GP Clinical Systems Strategy

Delivering next generation systems and services for General Practices in Wales

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Sponsorship

This Strategy has been endorsed by the National GMS IM&T Programme Board, representing the following stakeholder organisations:

- Welsh Assembly Government (Primary Care Policy & Finance Directorates)
- General Practitioners Committee (Wales)
- Health Boards
- Royal College of General Practitioners (Wales)
- Welsh Association of Managers in Primary Care
- NHS Wales Informatics Service
Executive Summary

Introduction

This document sets out the strategic direction for General Practice Clinical Systems within Wales for the next five years. It fits within strategic change in NHS Wales and particularly within the national IT programme led by the NHS Wales Informatics Service. As such it should be read in conjunction with the following documents:

- National Infrastructure Strategy for NHS Wales
- National Application Strategy for NHS Wales
- National Security Guidance for NHS Wales
- ICT Strategy for the Public Sector in Wales

Background

In 2006 the General Medical Services (GMS) IM&T Programme Board commissioned the publication of the first strategy for GP clinical systems - *GP Clinical Systems: A Strategic Framework* in response to the new GMS Contract.

This first strategy was implemented with its key objectives fully achieved, namely:

- The establishment of the minimum standard for GP clinical system functionality – the Welsh Minimum System Specification (MSS)
- The procurement and ongoing management of the all Wales GMS Systems & Services Framework Agreement
- The establishment of an organisational structure and service management processes to oversee the development of the MSS and the management of the Framework Agreement

Following the success of the first strategy, the GMS IM&T Programme Board commissioned a further strategy to set out the strategic direction for General Practice Clinical Systems within Wales for the next five years. This second strategy has been developed in consultation with key stakeholders from within NHS Wales and the other home countries to ensure that the GMS contractual requirements continue to be met within a delivery model of coordinated and equitable investment in order to advance the functionality of GP systems. Furthermore, this strategy ensures compliance with the NHS Wales national architecture and overall IT strategic direction, whilst supporting the delivery of NHS Wales reforms and the overall strategic agenda.

In addition to the need for alignment with the wider strategic and policy context of NHS Wales, there are several factors which are driving the need for change, namely:

- The GP patient record is increasingly being acknowledged as the primary clinical record and therefore GP clinical systems are now recognised as strategic components of the national IT programme for the NHS in Wales. Consequently demands for greater access and sharing of high quality data from GP patient records will continue to increase;

- There is a greater need to demonstrate the measures that are being taken to improve security of Person Identifiable Information (PII) in order to assure the public and patients that their personal data is safe within NHS Wales. GPs will need to make best use of new technologies and policies to ensure the security of the information that they control;

- NHS Wales has developed ‘National Architecture Standards’, and published the National Infrastructure, Applications and Security Strategies for NHS Wales, all of which mandate compliance and clearly signpost the technical and interoperability standards that must be achieved by GP clinical systems;
Healthcare services within NHS Wales are being reorganised, specifically the strategic direction for primary and community care services through the Primary and Community Services Strategic Delivery Programme. GP systems and supporting infrastructure needs to adapt and offer functional capability to promote and facilitate these changes;

GP clinical system suppliers are increasingly being relied on to provide core elements of national solutions, such as the Individual Health Record, Welsh Clinical Communications Gateway, My Health on Line;

Pragmatically, the current national Framework Agreement for GMS Systems and Services expires in July 2011 and this new strategy must inform the development and re-procurement of the next Framework Agreement for GP systems in Wales;

It is acknowledged that UK budgetary deficit funding pressures will increase over the next 5 years;

The Welsh Assembly Government has invested in the Public Sector Broadband Aggregation (PSBA) network which provides the potential for improved reliability, resilience and a wider range of integrated telecommunications services to GPs. PSBA therefore provides new opportunities for the delivery and support of IT services within GP practices and the local health community.

Acknowledging these key drivers and the case for change, a series of stakeholder interviews were undertaken to elicit views to ensure that this strategy is congruent with expectations of future delivery, management and support of GP systems in Wales.

Throughout the information gathering exercise a number of common themes emerged which are described in the strategy and have formed the basis for a vision statement underpinned by four core principles.

**Vision Statement**

“The provision of integrated, safe and efficient health care services to the population of Wales supported by clinically rich functional GP systems which interoperate with national and third party applications and services via a managed, affordable, reliable and resilient ICT infrastructure.”

**Core Principles**

1. Improve the provision of IT services by establishing a GP system infrastructure aligned with the requirements of the national infrastructure, security and applications strategies.

   This is perhaps the most ambitious statement as it will involve large scale change in the delivery, management and support of infrastructure services across the GP estate. The benefits, however, are many and contribute significantly to the achievement of the overall vision.

2. Support local and national requirements for GP systems functionality and interoperability, and facilitate support for wider primary and community care providers.

   There is a clear desire for the future development of GP systems to be flexible enough to meet both national and local requirements for change. There is also a need for systems to have the capability to support the wider health community both in terms of information sharing and functional system use.

3. Ensure high quality clinical data within GP systems and support information sharing.

   The quality of clinical data held within GP systems has never been more important both internally to support the clinical and business processes within GP practices, and externally to support the delivery of care in the wider NHS Wales context. This can only increase in the future.
4. Ensure the provision, support and strategic development of GP systems remains affordable and cost efficient.

The pressure to demonstrate efficiencies and achieve costs savings will be significant over the years to come. Therefore, it is essential to demonstrate cost efficiencies through standardisation, continual service improvement and the national “Once for Wales” approach. Moreover, it is expected that the delivery of this strategy is met within available resources.

Strategic Aims

The thirty eight strategic aims that are detailed within the strategy are categorised into the following areas associated with GP clinical systems, namely:

- Functionality
- Infrastructure
- Security
- Service Management
- Data Quality
- Education and Training
- Finance and Procurement

The main body of the strategy subsequently highlights the next steps that need to be undertaken in relation to the strategic aims in order to begin to realise the overall vision.

Conclusions

The following conclusions can be drawn from the strategy, namely:

Investment in GP systems must continue to support the core clinical/business function requirements of GP Practices and the GMS contract in the provision of high quality services to patients, and developed further to provide enhanced functionality and interoperability with local and national applications and services;

GP systems will need to integrate with the wider community in order to support the future service delivery requirements across Primary, Community and Social Care settings. Therefore, future investment in GP system supplier ‘Next Generation’ clinical systems (that are hosted, web-based, patient centric systems) must deliver the functional capability and flexibility to respond to these changing requirements as and when appropriate;

It is essential that GP choice of clinical system must remain, however it will be inappropriate to invest in systems that are costly to support and develop going forward, especially during these challenging financial times and this period of health service redesign in Wales;

Considerable diversity of the GP IT infrastructure exists across Wales. If the wider IT strategic aims within NHS Wales are to be achieved then standardisation of this infrastructure is essential. This standardisation will lead to better, safer and more efficient IT service provision through improved service management led by NHS Wales;

Clinical software support should remain with the GP system suppliers but it is outdated and inappropriate that those same suppliers are responsible for overall service management and infrastructure support. Therefore options for alternative integrated support services must be identified and implemented;
Data quality continues to improve, however the use of local and proprietary codes needs to be managed as part of ‘readiness’ activities which will support a common level of assurance for information sharing across the health community and underpin initiatives such as the IHR and GP2GP record transfer. Therefore, the full capability of the national Data Quality System must be exploited to further improve the quality, consistency and accuracy of clinical coding in General Practice;

There is an inconsistent and ad hoc approach to the procurement, implementation and use of third party applications in use in the GP IT environment. Whilst this may be acceptable for software of no great clinical importance or strategic significance, the situation needs to be addressed for those strategically and clinically important applications in widespread use;

The pressure to demonstrate efficiencies and achieve costs savings will be significant over the years to come. Therefore, it is expected that the delivery of this strategy is met within available resources;

Finally, the new NHS Wales Informatics Service must ensure that it maintains and develops the governance, management capacity and capability to deliver the strategic objectives set out in the GP Clinical Systems Strategy for Wales through ongoing consultation and collaboration with key stakeholders, to ensure that subsequent benefits are realised.
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1. Introduction

This document sets out the strategic direction for General Practice Clinical Systems within Wales for the next five years. It fits within strategic change in NHS Wales and particularly within the national IT programme led by the NHS Wales Informatics Service. As such it should be read in conjunction with the following documents:

- National Infrastructure Strategy for NHS Wales
- National Application Strategy for NHS Wales
- National Security Guidance for NHS Wales
- ICT Strategy for the Public Sector in Wales

This document considers the following areas associated with GP systems:

- Functionality
- Infrastructure
- Security
- Service Management
- Data Quality
- Education and Training
- Finance and Procurement

For each of these the document describes the current position and the drivers for change; the desired future state or vision and the recommended next steps.

1.1 Background

GP computing is one of the NHS’s success stories. What started out as small scale bespoke systems, often developed by GPs to initially support the administrative needs of their practices, has led to functionally-rich enterprise systems capable of supporting both clinical and administrative functions with active UK-wide user groups providing collaboration on system developments and improvements.

In Wales there has been an explicit recognition by the Welsh Assembly Government that modern and fit for purpose Information Management & Technology (IM&T) is essential for GPs in order to provide safe and effective GP health services. This recognition led to the creation of the GP Information Communications technology (ICT) Foundation Programme in 2000: a programme to update the Information Technology (IT) infrastructure in GP Practices. The success of the Programme led to the formation of the Primary Care Informatics Programme (PCIP), which subsequently led informatics developments in Primary Care and became a part of Informing Healthcare (IHC) in October 2009 and now forms parts of the NHS Wales Informatics Service (NWIS). The original principal objectives of the Primary Care Informatics Programme prevail, namely:

- Support the ‘contractual’ IM&T requirements for all Primary Care contractor professions in Wales
- Ensure the delivery of a corporate, consistent and equitable approach to ICT facilities and services to Primary Care contractor professions in Wales
- Set corporate IM&T policy and strategic direction for all Primary Care contractor professions in Wales
- Ensure compliance with the strategic direction of the NWIS with specific focus on the future integration requirements with national applications and services including amongst others the Individual Health Record
The delivery of these principal objectives are overseen by national Programme Board members (including key representatives from Health Boards and contractor professions) to ensure that the clinical and administrative IM&T needs of contractors are met whilst ensuring alignment to the strategic IM&T direction of NHS Wales.

In the case of GMS IM&T the responsibility lies with the GMS IM&T Programme Board, which oversees and directs the IT agenda for GMS in Wales. In 2006 the Board commissioned the publication of the first strategy for GP clinical systems - *GP Clinical Systems: A Strategic Framework*. This strategy was in response to the new GMS Contract which moved the responsibility for the procurement and maintenance of GP clinical systems away from Practices and to the 22 Local Health Boards (LHBs).

The first strategy has now been implemented with the key objectives fully achieved:

1. The establishment of the minimum standard for GP clinical system functionality – the Welsh Minimum System Specification (MSS)
2. The procurement and ongoing management of the all Wales GMS Systems & Services Framework Agreement
3. The establishment of an organisational structure and service management processes to oversee the development of the MSS and the management of the Framework Agreement

As a result of this first strategy and to continue the ethos of the Foundation Programme by ensuring continued equitable investment in GP IT infrastructure, the IT Refresh Programme for GPs was established by PCIP to ensure that GP IT is kept up to date with a managed maintenance cycle of upgrades and replacement of IT equipment and services.

It is therefore on the principles of the Foundation Programme and the subsequent *GP Clinical Systems: A Strategic Framework* that the GMS IM&T Programme Board has commissioned this second strategy to ensure that the GMS contractual requirements continue to be met within a delivery model of coordinated and equitable investment. This will result in advances in the functionality of GP systems and ensure compliance with the NHS Wales national architecture and overall IT strategic direction, whilst supporting the delivery of NHS Wales reforms and the overall strategic agenda.

### 1.2 Strategic Context

*Designed for Life* sets out a vision for NHS Wales from 2005 to 2015. It emphasises the need for integrated care with partnership working and recognises IM&T as a key enabler in achieving its strategic goals. *Designed for Life* also cited *A Question of Balance* and the *Review of Health and Social Care in Wales* which highlighted the capacity problems in acute hospitals and the need for strategies to support more effective care out of hospital. This GP systems strategy, within the limits of its scope, will undertake to support those strategic goals.

*Making the Connections* makes the case for achieving value for money through organisations working together to adopt common back office functions, sharing support functions and maximising leverage through collective procurement. Making the Connections is aimed primarily at collaboration across Government sectors, but a necessary precursor to inter-departmental collaboration is collaboration within each healthcare sector. Considerable progress has been made within the GP IT sector in this area: the national IT Refresh Programme and central procurement and management of GP system contracts are just two such developments that have demonstrated considerable savings and service improvements through adopting a “Once for Wales” approach.

The NHS in Wales has recently published *Delivering a Five-Year Service, Workforce and Financial Strategic Framework for NHS Wales* which sets out a work programme for the next 5 years. This strategy will ensure close alignment and support of the key programmes within the framework, specifically the informatics programme.
Two further important strategic developments have recently occurred which may influence the future use and dependency of GP systems in Wales. The first was the publication of *A Community Nursing Strategy for Wales* which identified the extension of GP computing as one option for capturing the data to support all aspects of community nursing. The second development was the publication of *Setting the Direction - Primary and Community Services Strategic Delivery Programme*, by Dr Chris Jones and the National Advisory Board (NAB) in July 2010. The Programme has the strategic intention to deliver the rebalancing of care between hospital and community settings placing the preventative primary and community agenda central to service redesign. It clearly acknowledges the importance of the GP record, stating that ‘The GP record, with all appropriate safeguards in terms of information protection, will form the core data set to inform clinical decision making by primary care; out-of-hours services, community services, A&E/Acute Assessment Units and discharge planning functions of acute hospitals.’ Access to the GP record and the sharing of information, with the appropriate safeguards and controls in place, is therefore critical to the success of the Delivery Programme.

Finally in March 2010 the BMA published *Fit for the Future* which advocates the further development and investment in GP systems with particular reference to interoperability and data quality, supporting the wider information sharing agenda.

These recent strategic developments clearly recognise the need for greater collaborative working and interoperability between GP Practices and a range of locality and community-based services if the strategic goals of NHS Wales in delivering safe, secure and effective out-of-hospital health and social care are to be realised.

**1.3 UK Collaboration**

The development of GP clinical systems for English GP system users has largely been driven by *NHS Connecting for Health* through their GP Systems of Choice (GPSoC) Programme. The GPSoC model has introduced national services such as Choose & Book, GP to GP electronic transfer of records (GP2GP) and the Electronic Prescription Service (EPS).

The GPSoC Framework Agreement provides a choice of systems for English practices. Funding for these systems is provided centrally, via NHS Connecting for Health, and suppliers are able to receive higher payments for systems that provide more functionality, i.e. EPS, GP2GP etc. GPSoC now replaces the Local Service Provider solution as the strategic programme for delivering future GP clinical system developments. The GPSoC Framework Agreement expires at approximately the same time as the Welsh Framework Agreement which will provide another opportunity for collaboration, particularly where there are common requirements.

The *NHS in Northern Ireland* has also benefited from collaboration with NHS Wales and Connecting for Health in letting a similar national Framework Agreement for GP clinical systems. Drawing on specific experiences from NHS Wales they have introduced a similar Minimum System Specification (MSS) as the contractual vehicle to introduce national systems and services.

In Scotland a decision has been taken by the *Scottish Executive* to decommission the crown-owned GP clinical system GPASS. GPASS was used by the majority of Scottish GP practices. This decision has recently resulted in the letting of a national Framework Agreement with two major GP system suppliers (EMIS and InPractice Systems) which is now enabling Health Boards to migrate from GPASS and procure alternative GP systems, deployed locally or remotely hosted within data centres.

**Four Nations Primary Care IM&T Group**

Strategic developments in GP systems are shared and discussed regularly at the Four Nations Primary Care IM&T Group meetings. It is through this forum that NHS Wales has both contributed and benefited from several collaborative projects. In relation to England, NHS Wales has benefited from collaborating with CFH on a number of fronts, specifically the development of GP systems through the establishment of common Framework Agreements. With regard to Northern Ireland collaboration during the development of the respective Electronic Transfer of
Prescription (ETP) services, which led to the introduction of 2-D barcoded prescriptions in Wales. Finally, NHS Wales has benefited with its relationship with Scotland through the implementation of Scotland’s SCI Gateway in Wales known as the Welsh Clinical Communications Gateway (WCCG) which supports electronic referrals between Primary and Secondary Care.

1.4 Immediate GP Context

The use of GP clinical systems (both administrative and clinical) and related third party products is pivotal to supporting the day-to-day delivery of patient care within the GP practice environment. Such is the reliance on the availability of the clinical system that a loss of this system will often have a significant impact to the provision of patient care. This is even more important for practices who have adopted ‘paper less’ or ‘paper light’ working practices and ‘note less’ GP consultations. Business continuity planning for the loss of IT facilities and services is now therefore considered essential in delivering safe patient care within GP practices.

This ever increasing reliance on the GP clinical system to deliver patient care demands that the underlying IT infrastructure is robust, reliable and underpinned by an integrated support framework.

1.5 The Case for Change

In addition to the need for alignment with the wider strategic and policy context of NHS Wales, there are several factors which are driving the need for change. These factors establish the strategic case as to why this work needs to proceed:

- The GP patient record is increasingly being acknowledged as the primary clinical record and therefore GP clinical systems are now recognised as strategic components of the national programme for the NHS in Wales. Consequently demands for greater access and sharing of high quality data from GP patient records will continue to increase.

- There is a greater need to demonstrate the measures that are being taken to improve security of Person Identifiable Information (PII) in order to assure the public and patients that their personal data is safe within NHS Wales. GPs will need to make best use of new technologies and policies to ensure the security of the information that they control.

- NHS Wales has developed ‘National Architecture Standards’, and published the National Infrastructure, Applications and Security Strategies for NHS Wales, all of which mandate compliance and clearly signpost the technical and inter-operability standards that must be achieved by GP clinical systems.

- Healthcare services within NHS Wales are being reorganised, specifically the strategic direction for primary and community care services. GP systems and supporting infrastructure needs to adapt and offer functional capability to promote and facilitate these changes.

- GP clinical system suppliers are increasingly being relied on to provide core elements of national solutions, such as the Individual Health Record, Welsh Clinical Communications Gateway, My Health on Line.

- Pragmatically, the current national Framework Agreement for GMS Systems and Services expires in July 2011 and this new strategy must inform the development and re-procurement of the next Framework Agreement for GP systems in Wales.

- It is acknowledged that UK budgetary deficit funding pressures will increase over the next 5 years.

- The Welsh Assembly Government has invested in the Public Sector Broadband Aggregation (PSBA) network which provides the potential for improved reliability, resilience and a wider range of integrated telecommunications services to GPs. PSBA therefore provides new opportunities for the delivery and support of IT services within GP practices and the local health community.
1.6 Stakeholder Engagement

Acknowledging the case for change, a series of stakeholder interviews were undertaken to elicit views to ensure that this strategy is congruent with expectations of future delivery, management and support of GP systems in Wales.

Throughout the information gathering exercise a number of common themes emerged which are described in Appendix 1 and illustrated further in Figure 1 below.

![Figure 1 – Common Stakeholder Themes](image)

1.7 The Vision, Core Principles and Benefits of Change

The Vision

The common themes described above all contribute to the overall future vision for GP systems and can be condensed into the following vision statement:

“The provision of integrated, safe and efficient health care services to the population of Wales supported by clinically rich functional GP systems which interoperate with national and third party applications and services via a managed, affordable, reliable and resilient ICT infrastructure.”
Core Principles and Benefits

There are a number of core principles underpinning the vision. These are illustrated in figure 2 below.

**Figure 2 – The Vision and Core Principles**

1. Improve the provision of IT services by establishing a GP systems infrastructure aligned with the requirements of the national infrastructure, security and applications strategies.

This is perhaps the most ambitious statement as it will involve large scale change in the delivery, management and support of infrastructure services across the GP estate. The benefits, however, are many and contribute significantly to the achievement of the overall vision:

- A more stable infrastructure leading to greater system availability and better performing systems
- Improved security of person identifiable information (PII) through the implementation and management of encryption products
- Improved value for money through standardisation and common infrastructure support services
2. Support local and national requirements for GP systems functionality and interoperability, and facilitate support for wider primary and community care providers

There is a clear desire for the future development of GP systems to be flexible enough to meet both national and local requirements for change. There is also a need for systems to have the capability to support the wider health community both in terms of information sharing and functional system use.

3. Ensure high quality clinical data within GP systems and support information sharing

The quality of clinical data held within GP systems has never been more important both internally to support the clinical and business processes within GP practices, and externally to support the delivery of care in the wider NHS Wales context. This can only increase in the future.

4. Ensure the provision, support and strategic development of GP systems remains affordable and cost efficient

The pressure to demonstrate efficiencies and achieve costs savings will be significant over the years to come. Therefore, it is essential to demonstrate cost efficiencies through standardisation, continual service improvement and the national “Once for Wales” approach. Moreover, it is expected that the delivery of this strategy is met within available resources.
2. **GP Systems Landscape**

The current GP IT environment is large – with over 8,500 desktops supported - complex and diverse, with no consistent model even for GP Practices with the same clinical system. There is a mixture of clinical and business systems which reflect the historical incremental growth of the functionality of GP systems and the mixture of local and central procurement and implementation.

2.1 **GP Clinical System Distribution and Diversity**

There are currently six different clinical systems, provided by four different suppliers in use throughout the 484 Welsh GP Practices. There a very small number of ‘legacy’ (non-framework/MSS) systems which are in the process of migration to compliant systems. Figures 3 and 4 below illustrate the current spread of GP clinical systems and market share respectively.

![Figure 3](image1.png)  
*Figure 3 – GP Systems diversity across Wales (May 2010)*

![Figure 4](image2.png)  
*Figure 4 – GP Systems Market Share – Wales (May 2010)*
There is still considerable variation between the LHBs as to the mix of clinical systems (see Figure 5). This variation is a positive reflection of the policy of choice of systems for GPs; however, it presents two problems:

- Firstly, not all of the current systems will meet the functional requirements of GPs for inter-operability with other systems and services in NHS Wales and this will present barriers to further improvements in patient care.
- Secondly, this diversity of systems may present some problems when more joined-up working is attempted within LHB localities as it would potentially require community staff to be familiar with a diverse range of systems.

Figure 5 – GP Clinical systems distribution by Health Board (May 2010)

2.2 GP Clinical System Population Coverage

Wales has a population of approximately 3.1 million patients. The coverage of the population by the GP systems can be seen below in Figure 6. Given the significant levels of coverage of many of these systems, it is important that any proposals adequately recognise and manage the potential impacts of a change to clinical support for patients across Wales.
2.3 Local and Enterprise Systems

GP systems can also be grouped in accordance with the infrastructure platform that supports them. The options are either a local (or LAN-based) system where the clinical system resides on a server based within the GP Practice, or an enterprise (or hosted) system where the clinical system resides on a shared infrastructure within a data centre. In recent years there has been a steady migration from LAN-based to centrally hosted systems (see Figure 7). The number of hosted systems has now reached 156 (128 INPS, 23 EMIS and 5 Others), representing over 32% of Practices compared with 19% two years ago and 12% four years ago.
2.4 The Next Generation of GP Clinical Systems

The major suppliers have demonstrated their commitment to a next generation of web-based GP clinical systems, building on hosted ‘patient centric’ technology. Software and data are stored on servers hosted and managed in a remote but secure environment, and business and clinical applications are accessed online through a web browser or local client. This technology will help remove barriers to the supporting the delivery of integrated primary and community care services going forward.

2.5 Third Party Products

The exact range and quantity of third party products in use in GP practices in Wales is unknown. However, it is recognised that the range is diverse from business support systems, such as ‘SAGE’ for payroll and accounts; to patient management systems such as ‘JAYEX’ electronic patient call display boards; to clinical decision support systems such as ‘INR Star’ for Warfarin Management. Many of these products have become integral in supporting business operations and clinical care. One such example is scanning and document management systems which support practices with paper-light or paperless working and support workflow within the practice. In relation to scanning and document management systems, a recent study revealed that they are in use within approximately 85% of Welsh practices.
3. Functionality

3.1 Functionality and the future

The use of GP clinical systems (both administrative and clinical) and related third party products is pivotal to supporting the day-to-day delivery of patient care within the GP practice environment and in parallel ensures that GP Practices can deliver the contractual requirements of the GMS Contract.

The majority of GP clinical systems already have the potential (although limited) to support the wider health sector such as Community Nurses. The National Applications Strategy advocates that GP clinical systems will also be functionally enhanced where appropriate to enable their use in Community and Mental Health contexts. Acknowledging this and the future service delivery requirements across Primary, Community and Social Care settings it is envisaged that GP system supplier ‘Next Generation’ clinical systems (that are hosted, web-based, patient centric systems) will have the functional capability and flexibility to respond as appropriate.

In support of the above, recognizing the increasing requirement to share and access the GP clinical record, GP clinical systems must not present technical barriers where there is a need to share and access the GP clinical record both locally and nationally. However, it is also acknowledged that GPs must retain the role of Data Custodian with active involvement in establishing ‘sharing agreements’ where appropriate.

The first strategy - GP Clinical Systems: A Strategic Framework introduced a much needed mechanism for introducing national standards for functionality and inter-operability into GP clinical systems deployed in Wales known as the Minimum System Specification (MSS) which has been successfully demonstrated by the 100% rollout of the 2D barcoded prescriptions across all GP clinical systems. The MSS provides a functional and technical standard as well as the processes for systems to be approved. The MSS, and the Framework Agreement, is underpinning several national applications and services such as the Individual Health Record (IHR) and the Welsh Clinical Communications Gateway (WCCG) and will support future services such as GP2GP electronic record transfer, OOH-2-GP message transfer, scanning and document management standards and My Health Online (MHOL). However, experience has shown that introducing new and enhanced functionality and services across 6 different clinical systems is both costly and time consuming. Some of these systems were developed on old technology platforms and will be difficult and costly to support and develop further. In order to meet the future local and national requirements, much greater progress towards modern technological platforms and standardisation is needed if GPs and Practice staff are to continue to provide safe, effective and efficient services to patients.

Most GP clinical systems now have active national user groups attached to them. These user groups provide a useful forum for discussing new functionality and have influenced the development of systems over the years. However, since the introduction of framework agreements in all of the home nations, GP system development has been largely steered by national large scale initiatives such as ‘Choose and Book’ and the ‘Electronic Prescription Service’. Common GP clinical systems are used throughout the UK but there is now some divergence within these systems due to the differing national services, e.g. Summary Care Record in England, Emergency Care Summary in Scotland and the Individual Health Record in Wales. This means that the home nations are sometimes competing for development resource within the supplier organisations. Due to the scale of the contract, NHS Connecting for Health (through GPSoC) has significant influence on the development priorities of the system suppliers and this has caused some issues with the development and delivery of specific functionality for Welsh practices. The influence of NHS Connecting for Health and the other home countries on the priorities of GP system development is therefore an important consideration when developing and implementing national solutions in Wales.

3.2 The demand for Interoperability

There is an overwhelming clinical need for much improved interoperability between GP clinical systems and others. A fundamental requirement is to send patient referrals electronically and to receive timely electronic discharge letters. This overwhelming need is being addressed by the national programme but local business drivers have already
meant that a number of local, tactical solutions have been developed ahead of more strategic solutions. This can be beneficial when it improves the efficiency of health services and enhances collaborative working between health professionals. However, it may be disadvantageous in the short term if it takes resources (both NHS Wales and GP system supplier) away from more strategic solution implementation.

More recent developments in Wales, such as the Welsh Clinical Communications Gateway (WCCG), have required the adoption of interoperability standards with external systems. This is a clear progression from the previous ad-hoc bespoke development of functionality within the GP clinical systems with proprietary standards and application interfaces (APIs) being the norm.

It is recognised that there is also a clear desire to adopt interoperability standards to improve integration of the most commonly used third party applications, such as:

- clinical support software (e.g. Warfarin dosing software tools)
- scanning and document management systems (S&DM) which support:
  - the delivery of patient care - as the scanned correspondence becomes part of the GP clinical record
  - a reduction in the need to store and use paper – as practices strive to ‘paper light’, ‘paper less’ and ‘note less’ working practices
  - workflow management – as the functionality available with document management systems allows documents to be easily routed to clinicians and administrators for comment and action

With specific regard to the benefits of S&DM systems and the clear business need which exists, it is widely recognised that scanning and document management should be considered part of the ‘core’ clinical system and therefore be funded as such. However, in doing so S&DM systems will need to comply with national architecture standards and the interoperability framework.

### 3.3 Strategic Aim

The strategic aims are to ensure there are:

- Intuitive GP systems which support the requirements of the GMS contract (including the Quality and Outcomes Framework)
- GP systems which support the functionality and interoperability requirements for national services (e.g. Individual Health Record, Welsh Clinical Communications Gateway, My Health Online etc).
- ‘Next Generation’ hosted, web-based, patient centric GP Clinical Systems which have the functional capability and flexibility to adapt and respond to future service delivery requirements across Primary, Community and Social Care settings (including the wider primary health care team such as community nursing) as well as facilitate remote mobile working as appropriate;
- GP systems (including approved third party products) which support core clinical/business functions through compliance with NHS Wales National Architecture and Interoperability Framework standards as appropriate, including but not limited to the following:
  - referrals of patients
  - test requests and barcode labelling
- transfer of GP medical records
- discharge summaries
- Quality and Outcomes Framework
- notifications of unscheduled care
- document scanning
- management of electronic clinical documents/attachments

- GP Systems which are flexible and responsive to change, providing enhanced functionality an interoperability in order to meet the needs at both local and national levels, whilst remaining affordable and demonstrating value for money

3.4 Next Steps

GP system functionality and interoperability must develop further. An analysis of the current landscape and future NHS Wales requirements has led to the following recommendations:

1. Adopt NHS Wales interoperability standards to standardise the way in which third party systems and products communicate and interoperate with GP systems. These new standards must be enshrined within national contracts and the Minimum System Specification must evolve to facilitate this

2. NHS Wales will need to develop and implement systems to support the following core clinical/business requirements:
   - referrals of patients
   - test requests and barcode labelling
   - transfer of GP medical records
   - discharge summaries
   - Quality and Outcomes Framework
   - notifications of unscheduled care
   - document scanning
   - management of electronic clinical documents/attachments

3. NHS Wales should only procure and develop GP clinical systems from suppliers who have the capability and commitment to respond in a timely manner to NHS Wales’ requirements

4. The future procurement of the GP systems framework agreement must encourage the provision of GP systems which minimise development timescales and lessen resource requirements (both costs and time) for developing, implementing and maintaining services

5. NHS Wales should actively explore and capitalise on the current functionality existing within GP systems to support the wider health and social care agenda

6. The needs of GP systems’ users in Wales have not and will not vary greatly from users in the rest of the UK and therefore, collaboration with Northern Ireland, Scotland and England will be of potential benefit in negotiating with suppliers on systems developments. This collaboration is already happening and should continue further
7. Active engagement with national user groups should be encouraged within Wales to improve links between the national programme, suppliers and the user community. This will ensure that GP systems are developed with a focus on the enhancement and maintenance of intuitive user interfaces to meet the needs of end users.
4. **Infrastructure**

GP systems in Wales are now classed as national systems which are required to integrate with the national architecture and therefore all published national strategies for Infrastructure, Security and Applications are relevant to their future strategic direction. With specific reference to infrastructure requirements there are a number of areas which need to be addressed. It should be emphasised that the purpose of this strategy is not to repeat the aims of other national strategies but rather to draw on the main points which bring about the biggest changes and challenges for GP practices.

4.1 **Desktop Management and Directory Services**

**Current Situation**

The management of desktop Personal Computers (PCs) within GP practices differs significantly from that of other parts of the NHS. Desktops are (to an extent) managed by GP system suppliers and therefore there is no consistent ‘corporate’ model. Currently there are no controls in place preventing alterations or configuration changes to PCs. This is largely due to the historical arrangements where GPs purchased and owned their IT equipment. Whilst this has provided flexibility to GP practices in the absence of any ‘corporate’ model, this does however pose a number of significant challenges and risks both to the GP Practice and wider NHS:

- Untested local configuration changes could affect system performance, cause system failure and/or cause corruption to the clinical system
- The lack of pro-active desktop support could increase the risk of malicious software being introduced within the practice and to the wider NHS Wales network
- Re-building a PC after a failure or due to technical refresh is difficult, time consuming and costly due to the non-standard configurations
- Unlicensed, unauthorised and untested software could be in use which has legal and/or financial implications along with software conflict and performance issues etc.

The first two of these risks could cause serious disruption to patient services. Currently, the (Microsoft) software patching of desktops is undertaken on an *ad hoc* basis which introduces further risks, particularly when critical security updates are required.

Another issue with this arrangement is that the GP system suppliers do not provide a complete managed service, i.e. the scope of desktop management is limited to those products and services that they provide. The result of this is that there are several applications which run on PCs which may not be restored if a problem occurred, which means that there is an additional burden on practices and health boards for the installation, configuration, maintenance and backup of any unsupported software or services. As the scope of IT services utilised within GP practices extends further the current situation will become untenable in the near future.

The *National Infrastructure Strategy* envisages ‘standardised management, monitoring and reporting tools and processes used throughout NHS Wales to improve the overall service availability to the end user’. The *National Application Strategy* states that ‘to make working lives easier for staff and to provide safer care for citizens, all practitioners in Wales will work on computers that look and behave the same’

**Directory Services**

Since 2008 NHS Wales has been engaged in a major project to design and implement a National Directory and E-mail Service (National Active Directory and Email Service, known as NADEX) solution for NHS Wales. This is a major infrastructure project which will deliver major benefits both to the end user and the organisation, including:

- Increased security – NADEX implementation is a prerequisite for the implementation and management of
encryption software into the NHS

- Single sign-on to clinical systems and NHS Wales systems and applications
- More secure e-mail and much greater consistency and reliability of e-mail communications

NADEX is fully applicable to GP Practices. NADEX will be used as the platform for deploying national applications and services (such as the Welsh Clinical Portal) into GP practices. It will provide a common user and administration experience, single sign-on to applications, and an open and flexible platform for future developments. NADEX allows NHS Wales to establish common standards in relation to email and active directory management, reporting, control, security and compliance.

**Strategic Aim**

The strategic aims are to:

- Implement standardised management, monitoring and reporting tools and processes to improve the overall service availability to GP practice end users
- Implement a standard desktop across all GP practices, providing:
  - Improved performance
  - Additional security
  - Rapid resolution of problems
- Ensure that desktop PCs and other GP practice infrastructure are contained within the National Active Directory, providing additional security and wider benefits

**Next Steps**

The recommended next steps are to:

1. Undertake an audit of existing desktop configurations in order to accurately assess the current situation
2. Develop and test a standard and manageable PC configuration within a number of practices with varying GP systems and desktop configurations
3. Migrate GP practice infrastructure to the National Active Directory to allow for a single national approach for desktop management and application delivery, and the wider benefits achieved by the National Active Directory
4. Adapt the strategic goals and initial design for the NADEX project (which were predominantly focused on secondary care) to meet the needs of GP practices whilst ensuring alignment to the overall strategic goals of NADEX services
5. Plan and resource the implementation of NADEX into GP Practices to support Practices. It must be emphasised that this is an area where further project-based work is required before developing a detailed implementation plan for GP Practices.
4.2 Servers, Storage and Backup

The National Infrastructure Strategy envisages standardised servers, storage, management tools and processes used throughout NHS Wales, to maximise technical and cost efficiencies and improve the overall service availability to the end user.

Current Situation

Physical Servers

The majority of GP practices in Wales still retain physical servers in the practice premises. These physical servers perform a number of functions and support a number of systems, including:

- GP clinical systems
- Document management systems
- File (shared folders) and Print services
- Business continuity solutions
- Third party products

These physical servers therefore perform vital business critical tasks for practices. On the whole, servers are purchased directly from GP system suppliers and currently it is the GP system supplier that dictates the specification, configuration and support of the equipment.

Data Centres

Chapter 2.3 described the current breakdown of locally-based and remotely hosted clinical servers, illustrating a clear progression towards the remote hosting of clinical applications and data. One of the main reasons for this progression is that for the majority of Practices their in-house IT capability and capacity is limited and the demands made upon them are increasing on a weekly basis. A migration to a hosted system removes the burden from the practice in a number of important areas:

- Maintaining and managing a server room
- Maintaining tried and tested Disaster Recovery plans for server failure
- Managing the backing-up of clinical systems
- Removing or reducing the risk of a loss of person identifiable information (e.g. clinical patient data)
- Manage Local Area Network (LAN) links for any Branch Surgeries

The increased popularity of the hosting of current systems is therefore important to note. The former Business Services Centre (BSC), which is now part of the newly formed NHS Wales Informatics Service, provides data centre facilities and support for hosted GP clinical systems from its bases at Mamhilad and Swansea. The current model means that GP system suppliers provide, manage and maintain the server infrastructure with NHS Wales providing the data centre environment.

Backup and Recovery

There is no consistent model for system backup and recovery. GP practices that have locally based servers need to backup the systems and data that reside on them manually. Practices that use hosted clinical systems have their system and data backed up by the data centre provider, though there may still be additional systems and data that
are held locally with or without backup processes in place. System recovery, for both local and hosted systems, is not properly tested. There have been a number of incidents where practices have lost electronic records due to a local system failure and have been unable to recover that information due to a lapse in adherence to backup processes and poor housekeeping. If the current situation continues, more of these major incidents will occur. The burden of local backup needs to be removed and robust disaster recovery plans need to be developed, implemented and regularly tested.

**Strategic Aim**

The strategic aims are to:

- Reduce the dependency for practices to retain physical servers locally
- Undertake a phased migration to GP systems operating out of a secure, managed environment to NHS Wales Data Centre Standards with high availability, resilience and robust backup processes. This migration is not just limited to GP clinical systems but other nationally endorsed third party applications
- Reduce the burden of IT management within GP practices, including the need for local backup
- Ensure that disaster recovery plans are fully implemented and tested regularly

**Next Steps**

The recommended next steps are to:

1. Plan for the phased migration of all GP clinical systems into the secure, data centre environment hosted to NHS Wales standards. The next generation of GP systems, utilising web-based technology, will demand a hosted environment to maintain the integrity, consistency and strengths of a patient centric system
2. Specify an architecture that reduces the dependency on, and risks associated with, local infrastructure to support clinical applications
3. Document, implement and test a set of robust Disaster Recovery (DR) plans and Business Continuity plans
4.3 Network Services

The National Infrastructure Strategy envisages ‘a data network that provides secure access to information, with an appropriate quality of service (i.e. speed, availability) to the user based on function rather than physical location’, and ‘the provision of demonstrably reliable and efficient wide area network (WAN) links’.

The migration of the NHS Wales Wide Area Network (WAN) to the Public Sector Broadband Aggregation (PSBA) network has provided GP practices with increased bandwidth and opportunities for improved services in the future. As previously stated there is an increased trend in services that are provided from remote locations over the WAN, e.g. hosted clinical systems, and one of the challenges of this arrangement is the dependence on external network connections. This challenge can be addressed by the provision of demonstrably more resilient and robust network connections with evidence of that resilience developed by the publication of sophisticated end-to-end testing of external connections, coupled with the introduction of local business continuity solutions.

Strategic Aim

The strategic aims are to ensure there are:

- Robust and reliable local and wide area network infrastructure supporting the future deployment of GP systems and services
- Adequate and equitable provision of network services to support both the clinical/business operations within the GP practice and the operation of national systems and services

Next Steps

The recommended next steps are to:

1. Investigate (in conjunction with the strategic aims for Network Services set out in the National Infrastructure Strategy) the opportunities for exploiting the speed and resilience of PSBA network

2. Investigate and implement business continuity solutions which specifically address the risks of network failure
5. **Security**

5.1 **Current Situation**

The *Encryption Code of Practice* was issued to Health Boards in March 2009. This instructed Health Boards to make plans to implement the encryption of hard disks and removable media devices across the NHS, including primary care. Supplementary guidance has also been issued concerning the physical security required to store person identifiable information (PII) locally. This guidance places stringent physical requirements on buildings which are used to store PII. The *Code of Practice* highlights the encryption requirements for physical hard disks and mobile devices within GP practices, which previously were not encrypted. Encryption tools are now available via a national framework agreement, though these tools require management via the National Active Directory. GP Practices are currently not part of the National Active Directory. Plans are being developed to pilot the use of encryption products within a number of practices, in order to inform the full rollout of this technology.

Additionally, GP practices have been given advice and guidance on the transfer and handling of electronic person identifiable data via an update to the all Wales IT Security Toolkit. This update encourages GP practice staff to firstly consider whether there is a genuine need to remove PII from the GP practice, before undertaking a risk assessment. A poster campaign was launched during 2009 to raise awareness. Since 2008 a national secure courier service has been employed to ensure the secure transfer of backup tapes between GP practices and GP system suppliers’ premises, for data integrity validation purposes. These backup tapes are now also encrypted.

The *National Infrastructure Strategy* envisages that ‘where sensitive information (including patient identifiable information) is stored on the devices it will be encrypted to appropriate standards’.

5.2 **Strategic Aim**

The strategic aims are to ensure:

- That the management and use of GP clinical systems comply with appropriate standards for safety, security, confidentiality and information sharing
- GP systems are hosted in secured hosting environments with appropriate perimeter and service controls to ensure that the likelihood of hardware theft or unauthorised access to PII is minimised
- The encryption of hard disk and removable media devices with an appropriate management and support structure

5.3 **Next Steps**

The recommended next steps are to:

1. Test the implementation and management of hard disk and removable media encryption within GP practices, beginning with an assessment of the impact on the day-to-day business processes
2. Implement the National Active Directory to ensure that underlying infrastructure is in place to ensure effective deployment and management of the encryption products
3. Advise GP practices on the necessary action required to meet the minimum requirements for secured hosting of GP systems
6. Service Management

6.1 Introduction

As stated previously, GP practices now receive a wide range of IT services, provided by several IT service providers (as illustrated in Figure 8) resulting in the GP IT environment becoming more and more diverse and complex.

This ever increasing diversity and complexity coupled with the wider interoperability requirements and underlying infrastructure standards within NHS Wales results in the support model for GP Practices becoming even more complicated. Whilst it is acknowledged that there is an absolute dependency on the availability of the GP clinical system, it is considered impractical and inappropriate to assume that a single GP system supplier focused approach could support all of these integrated services when responsibility for the majority of these services lies within NHS Wales. Hence there is the need to work within a common integrated support framework coordinated by NHS Wales through the adoption of the ‘IT Infrastructure Library’ (ITIL) best practice for ‘IT Service Management’.

![Figure 8 - GP IT Services (some optional)](image)

6.2 Service Desk

GPs and their staff want high performing IT systems with a support service that can rapidly respond to any problems. They want support for the wider range of IT services upon which they are all now heavily reliant on. Such is the reliance on IT services both internal and external to GP practices there is now the expectation for high performing IT systems supported by a highly responsive support service to deal with problems ranging in magnitude and diversity. At present, GP system suppliers provide a support service encompassing most of the IT services within the GP practice, including the hardware. This includes a Service Desk function with a single point of contact. Practices will typically report any issues to the service desk, where the call is logged and triaged if necessary to other service providers – sometimes within the NHS. This ‘one-stop-shop’ model has worked well over the years as the scope of services provided has been predominately focused on the GP clinical system. The quality of these support services...
has improved, partly due to the fact that the suppliers are contractually obliged to adopt and implement ITIL best practice. GP systems suppliers have on the whole clearly demonstrated improvements in supporting their clinical systems. Practices are generally satisfied with the standard of service they receive when there is a fault with the clinical application and there is little desire to change the arrangement whereby the clinical system supplier is responsible for the maintenance and support of the clinical application. Other services are supported by a mixture of separate support agreements with commercial providers and a primary care service desk run by the BSC. GP practices, as a whole, currently make in the region of 3,000 calls to the GP system supplier and BSC service desks per month. The calls break down as follows:

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>41%</td>
</tr>
<tr>
<td>BSC Services</td>
<td>22%</td>
</tr>
<tr>
<td>Hardware</td>
<td>18%</td>
</tr>
<tr>
<td>Training</td>
<td>11%</td>
</tr>
<tr>
<td>Communications</td>
<td>4%</td>
</tr>
<tr>
<td>GP Labeling</td>
<td>3%</td>
</tr>
<tr>
<td>CM Web</td>
<td>1%</td>
</tr>
</tbody>
</table>

Note - based on Nov 2008 figures reported by GP system suppliers (2,200) + data recorded by the BSC (800)

There is also an additional un-quantified number of calls to other commercial providers.

The GP IT environment is, however, changing and there are a number of factors which need to be considered in taking service support forward:

- The number and variety of additional IT services which operate within the GP IT environment, e.g. ETP, document scanning and the Welsh Clinical Communications Gateway (WCCG), has rapidly increased and some of these new services are not supported end to end by the GP supplier help desk
- The implementation of the National Active Directory and encryption within General Practice will bring new support and management requirements
- The provision of hosted clinical systems involves many different IT providers. Current arrangements mean that the GP system supplier is responsible for all incident and problem management, but the GP system supplier does not own the service level agreements (or contracts) with the other IT providers (e.g. Logicalis for connectivity - PSBA), which means that in many cases NHS Wales has to intervene in order to achieve resolution
- The GP clinical system itself is only one aspect of a complex IT environment and now accounts for fewer than 50% of all support calls raised
- There is clear acknowledgement of an absolute dependency on the availability of the clinical system as an operational system for GPs. However, other IT services are becoming increasingly relied on for both clinical and administrative purposes, both within the GP Practice and by the wider NHS.
6.3 Monitoring Performance of Services

Service level management is the process of ensuring that service levels within contracts are met and for ensuring that any adverse impact on service quality is kept to a minimum. NHS Wales has well established service level management processes in place for those services provided by GP clinical systems. NHS Wales began monitoring supplier performance on a Wales-wide basis during 2006 through a Memorandum Of Understanding (MOU) with the major GP system suppliers. Service levels and reporting requirements were further developed and mandated within the national GMS Systems & Services Framework Agreement, let in autumn 2007. Since this time service levels and end user satisfaction has improved, and financial remediation has been handed back to LHBs (the contracting authorities) when suppliers have breached service levels. This is a clear example of where an all Wales approach has driven up standards for GPs and demonstrated value for money for the wider NHS.

Other IT services do not currently benefit from the same rigorous service level management processes that are applied to GP system suppliers, though clearly there is a strong case to extend, particularly for IT services supplied via national contracts. There are some limitations with the current method though, supplier performance cannot currently be monitored directly by NHS Wales. Historical performance reports are provided by GP system suppliers and these form the basis for the application of service level management. Ideally, system performance should be monitored directly by NHS Wales to ensure consistent and accurate recording of performance, though this would require infrastructure changes.

6.4 Ensuring Capacity for Services

Capacity management is the process responsible for ensuring adequate capacity is available at all times to meet the requirements of the business. This is about ensuring that IT processing and storage capacity provision match the evolving demands of the business. A key part of this process involves monitoring the performance and throughput of IT services and supporting IT components, and understanding the current and future demands for IT resources. Effective capacity management will reduce the risk of performance problems and failure, and lead to increased efficiencies and costs savings. There are several issues with the current situation that prevent effective capacity management, they include:

1. There is no accurate database of the current infrastructure – both IT hardware and software components, and their relationships (see Configuration Management Database later). Therefore it is difficult to begin to assess

2. The current infrastructure is predominantly managed by GP system suppliers; their approach to capacity management varies and is limited in scope to those services provided by them

3. There is currently little control in place to manage the installation of software and hardware components

4. The current non-standard infrastructure does not support the monitoring of performance and therefore the performance is largely unknown

This explains why practices occasionally suffer failures. With the current situation NHS Wales can only react once a problem or issue has been identified, e.g. a server reaching its storage capacity, rather than proactively monitor and planning to avoid such events. As the GP clinical system and the data contained within becomes increasingly relied on to provide clinical care both within and outside the GP practice, robust capacity management of the underpinning infrastructure becomes all the more critical

There are elements of the infrastructure which are provided and managed directly by NHS Wales. The data centre, located at Mamhilad, is managed by the Business Service Centre. The BSC has confirmed that there are robust capacity management processes in place for this facility
6.5 Managing the Configuration of the Infrastructure

Configuration management provides a logical model of the infrastructure or service by identifying, controlling, maintaining and verifying the version of configuration items (e.g. software components) in existence. Configuration management cannot be fully realised until an accurate Configuration Management DataBase (CMDB) is established. A CMDB contains the details and relationships of all configuration items – hardware and software. This can only be achieved once the infrastructure within GP practices has been standardised and tools deployed to maintain a CMDB. The establishment and maintenance of a CMDB has many benefits, including:

- Providing accurate information on infrastructure items to support all other service management processes
- Making software changes visible, e.g. installing an additional application on a PC may have an impact on performance – the CMDB will support this decision
- Improving security
- Financial planning of assets

6.6 Managing System Updates and Upgrades

The processes and procedures which govern the updating of systems (i.e. Release and Change Management) are variable across GP system suppliers and to a large extent dependant on the clinical system architecture. Some suppliers allow the end user the option of installing updates, resulting in wide scale variability of system status and causing difficulties and complexity with the maintenance of systems that interface with the clinical system. The updating of some systems which are locally hosted (LAN based) often require costly engineering visits, whilst system updates for hosted systems are significantly more efficient.

6.7 Strategic Aim

The strategic aims are to:

- Adopt and implement industry best practice for IT service management (ITIL) for the IT services that GP Practices receive
- Ensure that General Practice IT Service Management supports the delivery of safe and efficient health care provision with minimal IT down time and optimum use of systems and IT services
- Deliver high performing IT services in a consistent, equitable manner across all GP practices through a fully managed service
- Rollout applications and updates/patches quickly and safely in a timely manner through change control processes
- Ensure robust service level management across all nationally supported IT services
- Ensure efficient, high quality support of the IT infrastructure provided through a comprehensive Primary Care Service Desk function, manned with a skilled workforce understanding the unique requirements of the General Practice environment
- Provide structured and coordinated facilitation/support for General Practices through the Primary Care Service Desk, targeted to promote, raise awareness and educate GP Practices on all aspects of both GP systems and national services that they interact with to ensure ‘readiness’ for implementation and utilisation
- Create and maintain an accurate Configuration Management Database (CMDB) for the GP IT infrastructure
- Ensure robust, fully tested disaster recovery and business continuity plans are in place
• Integrate primary care service management fully with the wider NHS to provide end-to-end service provision and support for those services which extend beyond the GP practice.

6.8 Next Steps

The recommended next steps are to:

1. Adopt NHS Wales national service management and industry best-practice standards for service management, including the establishment of a service management board for GP IT

2. Establish and maintain a service management regime that integrates both internal and external suppliers of GP IT services

3. Develop a service management specification which accurately reflects the current and future needs for all aspects of IT service management within general practice

4. Investigate support model options and test new service desk arrangements

5. Apply existing service level management across all nationally supported IT services

6. Establish and maintain a Configuration Management Database for GP Practices, in line with common ITIL best practices and procedures

7. Document and implement a set of robust Disaster Recovery (DR) and Business Continuity plans

8. Align existing primary care service management functions with other service management arrangements across the whole of NHS Wales and, in the future, across other parts of the public sector as more collaborative working evolves
7. **Data Quality**

7.1 **Data Quality**

‘Modern healthcare relies upon high quality information technology (IT) systems supporting decision making, reducing errors (especially in prescribing), supporting business processes, improving patients responsiveness, enhancing audit and research, and enabling sharing of appropriate information…..

Further development with general practice IT will require continual improvement in data quality, and the progression towards paperless practices…..’

*Fit for the future – The evolution of general practice*, BMA General Practitioners Committee, March 2010

Data quality in GP Practices has historically been high on the agenda in NHS Wales with focused supported initiatives such as:

- ‘Really Useful Read’
- Improving Information and IM&T in Primary Care (I3PC)
- The Data Quality Initiative undertaken in the ICT Foundation Programme

This focus on data quality continued as a key objective of the GMS IM&T Programme strategy - *GP Clinical Systems: A Strategic Framework* in 2006 – with the aim of improving data quality to underpin patient care at both the individual and population level. It was acknowledged that such a focus on data quality within GP Practices would also underpin ‘readiness’ requirements for the Individual Health Record (IHR) and initiatives such as GP2GP record transfer.

It is acknowledged that the Quality and Outcomes Framework (QOF) has had a significant impact on data quality within GP Practices for the disease areas that it currently encompasses. However the GMS IM&T Programme Board recognises that there are significant clinical areas outside of QOF that also require the same rigor applied in terms of data quality which will enable GP Practices to, amongst others:

- Meet the emerging chronic conditions management agenda in Wales
- Participate in initiatives such as the IHR, GP2GP etc.
- Improve patients safety through reliable and accurate electronic clinical records

To support GP Practices in improving data quality in a more holistic manner, over and above the scope of QOF disease areas, the ‘Data Quality System’ (DQS) was procured in October 2007. One component of the DQS is the GP Practice-based support tool ‘Audit+’.

Audit+ is a common software tool that works synergistically with GP Practice systems to enable practices to, amongst others:

- Undertake ‘gap analysis’ on clinical data to ensure that it is a accurate and complete as possible e.g. patients on insulin that have do not have a diagnostic Read code to indicate that they are diabetic
- Identify patients where interventions have not been undertaken or are overdue e.g. call/re-call for seasonal
flu vaccinations

- Report in a standard and consistent manner for national reporting requirements e.g. pandemic flu reporting, seasonal flu vaccinations etc thereby removing the ambiguity that can be created when a GP Practice or GP system supplier applies its own interpretation to the reporting requirements.

From 2010/11 onwards the Adjusted Disease Prevalence Factor (ADPF) in the Quality and Outcomes Framework (QOF), which weights the monetary value per QOF point, will be based on actual prevalence with no applied transformations. Audit+ is therefore, more than ever, an essential tool for GP practices to ensure that their QOF registers are as complete and accurate as possible, not only to ensure that patients are identified and treated appropriately, but to ensure that the effort that the GP Practice undertakes to manage each individual patient is rewarded appropriately.

Over the past decade whilst undertaking the historical data quality initiatives it has become apparent that the use of ‘proprietary codes’ and the functionality within GP Practice systems to allow the establishment of ‘local codes’ has created and perpetuated problems for GP Practices in adhering to the NHS standard Read codes. It is accepted that the official UK bi-annual release of clinical Read codes can cause temporary problems for GP Practices when there are requirements to record for example, an intervention that doesn’t exist as a Read code at that particular point in time – the recording of Pandemrix and Celvapan vaccinations recently within the H1N1 vaccination campaign is a good example of this. GP System suppliers try to meet their users needs by applying ‘proprietary codes’ as a temporary measure and do offer tools to map such proprietary codes to an appropriate Read code when it is available. In theory this approach is a pragmatic solution. However in reality the ‘proprietary codes’ remain within the GP system and continue to be used by a number of practices along with the mapping process to Read code s also not being undertaken.

The ability to produce ‘local codes’ is even more problematic as these are determined by each individual GP Practice with no mapping tables being available.

The end result of the use of ‘proprietary codes’ and ‘local codes’ is that GP Practices produce different results to those expected when searches are undertaken that focus on NHS standard Read codes. There will be other future problems in Wales if this situation continues to perpetuate. For example, when a GP2GP solution is operational, a GP Practice that is the recipient of an electronic clinical record that contains such non standard codes will have this data converted into free text by its own GP clinical system. GP Practices will either have to re-code this free text data to ensure that the record is accurate and reliable for its operational needs or accept that there is free text data within certain clinical records and manage the risk that parts of a patient’s record may not be easily retrievable for searching, call/re-call etc.

There is also inconsistency across suppliers in their policies for updating systems following official read code updates, with system updates ranging from one month to three months or more from their release in some circumstances, and split over many separate individual system updates. This inconsistency causes issues with timely local and national health reporting, e.g. flu vaccination reporting.

This strategy intends to deal with this issue in a targeted collaborative manner with GP system suppliers and GP Practices to ensure that the use of such temporary codes are indeed temporary and are mapped to an appropriate Read code when available. This will require the GP system supplier to remove the temporary ‘proprietary’ code(s) in a timely manner when they have become redundant and provide educational and support activities to ensure that GP Practices are trained in utilising the mapping functionality inherent within the clinical software. This will also require the GP system supplier to ensure that the GP Practices can undertake the mapping of ‘local codes’ in a similar manner.

In addition to this there is a module within Audit+ that specifically identifies the patients where non-standard codes have been used so that GP Practices can identify what non-standard codes have been used and target the
appropriate patient records accordingly. Practices will be encouraged to utilise this module in conjunction with the GP system supplier ‘mapping tools’ described above to ensure that their clinical records are as robust and standardised as possible.

7.2 Strategic Aim

The strategic aims are to:

- Improve the quality, consistency and accuracy of GP clinical data to:
  - Support patient healthcare provision in primary and community settings
  - Support population health needs assessment
  - Improve patient safety
- Exploit the full capability of the national Data Quality System to improve the standard and consistency of coding in GP practices
- Manage GP supplier proprietary (temporary) and local coding mechanisms in order that they are regularly reviewed and updated to ensure data complies with NHS Wales standards
- Provide support for GP practices in data quality ‘readiness activities which supports a common level of assurance for information sharing across the health community to underpin initiatives such as the IHR and GP2GP record transfer
- Encourage use of the national Data Quality System for validation purposes to reduce data migration risks
- Support practices with the adoption of the ‘Good Practice Guidelines for General Practice Electronic Patient Records’

7.3 Next Steps

The recommended next steps are to:

1. Encourage improvements in data quality standards through the use of Audit+ in GP Practices
2. Collaboratively ensure the effective management of the use of ‘proprietary’ and ‘local’ codes to ensure adherence to NHS coding standards
3. Promote and facilitate the adoption of the ‘Good Practice Guidelines for General Practice Electronic Patient Records’.
8. Education and Training

Whilst the majority of IT services provided to GPs and their staff are nationally coordinated and delivered, the training and development of the end users of these services is not. The ICT Foundation Programme introduced an education, training and development (ETD) programme with the purpose of enabling all Practices to make effective use of their ICT systems. However, this programme ended in 2005 and since this time the provision of ETD has been largely left to Local Health Board management, with the exception of centrally funded and management training for use of the national Data Quality System. This has led to significant inequities in the funding of education and training for GP practices across Wales.

When training is provided, it has traditionally focused on specific technical competence in a system rather than achieving a greater understanding of the potential benefits and risks of the whole GP IT environment. As the use of IT systems becomes more critical to the provision of safe and effective health services, so it becomes more crucial that all users of these systems are trained and competent in their usage. This does not just entail technical competence with specific software but also includes a wider understanding of how different systems work together, the importance of data quality, and IM&T security issues.

There are five elements which require focused effort:

1. GP clinical systems
2. NHS Wales national applications and services
3. Data quality
4. Basic IT skills
5. IM&T security

In order to deliver an effective, equitable training programme a national coordinated approach is required.

8.1 Strategic Aim

The strategic aims are to ensure there are:

- Competent and trained users of systems who are capable of exploiting the full functionality of GP clinical systems, IT infrastructure and national applications/services, and who are fully conversant with their information governance guidelines, including all aspects of security and confidentiality

- A nationally coordinated standards-based education and training programme, linking where appropriate with the national health informatics professional development and skills framework, responding to GP practice training needs including continuing professional development (CPD)

8.2 Next Steps

The recommended next steps are to:

1. Identify skills gaps in GP practices through a nationally coordinated training needs analysis (TNA)
2. Ensure appropriate, equitable and consistent training resources in terms of finance, time and people
3. Establish structured and managed training and awareness-raising programmes
4. Define levels of competency for different aspects of the IT environment, e.g. Elite for essential IT skills
5. Investigate modern training delivery mechanisms, e.g. Webinars, e-learning etc.
9. Finance & Procurement

9.1 Finance

The GMS Contract of 2003 brought about changes and clarity to the funding and ownership of GP IM&T systems:

‘PCOs (Primary Care Organisations) will fund the costs of practice IM&T systems which have been accredited against UK-wide standards. Each practice will have guaranteed choice from a number of accredited systems with transition from practice to PCO ownership in line with new investment.’

Health Boards in Wales are allocated an overall budget to support the GMS contract; however there is no specific allocation (or ‘ring fencing’) within this budget specifically for GMS IM&T. Historically this has led to variability across Wales in the investment in IM&T. During 2007 a review of GMS IM&T expenditure revealed that there was inequity across Wales due to:

1. Competing financial pressures and priorities within GMS, leading to a significant proportion of the IT infrastructure maintained beyond ‘end of life’, out of warranty and not fit for purpose leading to high risks around system failure and disruption to patient services

2. Some Health Boards funding additional third party systems, such as document management, whilst others provided funding just for the core clinical system.

In recognition of these issues, in 2007 the GMS IM&T Programme Board commissioned the Primary Care Informatics Programme to build a case for a funded national programme for GP IT infrastructure replacement. As a result a national 5-year programme (the IT Refresh Programme for GP Practices) was established during 2008 securing pooled funding from Health Boards and additional Welsh Assembly Government funding. The agreement enabled Health Boards to benefit from additional funding through the IT Refresh Programme whilst retaining discretion over local GMS funding to meet urgent or emergency IM&T needs.

The IT Refresh Programme is now in its third year and has been widely acknowledged for raising standards and targeting inequities quickly, and providing value for money in terms of central “Once for Wales” procurement for the supply of IT equipment and services. In recognition of this, during 2009 the responsibility for the financial management of the GP systems support and maintenance contracts was transferred to the Primary Care Informatics Programme, supported by the Business Services Centre.

For an organisation like the NHS in Wales the goal of financial management for IT services is ‘to provide cost-effective stewardship of the IT assets and resources used in providing IT services’. The financial management of IT assets and resources used in providing IT services to GPs is a joint role between Health Boards, GP Practices and the NHS Wales Informatics Service. The Primary Care Informatics Programme, within NWIS, is responsible for the financial management of broadband services; the IT Refresh Programme for GPs; the QOF payment system (CM Web) and the Data Quality System (incorporating Audit +); and more recently the GP systems support and maintenance contracts. This is a combined budget of approximately £13 million. The central management of these initiatives has led to significant costs savings through bulk procurement and contract change negotiations at an all Wales-level.
9.2 Procurement

GMS Systems & Services Framework Agreement

The previous strategy - GP Clinical Systems: A Strategic Framework, had a key objective to procure and manage an all Wales GMS Systems & Services Framework Agreement. As a result, during 2007, national agreements were let with four GP system suppliers for the provision of a minimum set of ‘core’ services:

- GP clinical system
- Hardware infrastructure
- Support services
- Deployment services

Upon award of the Framework Agreement, existing contracts between GP Practices and their respective GP system suppliers were novated to the responsible Local Health Board.

The Framework Agreement, and the central management of the supplier contracts, has delivered significant benefits to NHS Wales, including:

- Increased and equitable levels of service
- Reduced procurement costs through ‘mini competitions’ and bulk procurement
- Removal of administrative overheads at a local level
- Continual service improvement; flexibility in the provision of additional services underpinning national initiatives
- A single procurement process supported by a dedicated procurement/contract management team

Procurement & Contract Management

During the establishment of the GMS Systems & Services Framework Agreement, NHS Wales established a procurement and contract management function, with the initial remit of managing the procurement of systems and services via the framework agreement. This function has proved invaluable in improving standards in terms of services provided and cost effective procurement, e.g. ensuring that suppliers meet their obligations as set out in the agreement, validating cost quotations against other contracts to ensure best price, supporting change control, monitoring service levels and service remedies, and managing relationships with suppliers.

The future procurement and contract management of systems and services for GP practices will need to demonstrate further value for money and cost efficiencies. It is also essential that future GP systems can support Health Boards in implementing the changes set out in the Primary and Community Services Strategic Delivery Programme. A failure to support this new model could result in Health Boards procuring separate systems to meet the needs within their localities. The existing Framework Agreement is due to expire in July 2011 and it is essential that succession plans are made. A re-procurement exercise must commence during late 2010 which will have at its core the requirements set out in this strategy namely:

- ‘Next Generation’ GP clinical systems
- IT infrastructure standards
- Integrated support model
- Cost improvement and value for money.
9.3 Strategic Aim

The strategic aims are to ensure there is:

- National coordination and management of the GMS IM&T budget on behalf of Health Boards through the adoption of a “Once for Wales” approach ensuring the efficient administration and cost effective provision of IM&T services, delivered equitably to all GP practices in Wales. More specifically this includes:
  - A continued nationally coordinated and equitable GP Practice system replacement through the national IT Refresh Programme (additionally including scanning and document management systems)
  - A national framework agreement and other agreements to support approved third party products to deliver better value for money and interoperability, where appropriate
  - A new GP Systems Framework Agreement that improves on the existing agreement ensuring competitive pricing, value for money and flexibility in terms of development and procurement of services
  - A continued national contract management and procurement function
- ‘Next Generation’ GP systems which support the NHS in delivering the new primary and community healthcare model.

9.4 Next Steps

The recommended next steps are to:

1. Evaluate existing contracts for third party products and provide national agreements and contracts where appropriate
2. Develop a procurement approach for the next Framework Agreement based on high quality, flexible systems demonstrating competitive pricing whilst maintaining choice
3. Continue with the national IT Refresh Programme
4. Ensure that scanning and document management systems are compliant with the national architecture standards and provided as a ‘core’ service to GP practices
5. Explore streamlining the LHB/central financial management processes to remove administrative overheads
6. Expand the contract management function within NWIS to include other IT services provided to GP practices.
10. Conclusions

The following conclusions can be drawn from this strategy, namely:

- Investment in GP systems must continue to support the core clinical/business function requirements of GP Practices and the GMS contract in the provision of high quality services to patients, and develop further to provide enhanced functionality and interoperability with local and national applications and services.

- GP systems will need to integrate with the wider community in order to support the future service delivery requirements across Primary, Community and Social Care settings. Therefore, future investment in GP system supplier ‘Next Generation’ clinical systems (that are hosted, web-based, patient centric systems) must deliver the functional capability and flexibility to respond to these changing requirements as and when appropriate.

- It is essential that GP choice of clinical system must remain, however it will be inappropriate to invest in systems that are costly to support and develop going forward, especially during these challenging financial times and this period of health service redesign in Wales.

- Considerable diversity of the GP IT infrastructure exists across Wales. If the wider IT strategic aims within NHS Wales are to be achieved then standardisation of this infrastructure is essential. This standardisation will lead to better, safer and more efficient IT service provision through improved service management led by NHS Wales.

- Clinical software support should remain with the GP system suppliers but it is outdated and inappropriate that those same suppliers are responsible for overall service management and infrastructure support. Therefore options for alternative integrated support services must be identified and implemented.

- Data quality continues to improve, however the use of local and proprietary codes needs to be managed as part of ‘readiness’ activities which will support a common level of assurance for information sharing across the health community and underpin initiatives such as the IHR and GP2GP record transfer. Therefore, the full capability of the national Data Quality System must be exploited to further improve the quality, consistency and accuracy of clinical coding in General Practice.

- There is an inconsistent and ad hoc approach to the procurement, implementation and use of third party applications in use in the GP IT environment. Whilst this may be acceptable for software of no great clinical importance or strategic significance, the situation needs to be addressed for those strategically and clinically important applications in widespread use.

- The pressure to demonstrate efficiencies and achieve costs savings will be significant over the years to come. Therefore, it is expected that the delivery of this strategy is met within available resources.

- Finally, the new NHS Wales Informatics Service must ensure that it maintains and develops the governance, management capacity and capability to deliver the strategic objectives set out in the GP Clinical Systems Strategy for Wales through ongoing consultation and collaboration with key stakeholders, to ensure that subsequent benefits are realised.
11. Implementation

11.1 Adopting Best Practice

It is clear that the implementation of the recommendations detailed within this document will require significant change to the GP systems environment. Where there is major change there will be complexity, risk, many interdependencies to manage, and conflicting priorities to resolve. Managing Successful Programmes (MSP), developed by the Office of Government Commerce, provides a framework for managing such change incorporating best practice methods and techniques for programme management. MSP focuses on achieving outcomes and delivering benefits to the organisation. MSP will be adopted to deliver the outcomes and benefits highlighted in this strategy. In addition to this other best practice such as Managing Successful Projects with PRINCE2 and the IT Infrastructure Library (ITIL) for service management will also be fully followed.

11.2 Benefits-led Approach

At this strategic level, benefits are generic and the more detailed benefits management work will need to be project-based with identified resources; this will need a separate strand within the overall programme of work to deliver all aspects of the strategy.

The overall benefits of the implementation of this strategy will be:

- More effective, efficient and safer health services delivered to patients and the public
- More confidence in the use of information systems by health care professionals and the public as a result of the more secure management of health care information including sensitive PII and data
- Improved staff morale and therefore greater productivity as a result of increased confidence in the use of the new IT infrastructure and systems

Working with stakeholders, clear benefits for each objective will need to be agreed. Following MSP, a structured approach to the benefits realisation management will be established.

Before implementation commences, stakeholders and those responsible for implementation will need to agree clear targets in order to objectively monitor progress and manage performance.

11.3 Risk Management

It is acknowledged that any change has risk associated with it. It is also worth noting that there are potentially greater risks of not implementing the change described in this strategy.

Effective management of risk is considered crucial to managing the successful delivery of the outcomes and benefits. The approach will be to minimise risk through incremental implementation of this strategy. Work will be undertaken to identify specific programme and project-level risks along with mitigating actions as part of the implementation planning process.

11.4 Governance

As the new Informatics Directorate within the Department of Health and Social Services and the NHS Wales Informatics Service (NWIS) develops, new organisational structures will emerge and governance arrangements for Primary Care Informatics will need to evolve. Whilst the “Once for Wales” philosophy and the adoption of a number of national strategies will serve to increase the standardisation and consistency of Informatics and Information Communication Technologies across NHS Wales, primary care will remain a very different implementation environment from the acute secondary care, or even the community settings. The independent contractor status of GPs and the nature of the small businesses that they run, means that different support, implementation and
governance arrangements will be required for the introduction of programmes of work such as the implementation of national active directory and other projects.

NWIS, therefore, must retain, within its overall structure, a sufficiently dedicated focus on primary care in order to ensure delivery of the necessary strategic goals and benefits.

Therefore the GMS IM&T Programme Board, with its well established and strong professional membership, must continue to oversee this programme of work. However, this board must operate effectively within the overall governance structure for Informatics within the NHS in Wales, and its membership and terms of reference will need to be updated.

11.5 **Key Principles and Pre-requisites to Implementation**

There are some key principles and prerequisites that will need to be in place before a programme to implement this strategy can commence.

There will be a need to:

- Ensure there is leadership and commitment from the top of NHS Wales to make this strategy become reality

- Develop medium term financial planning/costs/funding arrangements to ensure that future systems and services can be procured in an efficient and standardised manner that complies with organisational Standing Financial Instructions and European procurement law

- Establish strong governance arrangements (for strategic input and general oversight) building on the existing GMS IM&T Programme Board, national boards for infrastructure and applications and the governance framework for Service Management in NHS Wales

- Re-affirm the MSP and PRINCE2 methodologies for Programme and Project Management and ITIL as the Service Management standard to support the implementation of this strategy

- Ensure ongoing effective engagement and communications with key stakeholders including GPs, Practice Managers and suppliers as part of a communications strategy

- Ensure that the case for change and key drivers which influence this strategy remain valid

- Ensure a commitment to maintain and develop the governance, management capacity and capability through a “Once for Wales” approach ensuring that strategic aims and subsequent benefits are realised.
Appendix 1 - Common Themes from Stakeholder Engagement

- GP IT infrastructure must be more robust and resilient. In particular, the telecommunications network must be sufficiently resilient to address any concerns about impact to clinical systems and patient care.

- A number of common strategic drivers were identified. These were:
  - An ageing population requiring more care
  - A more pressing need for cost control
  - More care provided out of hospital
  - Greater consistency needed in care provision
  - Widespread demand for greater security and protection of data
  - A need for inter-operability with national systems and services

- GPs must retain a choice of systems but are not overly concerned about who provides support as long as support is efficient and ‘all encompassing’. Support also needs to be constructive, helpful and aimed at resolving the problem rather than simply recording information and passing it on.

- GPs stressed the need to keep levels of data manageable and limited to relevant information, to avoid ‘data over-load’. GPs recognised that certain types of information may be useful for other healthcare professionals but were concerned that their systems and viewing of the system could be encumbered by peripheral information. They were keen to avoid this scenario where possible.

- There is considerable enthusiasm for continued central provision and management of IM&T services, e.g. the IT Refresh Programme, thereby supporting the “Once for Wales” approach.

- There is decreasing resistance to remotely hosted systems but concern remains over network performance which becomes even more critical with hosted systems. There are some perceptions of poor network performance which require further investigation and validation to assess the real causes. The results of this investigation needs to be communicated to Practices to explain the real causes and provide explanations and potential solutions where required.

- Performance management and monitoring of GP system suppliers has been very successfully introduced and developed. The use of such monitoring is considered a desirable requirement for the new Strategy.

- The formation and implementation of the GMS IM&T Programme Board has been successful and its strengths must be retained regardless of organisational change.

- In terms of new system requirements, GP2GP transfer, electronic referrals, electronic prescribing, test requests, timely discharge summaries and better information sharing are all considered top priorities.

- There is a perception that GP system functionality is sometimes slow to keep pace with changing demands. There is a need to increase the speed of response to address expectations and requirements.

- A requirement for remote/out of office e-mail for GPs was identified to allow GPs more flexible access to key methods of communications to support more mobile care delivery.

- As a result of an ongoing programme of work, data quality has improved and further improvements, although desirable, may be difficult to achieve without additional incentives.

- There are coding inconsistencies across Practices which are posing challenges to the effective sharing of information across different practice systems. These need to be resolved to ensure greater consistency across General Practice.
• There is a perception that there is inconsistent procurement and implementation of third party software, e.g. document management and anti-virus software. This means that not all the benefits of having such systems are being realised and that achieving consistent levels of service support is more difficult. There is a need for a more standardised approach.

• A need to use GP systems and GP data to support the LHB agenda thus providing more integrated support for provision of care locally, in the community, and to support the requirements for wider health needs assessment.

• The amount and quality of the IT training provided to different GP Practices across Wales is seen as inequitable. The greater use of (and dependence on) IT in Practices, and security and confidentiality issues, all mean that better and more consistent training programmes are needed for all Practice staff, including locum GPs who may work across several GP Practices.

• The notion of providing support for GP Practices via the widespread introduction of “facilitators” or “mentors” gained much support. These “facilitators” would provide locally based support and act as subject matter experts for groups of approximately 20-25 Practices.

• The work of the Primary Care Informatics Programme is considered a significant success which has brought about the transformation of GP IT across Wales.
## Appendix 2 – Bibliography

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### Appendix 3 - Interviewees

<table>
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<tr>
<th>Interviewee Name</th>
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<td>Sean Riddell</td>
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<td>Simon Scourfield</td>
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<tr>
<td>Michelle Sell</td>
<td>Head of Procurement</td>
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<td>John Taylor</td>
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<tr>
<td>Beverley Thomas</td>
<td>Director of Nursing and Social Care Information</td>
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<tr>
<td>Dr Peter Thomas</td>
<td>Clinical Director</td>
<td>Gwent Out of Hours Service, All Wales OoH Forum</td>
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<tr>
<td>Gareth Thomas</td>
<td>Primary Care IM&amp;T Manager</td>
<td>Aneurin Bevan LHB</td>
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<tr>
<td>Dr Mark Vaughan</td>
<td>RCGP Wales IM&amp;T Representative, GMS IM&amp;T Programme Board Member</td>
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<tr>
<td>Liz Waites</td>
<td>Director of NHS ICT Programmes</td>
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<tr>
<td>Simon Williams</td>
<td>Head of Service Management</td>
<td>NHS Wales Informatics Service</td>
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### Appendix 4 – Glossary of Terms

<table>
<thead>
<tr>
<th>Terms</th>
<th>Full Term</th>
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<tbody>
<tr>
<td>ADPF</td>
<td>Adjusted Disease Prevalence Factor</td>
</tr>
<tr>
<td>API</td>
<td>Application Programming Interface</td>
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<tr>
<td>BCP</td>
<td>Business Continuity Planning</td>
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<tr>
<td>BSC</td>
<td>Business Services Centre</td>
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<tr>
<td>CFH</td>
<td>NHS Connecting for Health</td>
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<tr>
<td>CHP</td>
<td>Community Health Professional</td>
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<tr>
<td>CMDB</td>
<td>Configuration Management Database</td>
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<tr>
<td>CRS</td>
<td>Care Records Service</td>
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<tr>
<td>DAWN</td>
<td>Digital All Wales Network</td>
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<tr>
<td>DR</td>
<td>Disaster Recovery</td>
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<tr>
<td>DTS</td>
<td>Data Transfer Service</td>
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<tr>
<td>EPS</td>
<td>Electronic Prescription Service</td>
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<tr>
<td>ETD</td>
<td>Education, Training and Development</td>
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<tr>
<td>ETP</td>
<td>Electronic Transfer of Prescriptions</td>
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<tr>
<td>GMS</td>
<td>General Medical Services</td>
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<tr>
<td>GP</td>
<td>General Practice</td>
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<tr>
<td>GPASS</td>
<td>General Practice Administration System Scotland</td>
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<tr>
<td>GPC</td>
<td>General Practitioners Committee</td>
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<tr>
<td>GPsOC</td>
<td>GP Systems of Choice</td>
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<tr>
<td>HCP</td>
<td>Health Care Professional</td>
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<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
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<tr>
<td>IHC</td>
<td>Informing Healthcare</td>
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<tr>
<td>IHR</td>
<td>Individual Health Record</td>
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<tr>
<td>IM&amp;T</td>
<td>Information Management and Technology</td>
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<tr>
<td>IT</td>
<td>Information Technology</td>
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<tr>
<td>ITIL</td>
<td>IT Infrastructure Library</td>
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<tr>
<td>LAN</td>
<td>Local Area Network</td>
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<tr>
<td>MHOL</td>
<td>My Health Online</td>
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<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
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<tr>
<td>LHB</td>
<td>Local Health Board</td>
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<tr>
<td>MSS</td>
<td>Minimum System Specification</td>
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<tr>
<td>MSP</td>
<td>Managing Successful Programmes</td>
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<tr>
<td>NADEX</td>
<td>National Active Directory Email Service</td>
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<tr>
<td>NPHIT</td>
<td>National Programme for IT (Connecting for Health)</td>
</tr>
<tr>
<td>Terms</td>
<td>Full Term</td>
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<tr>
<td>NSF</td>
<td>National Service Framework</td>
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<tr>
<td>NWIS</td>
<td>NHS Wales Informatics Service</td>
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<tr>
<td>OJEU</td>
<td>Official Journal of the European Union</td>
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<tr>
<td>PC</td>
<td>Personal Computer</td>
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<tr>
<td>OOH</td>
<td>Out of Hours</td>
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<td>PCIP</td>
<td>Primary Care Informatics Programme</td>
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<td>PCT</td>
<td>Primary Care Trust</td>
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<td>PDS</td>
<td>Personal Demographic Service</td>
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<tr>
<td>PII</td>
<td>Person Identifiable Information</td>
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<tr>
<td>PSBA</td>
<td>Public Sector Broadband Aggregation</td>
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<tr>
<td>QOF</td>
<td>Quality and Outcomes Framework</td>
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<tr>
<td>RFA</td>
<td>Requirements for Accreditation</td>
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<tr>
<td>SCI</td>
<td>Scottish Care Information</td>
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<tr>
<td>SHA</td>
<td>Strategic Health Authority</td>
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<tr>
<td>S&amp;DM</td>
<td>Scanning and Document Management</td>
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<tr>
<td>TNA</td>
<td>Training Needs Analysis</td>
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<tr>
<td>WAN</td>
<td>Wide Area Network</td>
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<tr>
<td>WCCG</td>
<td>Welsh Clinical Communications Gateway</td>
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<tr>
<td>WDS</td>
<td>Welsh Demographic Service</td>
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Further Information

For further information in relation to the GP Clinical Systems Strategy and the Primary Care Informatics, please contact:

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