

# Availability for Health Care



A New Kind of Emergency Response

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Hospital Relies on 24x7 Availability to Deliver Patient-Centered Care

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Fire, Earthquake and Tsunami Can't Stop Pharmaceutical Company from Recovering Data

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Healthcare Trust's New DR Strategy Pays for Itself in One Week



# A New Kind of Emergency Response

## Tackling the Challenges of Data-driven Health Care

# 41%

41% of the world's discrete Internet of Things (IoT) sensors are deployed in healthcare organizations, representing a whole world of new entry points for hackers to exploit.

Article Sources:  
Garther

Data, analytics, and the devices used to access and gather them have changed our lives for the better. From giving us the insight we need to improve critical business processes, to enabling us to learn more about our personal health and fitness, they've had some major impacts on both the way we work, and the way we live.

But you'd be hard-pushed to find an area where data and connected technology have done more for the greater good of the human race than in health care.

Mobile devices have put critical patient data in the hands of first responders, new analysis devices and tools are helping healthcare professionals diagnose with greater accuracy, and the instant

sharing of information between specialists is enabling them to save more lives in emergency situations.

Those are truly life-changing capabilities — but they come at a cost. The sheer volume of sensitive patient and organizational data handled by today's healthcare providers has put a major target over their heads for hackers and data thieves.

And it's not just the volume of data they're handling that's leaving them vulnerable. According to Gartner, 41% of the world's discrete Internet of Things (IoT) sensors are deployed in healthcare organizations, representing a whole world of new entry points for hackers to exploit.

### FENDING OFF DIVERSE THREATS

The combination of massive volumes of sensitive personal data and a growing number of entry points that can be exploited to steal it is a recipe for disaster. An organization holding more valuable data than ever before, that's also the most vulnerable it has ever been, is a dream come true for data thieves.

The problem is, not every attacker wants to actually steal data from healthcare organizations. The critical, life or death nature of the work they do also makes them a huge target for those launching ransomware attacks.

Why are hospitals such a perfect target for ransomware? Because patient data is so important to the care they provide, putting it out of reach throws them into a state of panic where they're likely to cave into demands. Quite simply, when you hijack something that's critically important to someone, chances are that they will pay to get it back.

### SO WHAT CAN YOU DO ABOUT IT ALL?

Clearly, healthcare providers can't ignore the benefits that new data-driven techno-

logy can bring to them and their patients. So what can they do to keep their data from falling into the wrong hands?

Well, with threats becoming more diverse every day, nobody can ever truly achieve complete protection against malicious attacks. Instead, the best course of action is something those in healthcare are already very familiar with — making sure you're properly prepared for a disaster.

At ground level, professionals gathering and using data need to receive specific training in how they can best prevent attacks and minimize vulnerabilities. They must understand how their actions can leave the organization as a whole — and all of its data — vulnerable.

Beyond that, healthcare IT leaders need to create, clarify and execute robust disaster recovery plans to help ensure the continuity of care and operations in the event of a serious breach or malicious attack.

Backups sit at the core of those strategies. By frequently backing up data and verifying those backups to ensure they'll work when they're needed, healthcare organizations

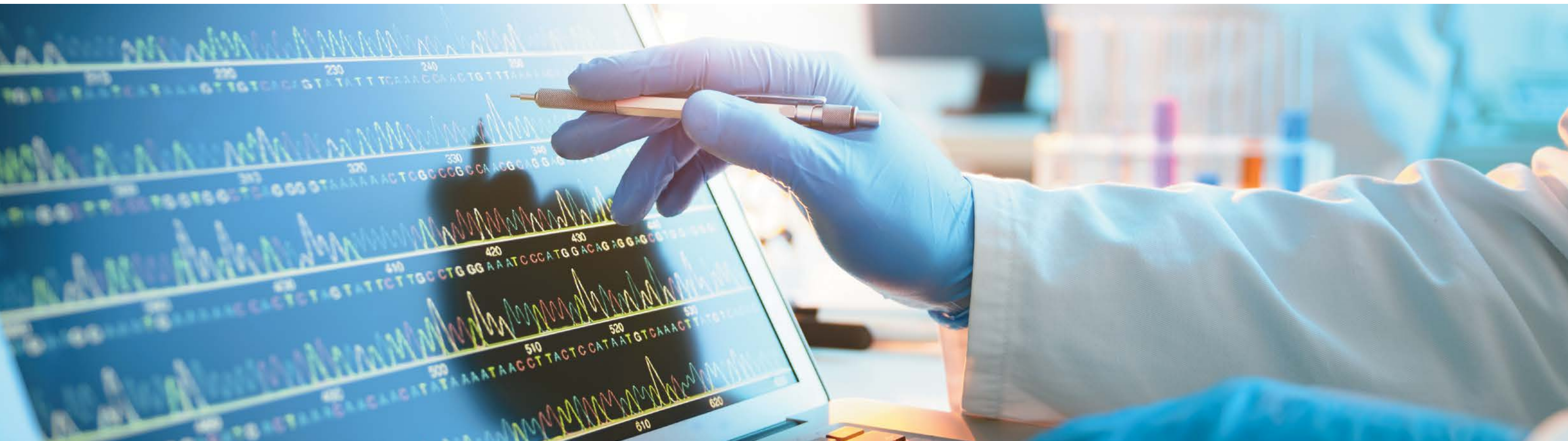
can quickly and effectively recover from a wide range of threats, including ransomware attacks.

Modern Availability solutions can also help protect against complete data loss in the wake of a malicious attack — something that could have life or death implications in healthcare. Losing critical healthcare data truly is a nightmare scenario for providers, and verified backups, paired with a comprehensive disaster recovery strategy are the best way to ensure it doesn't become a reality.

### IS THERE AN END IN SIGHT?

Unfortunately, as healthcare providers find new ways of using data and devices to improve patient care and the services they provide, attacks of this kind will increase in volume and become more diverse.

All you can do is train your people on data protection best practices, perform frequent, verified backups, and ensure that if a data disaster does strike, you've prepared the perfect emergency response to guarantee the Availability of the data that saves lives.





# Hospital Relies on 24x7 Availability to Deliver Patient-Centered Care



CAMH uses Veeam for onsite backup of 10 TB on 108 Microsoft Hyper-V virtual machines and offsite replication to Nimble CS-Series arrays. Nimble snapshots are replicated between data centers, giving CAMH redundant recovery. Because of Veeam's built-in deduplication and Nimble's built-in compression, replicas require 10 times less storage.



Learn more about Veeam + Nimble:  
[vee.am/nimble](http://vee.am/nimble)

The Centre for Addiction and Mental Health (CAMH) is the largest mental health and addiction hospital in Canada. Approximately 3,000 employees work in facilities across Ontario. To deliver on its promise of patient-centered care, CAMH must provide physicians and staff with 24x7 access to applications and data.

Alan Tang, Team Lead of the Web & Portal Information Management Group at CAMH, said unreliable recovery of virtual machines threatened downtime and jeopardized 24x7 Availability. Downtime also complicated business processes, such as industry audits, software upgrades and web development.

"Veeam Backup & Replication helps us deliver patient-centered care by ensuring 24x7 Availability of the data and appli-

cations required by physicians and staff," Tang said. "High-speed backup and replication combined with fast recovery let us restore data in minutes by recovering VMs from backups on site or by failing over to Veeam replicas off site."

Tang said Veeam also simplified several processes to better serve the business. "During an audit, we have to prove we can deliver IT services within a reasonable amount of time following a disaster. It's so easy to demonstrate compliance with Veeam. We pull up backups and replicas and restore from them in minutes."

Veeam also helped CAMH become innovative and agile in software and system upgrades.

"We are confident, aggressive and proactive with upgrades because we

test them in Veeam's Virtual Lab before putting them into production; we know if we run into a problem that our safety net is a Veeam backup. We also migrate VMs from old hardware to new hardware quickly and easily with replication."

Tang and his colleagues do a fair amount of web development, which tends to iterate quickly. Veeam transformed that business process as well.

"We test automation code before pushing it up to our web site, and we test SSL patches to keep our sites secure. Our goal is for CAMH to be up and running at all times, but we want IT to be invisible. Veeam helps us remain invisible, but more important, Veeam gives us a level of confidence in our IT infrastructure like never before."





# Fire, Earthquake and Tsunami Can't Stop Pharmaceutical Company from Recovering Data



Catalent is the leading global provider of advanced delivery technologies and development solutions for drugs, biologics and consumer health products. With more than 80 years serving the industry, Catalent has proven expertise in bringing more customer products to market faster, enhancing product performance and ensuring reliable clinical and commercial product supply. Catalent employs 8,700 people in 31 facilities across five continents. In fiscal 2015 Catalent generated more than \$1.8 billion in annual revenue.

Catalent Pharma Solutions suffered three natural disasters in one year: an earthquake, tsunami and a fire,

but a strategic disaster recovery (DR) strategy helped the company recover IT services quickly and deliver

24x7 Availability of critical data. Dave Clark, Senior Infrastructure Engineer at Catalent, explains how.

**Catalent:**

No one would ever have expected three worst-case scenarios in a row, but thanks to good planning and Veeam Backup & Replication, we experienced only minimal downtime and were able to continue shipping products to customers and generating revenue for the company.

**Veeam:**

Please explain what happened during each disaster.

**Catalent:**

The first two disasters occurred back to back. An earthquake and tsunami in Japan caused flooding near one of our offices, resulting in long-term

power outages. We decided the best way to protect our virtual machines was to replicate them with Veeam to another office. This DR initiative was so successful that we expanded our business continuity plan to include replication globally.

**Veeam:**

What happened next?

**Catalent:**

A fire damaged servers at our UK site where business-critical virtual machines ran applications for inventory, production and shipping. If we hadn't restored our VMs with Veeam we might have been offline for a week or more, which could have damaged relationships with

our business partners and customers — and impacted our bottom line. Instead, Veeam saved the day, and we quickly resumed the packaging process at our other sites.

**Veeam:**

Has Veeam helped the business in other ways?

**Catalent:**

Yes. Veeam saves us hundreds of hours each year during routine data center operations. Backup is 96% faster and far more reliable, so we don't have to spend time managing failed backup. Recovery is 97% faster. Veeam was a brilliant choice for Catalent.





# Health Care Trust's New DR Strategy Pays for Itself in One Week



Oxford University Hospitals NHS Foundation Trust is one of the largest National Health Service teaching trusts in the UK. The Trust supports four hospitals that provide a wide range of clinical services, medical education, training and research.

With plans to virtualize most of its IT infrastructure, the Trust needed a disaster recovery (DR) solution specifically tailored for a virtual environment that ensured 24x7 Availability of hospital data at the lowest cost.

Kevin Woodley, Data Center Manager at Oxford Health Informatics Service, said Veeam Backup & Replication fulfilled those needs and more.

"We believe in the power of IT in health-care and are always happy to invest in new technology if it will help lower costs and improve patient care," Woodley said. "Veeam proved its value to us within the first week of installation when one of our live production servers hung. Normally the time-honored solution to this problem would be to power off and power on again. However, this time the server failed to boot. Traditionally, this would have required a full rebuild and potentially long downtime — up to one day. Using Veeam we simply booted the DR replica and had a live

system operating again within three minutes. Veeam paid for itself in one week, which is why it has become a cornerstone of our DR strategy."

Not only does Veeam back up and replicate hundreds of virtual machines. Veeam replication is half the cost of another solution considered. The Trust would have spent 50% more to replicate only 20% of the virtual estate.

**In addition to being more cost-effective, Veeam replication is lightning-quick.**

"We can capture changes and update virtual machine images as often as every few minutes," Woodley said.

"If a VM goes down, we can immediately fail over to a ready-to-start replica. Veeam allows multiple rollback points, so if corruption spread from a live virtual machine to its replica, the virtual machine could still be recovered to an earlier rollback point. Veeam is a win-win solution for the Trust and our hospitals."



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