leads to poorer decision-making and less satisfactory clinical outcomes.



Healthcare facilities need an information management system that makes both hard and soft data available on demand.

There are a number of impediments to this. The first is the organisation of paper records. Many institutions are loath to discard patient information even after meeting their retention obligations. The risk of not having vital files on hand is too high. However, the practice of infinite retention can result in bloated archives with chaotic indexing systems that render information impossible to locate.

In a study released by the IDC in 2012, Melissa Webster found that “workers who handled paper documents spent 7% of their workweek dealing with problems and time-consuming tasks unique to hard copies. When taking into account the time spent searching for

documents that were never found, the figure rose to 11.6%. If those documents then had to be re-created, this took the total amount of wasted time to 15.6% of the workweek.”⁷

While this is a problem in all industries with paper-based workflows, in healthcare it has the potential to adversely affect patient welfare. A 2013 report conducted by Edith Cowan University on information-induced medication errors found that “the timely availability of medication history was an aspect in [many error events], and thus improvement in the accuracy and availability of medication history may be a key factor reducing errors.”⁸

The study also recommended that written and verbal medication orders be replaced by electronic orders to improve the quality of communications between doctors and nurses. John Reynard and Peter Stevenson, authors of *Practical Patient Safety*, concur: “That doctors’ handwriting is often illegible has long been the source of amusement but sadly poor writing, inappropriate abbreviations, and sloppy practice still results in significant error on a daily basis. Electronic prescribing eliminates problems due to illegibility...

There is no defense for poor handwriting that introduces doubt or error into the prescribing process.”⁹

7. *Ibid.*, p. 8, Table 2.

8. ro.ecu.edu.au/cgi/viewcontent.cgi?article=1014&context=aeis

9. Reynard, J. & Stevenson, P., *Practical Patient Safety*, OUP Oxford (2009), p. 39.

Where appropriate, electronic interfaces can dramatically improve the accuracy and availability of shared information, but digital record systems also suffer from access issues. The WA Health Information Management Strategy 2017–2021 report notes that “inequity in information access... [results] from fragmented and mismatched ICT systems which often do not communicate or integrate.” According to the National Health and Hospitals Reform Commission, this causes patients to bounce “between multiple specialists and hospitals... having endless diagnostic tests as each health professional works on a particular ‘body part’ rather than treating the whole person.”¹⁰

The health sector is in need of information management solutions that make existing hard-copy processes easier while removing their pitfalls, and solutions that facilitate the proper integration of digital systems.

• Environment & Efficiency

In the face of staffing shortages and an ageing population, the Australian health sector is under increasing pressure to fit more beds in smaller areas. Not only does this affect the quality of patient care — it impacts a facility’s ability attract and retain staff. Information management practices can play a significant role in the way healthcare environments utilise space.

A recent report on hospital design jointly released by HASSELL and The University of Melbourne Health Systems & Workforce Unit noted that

“[the] appropriation of spaces in hospitals for uses other than the original intention is common: treatment areas become offices, corridors become waiting areas, bathrooms become store rooms.

“One nurse interviewed stated: “I guess you don’t take into account where all the equipment goes when you’re interviewing for the job. But then when... you see other wards, they’ve got this whole alcove to put their stuff and we’re putting our stuff in an old bathroom.”¹¹

Over-storage of physical patient records is a significant contributing factor to this misuse of space, as conservative document retention practices in healthcare mean that redundant documents are stored indefinitely. Over time, archives become increasingly impractical and expensive to audit, and can therefore neither be discarded nor easily put to use. The end result is floor space that cannot be used for beds, equipment or staff.

10. www.smh.com.au/national/hospital-errors-cause-4550-deaths-a-year-20090726-dxi5.html

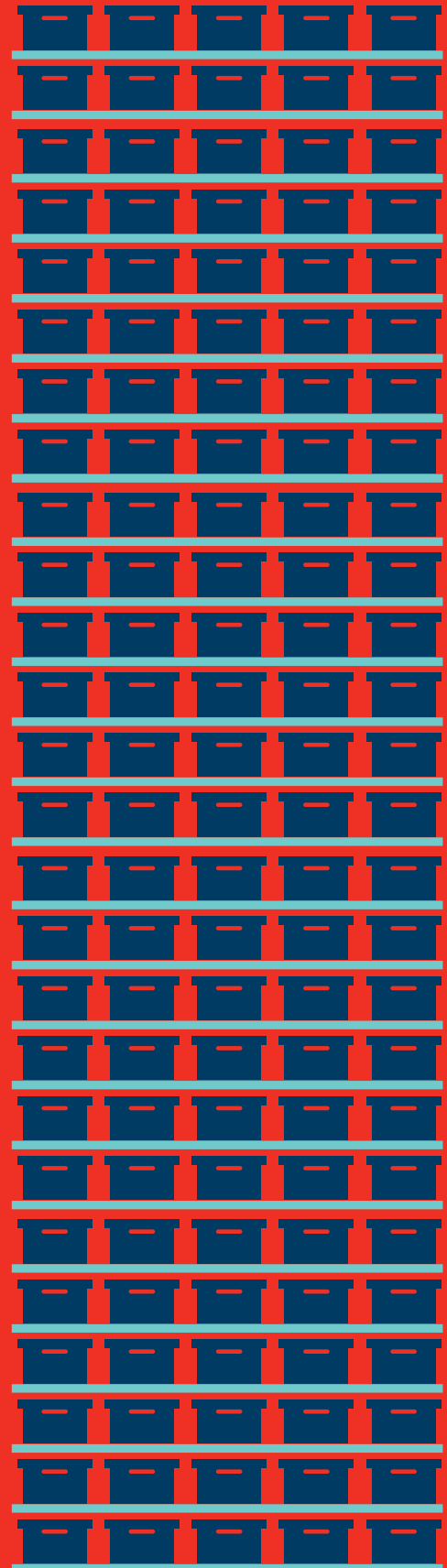
11. www.hassellstudio.com/docs/20160407_designmattersfornurses.pdf

This is also a problem in other industries. Author Paul Wilkinson cites the 2004 example of one organisation that “had accumulated more than 100,000 archive boxes”¹² over a 70-year period. To put this figure in perspective, just 500 archive boxes will fill a 5m x 5m room to the ceiling. While other sectors may have the luxury of floor space, healthcare does not, and retention of even a modest number of paper records can have a detrimental effect on efficiency. Additionally, when healthcare institutions do move their paper archives off-site, they can still often be left with a space that is difficult to use due to shelving and other office clutter.

This is partly due to a failure to utilise the full service offerings of contractors. A plumbing contractor that also provides electrical services — and that offers a reduced rate to businesses engaging both of those capabilities — is a better investment than two separate contractors. In terms of non-core services, healthcare providers can find themselves in a situation of outsourcing their ICT system, information management, cleaning services, and office FF&E to different providers. Rarely will a facility look for a contractor that rolls all of these services into a single, cost-saving solution.

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¹² Wilkinson, P., *Construction Collaboration Technologies: The Extranet Evolution*, Taylor & Francis, Oxford, United Kingdom (2005) p. 122.



The Solution:

More Secure, Streamlined, Space-conscious Information Management

To tackle the confidentiality, accessibility and efficiency challenges confronting HIM, healthcare providers are increasingly turning towards external information management solutions that go beyond the scope of traditional access and archiving partnerships.

High-quality external information management solutions ensure the security of hard copies with off-site facilities designed and equipped to protect documents from fire and water damage, as well as theft. Good information management companies ensure all their employees undergo a Police Criminal Security check, and archives are set up in such a way that staff cannot identify their contents at a glance — with access only granted once a request has been issued from the information owner. To ensure the same level of security when transporting documents, a secure fleet of vehicles maintains an entirely secure chain of custody, never outsourcing collection or delivery to contractors, even when working outside urban areas or normal trading hours. Digital security is assured through the use of an administrative console with airtight security configurations, function-level verification, and application-level security that limits users to accessing only the functionality and data they need. If local systems go down, the best information management firms will be able to deliver back-ups on demand.

Good information management companies deliver solutions faster, and with greater frequency. They are similarly speed-conscious when it comes to making their systems easy for healthcare clients to access and utilise, automating much of the document retrieval and management process. Interfaces are intuitive and responsive, with indexing that integrates seamlessly with that of their clients. The smartest solutions not only make searching faster, but deliver information in a way that eliminates long wait times

and difficulties of accessing data across different devices.

In terms of enhancing efficiency, it is important for healthcare providers to ask what additional services an information management provider can offer them, and what cost savings engaging those services might have.

The best information management firms integrate their archiving, digitisation and retrieval solutions with a wider range of offerings, including asset management and data courier services, customisable ICT, cleaning services, office renovations, countrywide support, and many more functions.

Benefits

A good external information management solution directly addresses major HIM challenges as well as providing additional benefits for confidentiality, accessibility and environment.

: Privacy and Security

As well as improving patient confidence, more secure health information management significantly reduces risk. With information stored off-site, much of the pressure is taken off institutions that are currently maintaining a high level of physical and cyber security.

In the event of a major security event or loss of data, functionality can be rapidly restored with the provision of both physical and digital back-ups from a secure data repository. This keeps panic responses to a minimum and allows staff to continue to tend to patients with minimal interruption or inconvenience.

The financial benefits of greater privacy and security are hard to overstate. Not only are patients protected from identity fraud that may affect their finances, but healthcare institutions are able to avoid the potentially crippling burden on their already limited budgets.



: Ease of Access

Enhanced data accessibility has a direct effect on the quality of patient care. More informed decisions are made, resulting in better clinical outcomes across the board. Consolidated records with an intuitive access and retrieval system also eliminate confusion over where to find records. An authorised individual simply makes a request, and documents are delivered physically or digitally on the same day. The best information management companies provide a range of options — from a standard twice-daily service to urgent delivery in under three hours.

For digitised data, healthcare staff will find themselves with the ability to access and update a single point of truth through any device. Not only does this reduce the risk of communication errors, but it eliminates the logistical challenges of sending information to different locations.

: Optimised Space

The immediate benefit of outsourcing information management is more space for patients, staff and essential equipment. Having an information management partner paying close attention to sentencing schedules also means that documents are less likely to occupy costly shelf space off-site, allowing for a dramatic reduction in information storage overheads.

In addition, an information management partner that provides integrated services allows healthcare providers to enjoy reduced costs for those services overall. Providers of these consolidated systems will often provide attractive quotes to institutions looking to engage a number of different services. The silent benefit of this is that coordination between those services is also entirely managed by the information management firm — meaning, for example, that the archiving of physical documents is seamlessly combined with the removal of old equipment and the re-fitting of spaces for a new purpose.

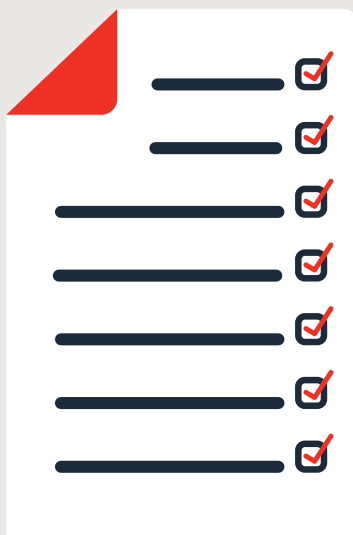
5 major requirements for choosing a better health information management partner

1. Ensures safety of patient data

Your patients deserve the best possible data security. Your partner's storage sites need to be equipped with fire protection systems with back-to-base intruder detection and 24-hour surveillance. Employees should also all be police-vetted. Cyber security needs to be just as strong, with data backed up and deliverable on demand in the event of local loss.

2. Maintains compliance

Compliance is important. Ignoring it can put your institution at risk of breaking the law, as well as retaining far more documents over far more floor space than necessary. The ideal information management solution should match your retention and sentencing schedules to your legal obligations, keeping you compliant and helping you optimise real estate.



3. Supports customisation

Information management systems need to be easy for your staff to use. The best providers will help you tailor an information storage and access solution that adapts to your existing filing references, terminology, record-keeping practices, and more. Not only does this reduce the learning curve for staff, but helps enforce information quality standards for fewer errors.

4. Improves coordination

A major obstacle to the efficient functioning of healthcare institutions is the lack of a "single point of truth". Your information management solution should allow simultaneous access by multiple parties, with information updated in real time so it's always up to date — giving staff access to accurate and clear patient data that is crucial for good decision-making.

5. Manages more than just information

You should be looking to squeeze as much value out of your information management partner as possible. The best way to do this is to ask what other services they can provide, such as refurbishments, refits, cleaning services or support for major relocations, and how consolidating could reduce your costs and improve the experience your patients and staff.

The Grace Advantage

With over 50 years in the business, Grace is uniquely qualified to deliver excellence in information management.

Grace provides solutions for the full range of health sector information management requirements, from storage and indexing to retrieval and destruction. Here are the advantages your organisation will enjoy with Grace:

- Expert consultants to assess the precise needs of your business and tailor solutions that address your specific information management challenges.
- The speed, convenience and security of 26 information management centres across the country – more than any other provider.
- Many facilities are protected by state-of-the-art safety systems, including sprinklers and fire doors – all linked directly to the local fire brigade. Plus, electronic intruder detection with back-to-base alarms.
- Complete and customisable cataloguing, indexing and sentencing solutions for projects of any size, right across the country – with information management software that gives you total control from any device.
- A scanning and digitisation process to make searching and retrieval as fast as possible. Digital files are audited to ensure 100% accuracy, and can be delivered in any electronic format or securely hosted in Grace's online data repository.
- Fast and flexible retrieval, with a standard service that delivers documents twice per day, urgent scan-on-demand services that respond within just 3 hours, and the option to personally retrieve information on site.
- The only secure chain of custody in the industry that spans the entire country. With GPS-tracked vehicles and police-checked staff, your documents never leave Grace's sight. Their client-anonymous indexing system also ensures your confidentiality at all times.
- Real-time tracking of your documents, from anywhere in the world.
- Secure destruction of documents (either on schedule or on demand) that operates under a strict authorisation process, protecting against both accidental data loss and unnecessary storage terms.
- Innovative solutions that recruit Grace's commercial and fine-art removals expertise to cater to a wide variety of unique business requirements.

Contact Grace today to find out how their specialised information management solutions and integrated services can help you. Visit www.grace.com.au/information/contact-us for your nearest office.

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