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Customer Success Story

Improving Patient Care through Wider, Secure Data Sharing

GIG CYMRU NHS WALES

Healthcare

Background

The NHS Wales Informatics Service (NWIS), now Digital Health & Care Wales (DHCW), was looking to widen the sharing of patient data from the Health Boards to additional agencies, such as social services, community pharmacies and the ambulance service.

Challenge

The challenge was to enable the wider sharing of data to a whole range of care bodies across Wales whilst ensuring the level of security and integrity required by the Eight Caldicott Principles was adhered to by all stakeholders across NHS Wales and supporting agencies.

Solution

The information governance team at NHS Wales developed a detailed specification for a system which would ensure that unauthorised access could be identified and acted upon. This system, the National Integrated Intelligent Audit Solution (NIIAS) would incorporate the centalised audit of all users accessing electronic patient records held across a wide range of clinical applications.

Following the tender process, VigilancePro from Vigilant was selected to provide highly forensic user behaviour analytics at the heart of NIIAS. VigilancePro was chosen for its flexibility, non-reliance on common format log data and ability to correlate both structured and unstructured data from a plethora of disparate systems.

Results

+ VigilancePro gives Information Governance teams a consolidated view of over 60 million electronic patient record accesses daily and automatically sends alerts of any potential user breaches of the Caldicott Principle guidelines

+ Agencies and Health Boards, Primary and Secondary Care are now willing to share access to systems and data, improving patient care

+ An increasing number of applications are now being secured

"The National Intelligent Integrated Audit Solution, powered by VigilancePro, is a vital part of the tooling required to support the sharing of the electronic patient records – NIIAS helps with the detection of unauthorised access to data and is the cornerstone of the Information Governance Framework in Wales."

Darren Lloyd – Associate Director for Information Governance and Patient Safety, Digital Health & Care Wales

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NHS Wales provides healthcare to 3 million people, with 7 Local Health Boards, 3 NHS Trusts and 2 Special Health Authorities in Wales.

Read on for the full story >

Digital Transformation at NHS Wales

NHS Wales has a long track record for being at the forefront of delivering digital transformation and innovation and its far-sighted approach has had a profound effect on the health and wellbeing of the Welsh nation.

Established in 2010, the NHS Wales Informatics Service (NWIS) was given the task of spearheading the provision of new digital services. It worked in partnership with all organisations throughout NHS Wales to identify and introduce the best technologies to modernise, enhance and support the nation's health service, preparing it for a responsible digital future.

At the centre of NWIS' digital transformation policy was the understanding that the more information that could be made available to the clinician, the more accurately they could diagnose and make an informed decision about the best mode of care. The ability to readily access and share data from disparate systems was the key to improving outcomes and efficiency.

The Challenge –
Sharing sensitive patient data across health boards and agencies whilst complying with the eight Caldicott Principles

The Welsh Clinical Portal (WCP) had already provided a nationwide system (the first of its kind in the UK) for sharing patient data primarily across the Health Boards in Wales. WCP was ground-breaking in its own right but patient data needed to be even more widely available to a whole range of care bodies across Wales if the benefits of digital healthcare were to be fully realised.

The challenge facing NWIS was how to extend the sharing of sensitive patient data with the likes of Social Services, Community Pharmacies, the Ambulance Service and other agencies, to further improve patient outcomes. Equally, to do so with the same levels of security and integrity as defined by the Caldicott Committee report from the late 90's which already underpinned NHS information governance. Eight Caldicott Principles were created to tackle difficulties that the NHS faced in dealing with patients' information and how technology affected the inclusive processes.

The 8 Caldicott Principles

1. Justifying the purpose(s) of using confidential information

2. Only using it when absolutely necessary

3. Using the minimum that is required

4. Accessing on a strict need-to-know basis

5. Understanding the responsibilities associated with accessing patient information

6. Understanding and complying with the law

7. Acknowledging that the duty to share information can be as important as the duty to protect patient confidentiality

8. Making patients and services aware of how and when confidential information is used

Finding a solution to achieve joint goals of improving patient care and efficiency through wider data sharing

To achieve their goals of improving patient care and general efficiency through wider data sharing, NWIS needed to demonstrate how all stakeholders in NHS Wales could be appropriately governed to comply with the Caldicott Principles.

The information governance team set about developing a detailed specification for a system that would ensure that unauthorised access could be identified and acted upon. The system, the National Integrated Intelligent Audit Solution (NIIAS) as it would become known, incorporated the centralised audit of all users accessing electronic patient records held across a comprehensive list of clinical applications. A massive undertaking.

Whilst the WCP had been developed in-house, NHS Wales looked to external security and data experts to fulfil the complex requirements that had been identified for NIIAS. They carried out a stringent open tender process to identify a suitable supplier with a proven track record and a scalable solution.

In 2014 Vigilant teamed up with healthcare consultants Maxwell Stanley to promote VigilancePro as the core technology that should be powering NIIAS. The competitive bid included sector specialists FairWarning, a US-based company that had already made inroads with its governance solution in other areas of the NHS and is now part of Imprivata.

The National Integrated Intelligent Audit Solution (NIIAS) solution

The NIIAS solution detects potential instances of unauthorised access to patient information held within certain national electronic information systems to protect patient confidentiality.

Groups, including NHS Wales General Practitioners, Community Pharmacists, Welsh Ambulance Service and Welsh Air Ambulance are now using the system in a secondary care setting.

VigilancePro is used at the heart of the NIIAS solution using proprietary technology to collect and process large amounts of data at light-speed, detect patterns and dispatch alerts in real-time.

+ NIIAS collects information from clinical applications and provides easy-to-understand information on user activity – without impacting daily operations

+ User activity is collected and collated with other data to provide information about misuse and inappropriate access

+ VigilancePro monitors each event as it is detected and analyses and compares it against pre-defined policies to determine whether the content is suspicious or not

+ Information on user activity is gathered via a central, web-based dashboard and reporting

VigilancePro Powering the NIIAS Solution at NHS Wales

+ Proactively detects unauthorised access to electronic systems with patient information

+ Highlights unusual or suspicious activity for further investigation

+ Enables the ongoing investigation of access to specific patients' records

+ Reassures staff, as well as patients, that their record is protected

+ Proactively captures behaviour of users viewing certain aspects of patient records

+ Simplifies the analysis of audit files

+ Improves data quality

+ Makes it easier to generate reports and statutory Subject Access Requests

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Rapid deployment of the Welsh NHS system in four months

In October 2014 Vigilant was successfully awarded a five-year contract for its VigilancePro software with an option to extend by a further two years. In an unprecedented deployment timescale for a Welsh NHS system, just four months after the award, the National Integrated Intelligent Audit Solution went live. It immediately provided the levels of governance, in accordance with the Caldicott principles, necessary to allow NWIS to press ahead with its ambitious digital transformation plans throughout NHS Wales.

Flexibility to handle all types of data, value for money, and speed of implementation

In its assessment of the successful Vigilant tender, NWIS cited the flexibility of VigilancePro as a key differentiator and in particular its non-reliance on common format log data and its ability to correlate both structured and unstructured data from a plethora of disparate systems. Value for money and speed of implementation were also noted.

Such has been the success of NIIAS within NHS Wales, that in the Spring of 2021 NWIS transitioned to become a Special Health Authority in its own right, known as Digital Health & Care Wales (DHCW). DHCW continues to build on its digital innovation with new technology systems and services to support patients and medical practitioners in Wales and openly acknowledges the ongoing crucial role Vigilant and VigilancePro performs.

Preparing for another 5 years of digital innovation and expanding secure data sharing with VigilancePro

NIIAS continues to expand its coverage of national electronic information systems, including the Welsh Clinical Portal, Welsh Patient Administration and Choose Pharmacy Systems. It supports the confident use of these and other applications for its key user groups, including NHS Wales General Practitioners, Community Pharmacists, Welsh Ambulance Service, Wales Air Ambulance and all relevant use cases within the secondary care setting.

VigilancePro has earned its place as part of NHS Wales critical infrastructure and in the Autumn of 2023 Vigilant will be migrating NIIAS to the cloud for DHCW to prepare for another five years of digital innovation and the further secure sharing of information to help revolutionise patient care and clinical outcomes. Vigilant Cloud Services will future-proof NIIAS by providing unlimited scalability but at the same time maintaining the cost effectiveness of a crucial nationwide system.