"Patients trust medical advisors with sensitive information and it must be protected"

# A healthy trust

Today's healthcare services need to be patient centric, cost efficient and compliant. Jacqui Griffiths finds out how the cloud can give healthcare providers the confidence to achieve these goals

**Healthcare providers face the challenge of providing up-to-the-minute, patient-centric care on increasingly tight budgets. They need to make sure sensitive data is secure, compliant and accessible to those who need it, wherever they are. Microsoft and its partners are using the cloud to deliver the trust, compliance and flexibility that health professionals – and their patients – demand.**

"Patients trust medical advisors with incredibly sensitive information and it must be protected," says Neil Jordan, worldwide general manager for the health industry at Microsoft. "Data breaches do a lot more than just harm reputation – they can actually put patients at risk."

For those who think that data stored in the cloud is more vulnerable, the truth may come as a shock. "According to data from the US, most breaches of the HIPAA regulations are physical breaches, and almost all the breaches of computing devices occur on premise, through the loss or theft of a machine that wasn't adequately secured,"

says Jordan. "Microsoft has been building robust, enterprise-class security capabilities such as data loss protection, legal hold, e-mail retention and e-mail encryption into its cloud technologies from the ground up, and the great advantage of the cloud environment is that we can do this on a huge scale."

Security is essential, but it's also crucial that control of the data lies solely in the hands of those who own it. "It's important to make sure that customers have complete control over permissions, so that only those who are authorised to see a record can actually see it," says Jordan. "All healthcare data in Microsoft cloud solutions is maintained in the control of the people who originally create it, whether that's enterprise customers or consumers. Microsoft may manage the trusted cloud environment, but we make sure we never even see the data."

**A question of compliance**
With a wide variety of laws and regulations governing data management across the world, a key question raised by many
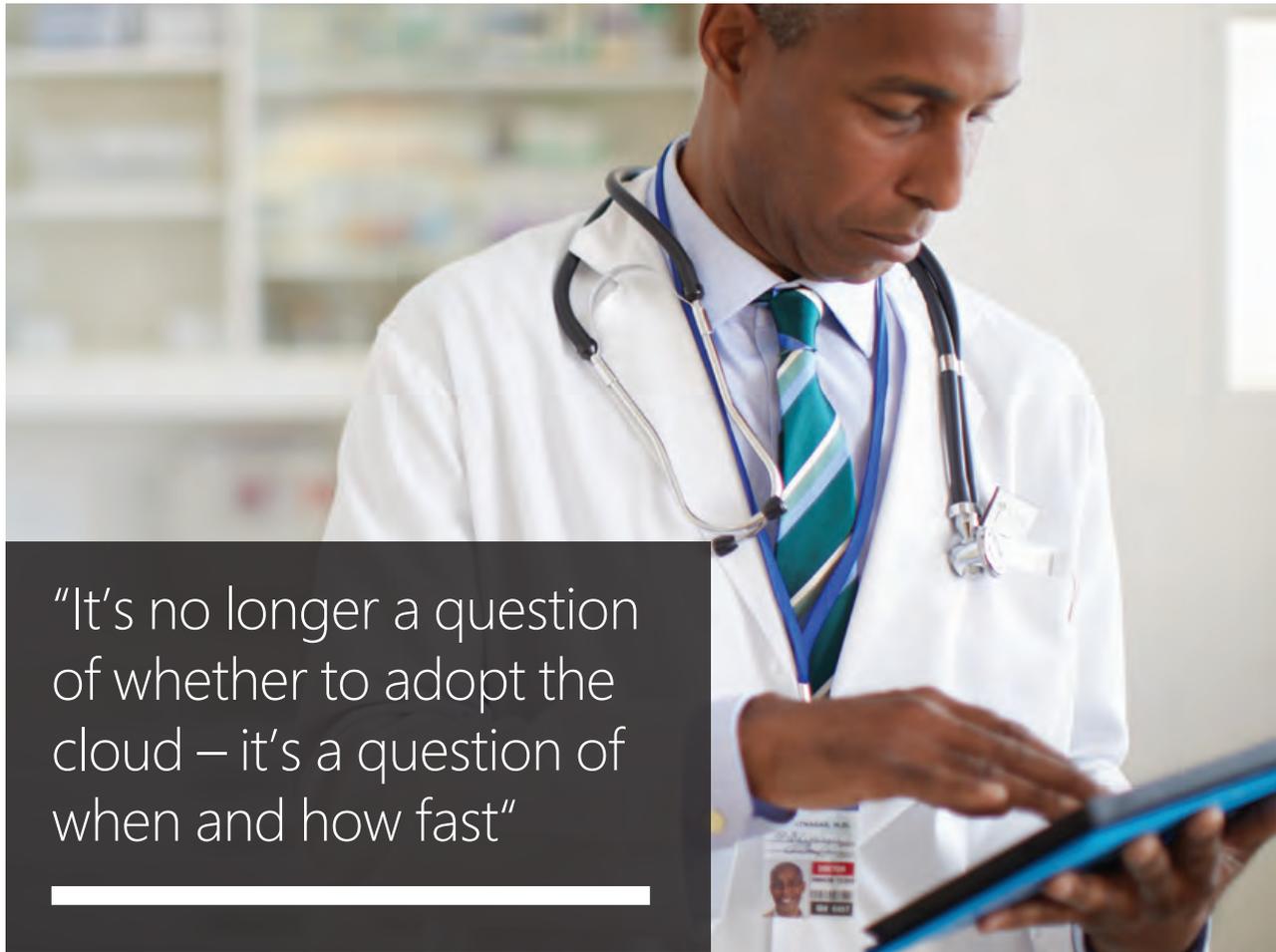
"It's no longer a question of whether to adopt the cloud – it's a question of when and how fast"

health organisations is how the cloud affects the compliance of their data – and it's a question that Jordan and his team welcome. "We've discussed compliance with healthcare clients in many different countries, and we look forward to giving healthcare organisations the confidence to move to the trusted cloud," he says.

For example in Germany, which is subject to strict laws about where data is allowed to reside, the Eye on Health cloud-based service from KMS brings together constantly updated demographic and clinical information but allows it to work on premise. "This is a hybrid cloud environment, enabling some of the work to be done in the cloud while the data continues to reside on premise," says Jordan.

In Taiwan, the Mackay Hospital had similar questions over compliance with

local legislation. "We talked them through all the points that we measure and monitor for them and how that complies with their legal standing," says Jordan. "Not only did they move to the cloud, but we've now started to see large numbers of other hospitals in Taiwan moving too. In fact the minister for health has said that the government is going to review its legislation to make sure it's up to date in terms of both technology and consumer expectations."

For partners, this attention to compliance means they can develop apps that healthcare institutions feel confident using. "With Microsoft, we know that we can prove the technology works, so the devices that we're using now will be approved by healthcare users," says Gustaf von Dewall, business development manager of healthcare at Softronic in Sweden. "We're impressed that

Microsoft has been taking the European privacy laws seriously, adopting those laws and being approved for compliance with the relevant EU regulations. That makes it easier for Softronic as a partner because we're working with a platform that we know is compliant – in fact it's usually more compliant than the IT department at the hospitals."

**Breaking barriers**
While security and compliance are critical requirements, accessibility is equally important. The infinite elasticity of the cloud means that it can support anytime, anywhere access to data as well as spikes in demand.

"This data is becoming mission-critical for the operation of hospitals and health systems in general," says Jordan. "The cloud provides the elasticity to support large numbers of users. It's not just about storing information,

tablets, PDAs and smartphones. Using the trusted cloud, it was able to provide unified communications including telephone, e-mail, video and chat, enabling improved collaboration for staff and volunteers.

Softtronic's Care Innovation solution, which runs on top of Microsoft Office 365, enables healthcare organisations to capture ideas from employees, partners and patients, and to process them until they become innovations that can be deployed. "This is a simple process that enables organisations to design their own innovations," says Mathias Kjellberg, business unit manager for healthcare at Softtronic. "It can be used internally, with partners, externally or with patients. It enables organisations to harvest ideas and work out cross-functional themes, with users viewing the idea from different angles."

"One of the greatest advantages of the cloud is that it allows organisations to cross a lot of the traditional infrastructural barriers which stop them from being patient-centric," says Jordan. "When healthcare data resides in the cloud, it can move where the patient needs to move, all with the right levels of trustworthiness and privacy. Many organisations that move to Office 365 do so because they want to coordinate care across multiple facilities, and on-site solutions can be very limiting in terms of connectivity."

### Familiar and intuitive

A further strength in breaking down boundaries between healthcare professionals and patients – and reducing costs into the bargain – is Microsoft's ability to provide a trusted cloud environment through familiar technologies. "The business-to-business (B2B) and business-to-consumer (B2C) sides are coming together in healthcare as enterprises strive to become more patient centric," says Kjellberg. "Many large technology providers have a complete B2C business model, but Microsoft's interest in B2B clients makes it much easier to create business solutions with familiar Microsoft technology. For example, Softtronic's Doctor on Duty solution is being trialled by doctors using their mobile devices. It uses a Windows 8 app, built on Azure, to alert on-call doctors to open tasks. Alert levels can be set so that doctors won't be

woken during the night unless needed, and tasks can be filtered according to location to optimise productivity."

The Kinecting Parkinson's project being trialled by Softtronic and Karolinska University Hospital sees patients with Parkinson's disease using Kinect for Windows to help them do rehabilitation exercises at home while enabling physicians to remotely monitor their patients' progress. "Several areas across Europe are looking at different ways to use consumer technologies like Kinect for healthcare," says von Dewall. "When you invade people's homes with medical monitoring equipment, they want it to be through things that they know and trust. Not only are consumer technologies easy for patients to understand, they also drive continuous development. We know that Microsoft will continue to develop Kinect, and that we can continue to rely on great technology."

### Effective data

Looking ahead, the cloud is set to play an increasingly critical role in enabling the data management needs of healthcare organisations. "Long term, with the right permissions, the ability of the cloud to aggregate data and allow both individuals and institutions to make better decisions on immediate and long-term health trends is going to get much more powerful," says Jordan. "We've seen partners like Predixion using cloud algorithms to enable people to do predictive business analytics on a set of patients who are being discharged, and predicting which are likely to be readmitted with related issues in the near future. It's very difficult to do that unless you have large swathes of data, and that's why the cloud is such a great place for doing this sort of high computing business intelligence."

When it comes to sensitive data, trust is a multifaceted concept embracing high levels of usability, security, compliance and cost effectiveness. The cloud is already delivering those capabilities to some healthcare providers, and many others look set to join them. "The technological and financial imperatives for accelerating use of the cloud in healthcare are unquestionable," concludes Jordan. "It's no longer a question of whether to adopt the cloud – it's a question of when and how fast."

it's a live thing that facilitates real-time collaboration and communication between teams. You can actually get to a point where none of the data ever resides on a device, and the device is effectively only a window into your system. But sometimes you want the data to reside locally – for example, if you haven't got a network or you don't know whether you're going to be able to connect. We support both of those scenarios securely on our own and other manufacturers' devices. This is vital to the quality of care that's delivered and to the cost of healthcare delivery."

For example, Netherlands homecare provider Florence Zorg has connected some 4,000 employees and 1,500 volunteers working in residential homes through its 'Floris' portal based on Office 365. The organisation needed to connect employees and volunteers at various locations through