



Technology Adoption Systems Guidance

June 2013

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1. Background and Context

Advances in technology are fundamental to the provision of modern healthcare. There are many ways to categorise such technology, linked to the context within which it is used:

- Low cost/high volume technology in everyday use across NHS Wales;
- High cost/low volume technology used for specific clinical interventions and/or treatments;
- Specialist regional/national technology provided by specialist centres on behalf of NHS Wales organisations.

Despite the increasing use of technology, there is no consistent approach in place across NHS Wales to consider, adopt and monitor technology. NICE (the National Institute for Health and Care Excellence) produces guidance based on systematic evidence reviews through its medical technology, diagnostic technology and interventional procedure programmes. In addition NTAC (the NHS Technology Adoption Centre) has reviewed over 200 technologies and produced eight detailed technology adoption guides, following successful pilot site implementation. Evidence is also available through the outputs of the NIHR HTA (National Institute for Health Research Health Technology Assessment) Programme and the NIHR Centre for Reviews and Dissemination database of systematic reviews, economic evaluations and HTAs. In line with standard 7a of Healthcare Standards for Wales “Doing Well Doing Better”, it is important that NHS bodies in Wales have systems in place to routinely consider the local opportunities for their organisations in implementing such guidance.

This Systems Guidance aims to address the expectation set out in standard 7a and proposes a framework to support the consistent consideration and adoption of technology across NHS Wales. It has been developed by a Task and Finish Group of the Health and Wellbeing Best Practice and Innovation Board (‘the Board’), informed by clinical representation from NHS Wales. Its development has also been informed by technology related responses to the recent *Call for Evidence*.

The role of the Board has been to develop Systems Guidance for Welsh Government. NHS Wales organisations remain responsible for ensuring that effective systems are in place to provide safe, evidence based, high quality services that include the use of technology. This responsibility is reflected within the *Annual Quality Plan 2012 – 2016*.

2. Scope and Definitions

This Systems Guidance provides clarity around the definitions and scope. The NICE definition (provided below) is broad, and is linked to methods.

The NICE definition

Health technology: Any method used by those working in health services to promote health, prevent and treat disease, and improve rehabilitation and long-term care. Technology in this context is not confined to new drugs or items of sophisticated equipment.

For the purposes of this Systems Guidance the inclusions and exclusions are set out below:

Technology Adoption Guidance in Wales – Inclusions and Exclusions

In scope:

- Medical devices;
- Diagnostic tests;
- IT systems with direct application to patient care such as telemetry and telemedicine.

Out of scope:

- Pharmaceuticals
- The larger IT systems
- Models of care and care protocols



Within this guidance, the term 'Health Board' includes independent primary care contractors. Health boards should therefore ensure appropriate systems are in place to capture technology used in primary/community settings.

The following arrangements apply to those components considered out of the scope of this guidance:

- Advice on pharmaceuticals is provided by NICE and the All-Wales Medicines Strategy Group.
- Larger IT systems are considered and overseen by NWIS (NHS Wales Informatics Service).
- Advice on models of care and care protocols is produced by NICE.

3. The Policy Context

Achieving excellence - The Quality Delivery Plan for the NHS in Wales 2012 - 2016 includes reference to the use of technology. The specific requirements are set out below:

Achieving excellence - The Quality Delivery Plan 2012-2016 Technology Adoption Related Extracts

- *'Using research and innovation to improve care and accelerating the uptake of beneficial new technology'.*
- *'Using new technology to improve access and quality of care*

The implementation of new and emerging technology, including information and communication technology, is a crucial element in delivering safe, sustainable services and in enabling patients/users to be treated as close to home as possible.

The NHS will collectively review how well they take up new technology.

One source of advice will be the new Medical Technology Evaluation Programme (MTEP) introduced by the National Institute for Health and Clinical Excellence (NICE) which focuses specifically on the selection and evaluation of new or innovative medical technology (including devices and diagnostics).'

Additionally, Action 8 of the Quality Delivery Plan states 'During 2012 Health Boards and Trusts will work together to put effective processes in place to ensure the prompt uptake of evidence-based new technology that maximise benefit and value'

**Note: In April 2013 the National Institute for Health and Clinical Excellence became the National Institute for Health and Care Excellence. The text above refers to the organisation's title at the time the Quality Delivery Plan was issued.*

Standard 7a "Safe and Effective Clinical Care" from *Doing Well Doing Better* also includes relevant policy requirements as follows:

**Doing Well Doing Better Standard 7:
Safe and Clinically Effective Care**

Organisations and services will ensure that patients and service users are provided with safe, effective treatment and care:

- a) based on agreed best practice and guidelines including those defined by National Service Frameworks, National Institute for Health and Clinical Excellence (NICE), National Patient Safety Agency (NPSA) and professional bodies;
- b) that complies with safety and clinical directives in a timely way; and
- c) which is demonstrated by procedures for recording and auditing

Reflecting these requirements, Welsh Government discussed the need to appraise new technology at the November 2012 Chief Executives meeting and, in a January 2013 letter to Chief Executives of health boards and trusts in Wales, reinforced the requirements of Action 8 in the *Quality Delivery Plan*.¹

Welsh Government will monitor adherence to this systems guidance as part of the *Quality Delivery Plan* and *Doing Well Doing Better* reporting mechanisms.

4. Factors to be Considered in Delivering Effective Implementation

Technology adoption is often highly content specific and requires consideration of a number of wider factors:

- The evolutionary nature of technology development;
- The clinical need for the technology;
- The capacity and capability available to operate the technology. This includes both the workforce numbers and the required skills sets;
- The possibly limited evidence base, though there is an expectation that some evidence of effectiveness will exist to support implementation. Whilst rigorous RCT evidence may not be available, the best level of evidence available should inform decisions. This may result in a requirement for more evidence before implementation is considered appropriate;
- The lack of general NICE mandation of technology adoption, as opposed to pharmaceuticals;
- Efficiency savings may not occur within the service area that meets the cost of the technology, but in other parts of the organisation;
- The decommissioning of outmoded models of care;

¹ Letter dated 10 January 2013 from Dr Owen Crawley, Welsh Government Chief Scientific Advisor to Chief Executives of Local Health Boards and Trusts regarding update of evidence based new technologies.

- Adherence to Clinical Governance policy and standards requirements.

NHS bodies need to have effective systems in place to judge whether new technologies would deliver efficiency gains and benefit their populations when seen in the local context, and taking into account the potential local costs and benefits. A framework utilising the mini-HTA process is set out in this Guidance to support such consideration. A summary of the evidence for major new technologies, available from agencies such as NICE and NTAC, should be used to support the decision making process.

5. The Key Systems Requirements:

In making decisions about technology, NHS organisations need to take seven main factors into account:



a) Technology Uptake Policy Requirements

Welsh Government has set out expectations within the *Annual Quality Plan 2012-2016*.

NHS organisations should:

- Seek to comply with national policy;
- Provide assurance to Welsh Government that appropriate systems are in place to manage technology in a consistent manner within and across organisational boundaries;
- Provide assurance that Boards have systems in place to capture technology in use, and implement new technology via an evidence based approach.

Welsh Government will monitor compliance with these policy requirements as part of the *Quality Delivery Plan* and *Doing Well Doing Better* reporting mechanisms.

b) Levels of decision making for new technology

It is not proposed that the HB Boards need to specifically consider and approve all new technology being introduced into their organisations, but rather that they need to ensure that appropriate governance arrangements are in place to:

- Identify what technology is available, and what is right for their populations;
- The range of technology in use across its population, services and estate;
- Access and consider the evidence base;
- Ensure a formal and auditable system/process to record decisions around whether to implement a new technology or not or decommission a technology in current use, to ensure full assessment has been undertaken, and the added value determined;
- Ensure effective change management processes;
- Ensure that declared evidence/outcomes are substantiated;
- Identify the technology decisions reserved for the Board, and be clear about the level of delegation regarding those decided at department and also at /network/region/national level. A process should be put in place to ensure Board level assurance in line with the scheme of delegation, including a process in place to record such decisions.

c) Expected Governance arrangements

It is essential that any assessment of new technology identifies and considers risk, including those that may/can be mitigated. Such processes must have demonstrable links with Governance frameworks and requirements.

Each organisation should:

- Demonstrate Board level assurance that decisions about the use of health technology are taken in procedurally transparent and consistent ways;
- Identify a named Executive Director lead for technology. Given the need for a consistent approach across Wales, it may be appropriate for the same Director in each organisation to undertake this role. Co-ordination can then be undertaken using existing all Wales meetings rather than putting additional processes in place;
- Ensure that the use of technology by independent contractors is reflected within their governance arrangements;
- Ensure arrangements are in place to capture those services provided on a regional/national level that require the use of technology, enabling commissioner and provider organisations to demonstrate that the above requirements have been met;
- Put appropriate change management mechanisms in place to effectively manage the implementation of new technology.

- Put appropriate scrutiny processes in place, both internally and externally through regulators;
- Put systems in place to monitor and report performance.

d) Evaluation

Evaluation requirements can be divided into two main strands – the evaluation of new technology prior to adoption, and the evaluation of the new technology in use. The following requirements should therefore be considered from these two perspectives. Each organisation should:

- Recognise the limited capacity of NHS organisations to undertake evaluation and evidence reviews as individual organisations, and so ensure that arrangements are in place across organisational boundaries, using recommendations from professional organisations where these exist, to evaluate technology. A process is set out within this Guidance that will support health boards in reaching decisions on technology adoption;
- Undertake technology adoption consideration using the process provided in this guidance;
- Ensure new technology is introduced within the context of process measures that ensure benefits are continuously realised;
- Ensure that new technology is introduced only if there are continuous checks on the process or pathway to which the technology is intended to contribute.

e) Service and Capital Planning

Each organisation should:

- Adopt the mini-HTA process set out in this Guidance to ensure that new technologies are reflected and embedded in local, regional and national planning systems;
- Decommission services/interventions that are outmoded and no longer reflect best practice against an appropriate evidence base through a managed process;
- Assure themselves that the potential of emerging technology developments is embedded as part of the mainstream planning and service change process;
- Be confident that proportionate local clinical and service evaluation and cost benefit analyses were undertaken, and that the relevant disinvestment in outmoded technology/equipment was considered and implemented alongside the investment;
- Assure themselves that the behavioural and cultural issues associated with the adoption of new technology were reflected in the local Knowledge Management and Learning Strategies, as set out in NTAC report *Organisational and behavioural barriers to medical technology adoption*.

f) OD implications recognised and provided for

Each organisation should:

- Ensure that the skills sets required to operate technology are identified and systems are put in place to ensure competency can be assured;
- Identify any organisational culture, change management, capacity and capability issues as part of its workforce, service planning and knowledge management strategies;
- Ensure that horizon scanning systems are in place that operate across organisational boundaries;
- Assure themselves that staff have the appropriate skills sets to make best use of current and proposed new technology;
- Undertake a stock take of technology in use across the organisation, to include its use, training and maintenance requirements.

g) Engaging public/key stakeholders

In line with national policy requirements for citizen centred services, and reflecting the Welsh Government Public and Patient Involvement Policy, NHS organisations should aim to derive the maximum benefit from public engagement, to help it to provide relevant, high quality services, services the public want and value.

The requirement for a process of continuous engagement with its local population should be reflected when considering the adoption of technology. The aim is to ensure that local people feel engaged with their NHS and that they can influence decisions about changes in direction and specific service developments.

Within this context, each organisation should:

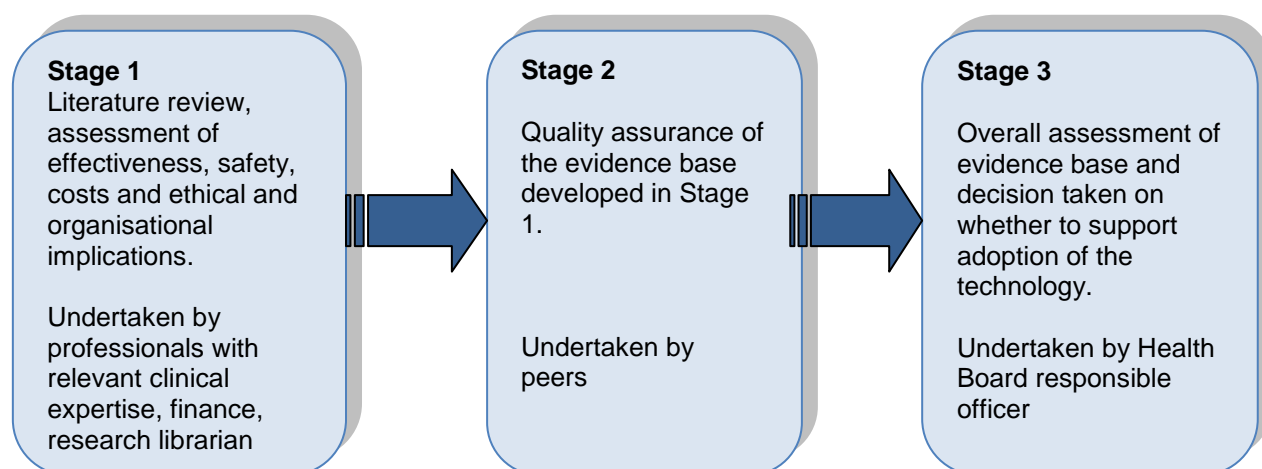
- Ensure mechanisms are in place for engaging public/stakeholders, and that these are clear;
- Ensure other forms of 'bottom up' pressures are identified to inform the development of services.

6. The Technology Adoption Framework

The mini health technology assessment methodology (mini-HTA) set out in this section is a simplified, time efficient, decision support tool that will support NHS Wales organisations in assessing the usefulness, cost effectiveness and appropriateness of new technology, and in making decisions regarding their adoption. Using a mini-HTA will help Health Boards to clarify whether a technology is acceptable, effective and safe and that it can be introduced at a lower or similar cost to existing practice.

The purpose of mini-HTA is to provide a basis to support decisions regarding the introduction of new technology. A mini-HTA helps to provide transparent, evidence based decisions. The assessment process comprises three main stages:

The mini-HTA process



Stage 1 is completed by professionals in the Health Board or Trust with relevant clinical expertise usually with the support of the finance department, a research librarian and others with expertise in critically appraising evidence. There will need to be a literature review and assessment of: effectiveness; safety; costs; organisational implications; and ethical aspects related to introduction of the new technology. This would include at least a basic level of economic evaluation and consider potential disbenefits and effects on equity of care.

Stage 2 involves quality assurance of the evidence produced in Stage 1 and would usually be undertaken by an independent peer from another similar discipline.

Stage 3 would usually be completed by the person responsible for preparing the matter for consideration by the relevant Health Board or Trust committee or board. This part provides an overall assessment of whether there is sufficient evidence to support adoption of the technology.

When a local decision cannot be made

There will be circumstances where a health board is unable to make a local decision and so decisions need to be taken at a national level, because:

- The method involves a requirement for screening, (the Welsh Government is advised by the UK National Screening Committee);
- The method involves specialist commissioning (dealt with by the Welsh Health Specialised Services Committee);
- The method involves medicines (which fall outside of the scope of this guidance and are addressed by NICE and the All Wales Medicines Strategy Group).

Generating the evidence base: assessment and evaluation

a) NHS Wales Shared Services Partnership should be considered the point of contact to access advice and guidance around procurement implications when considering new products. It is strongly recommended that organisations engage with their local Shared Services Partnership Procurement Manager before proceeding to consider new technology, to review and substantiate the evidence base.

The contact details for local Procurement Managers can be found at Appendix 3.

In addition to Shared Services Partnership, there are a number of additional routes to access advice, guidance and support when considering the evidence base to adopt new technology.

b) NISCHR fund/co-fund a range of programmes that provide opportunities to undertake evaluations of new technologies.

These include the NIHR schemes (Health Technology Assessment, Health Services and Delivery research, Efficacy and Mechanism evaluation, and Public Health Research).

All these schemes have a responsive arm but there are also commissioned research calls and themed calls. For instance, the HTA Programme identifies and prioritises NHS evidence needs and advertises calls for research proposals to address these.

NHS Wales can contact the HTA programme team directly regarding health care treatments and tests for which further evidence of clinical and cost-effectiveness is required. (<http://www.hta.ac.uk/suggest/index.shtml>)

Within NISCHR's Research for Public and Patient Benefit scheme, there are opportunities for Welsh based researchers to apply for grant funding to:

- Study the provision and use of NHS services.
- Evaluate the effectiveness and cost effectiveness of interventions.
- Examine the resource utilisation of alternative means for healthcare delivery.
- Formally scrutinise innovations and developments.
- Pilot or consider the feasibility of research requiring major award applications to other funders.

c) The Surgical Materials Testing Laboratory (STML) is hosted by ABMU Health Board and provides a national service. Its role includes an assessment of quality, usually to accepted national and international standards, providing end users with a level of confidence in the quality of the products being considered for contract and/or onward clinical use.

d) The NHS Informatics Research Laboratories are a joint venture with Swansea School of Medicine. This facility enables safe testing of new IT innovations centred on improving patient care. The laboratories have been used to test new technologies around telehealth, both in a person's home and electronic test referrals and results

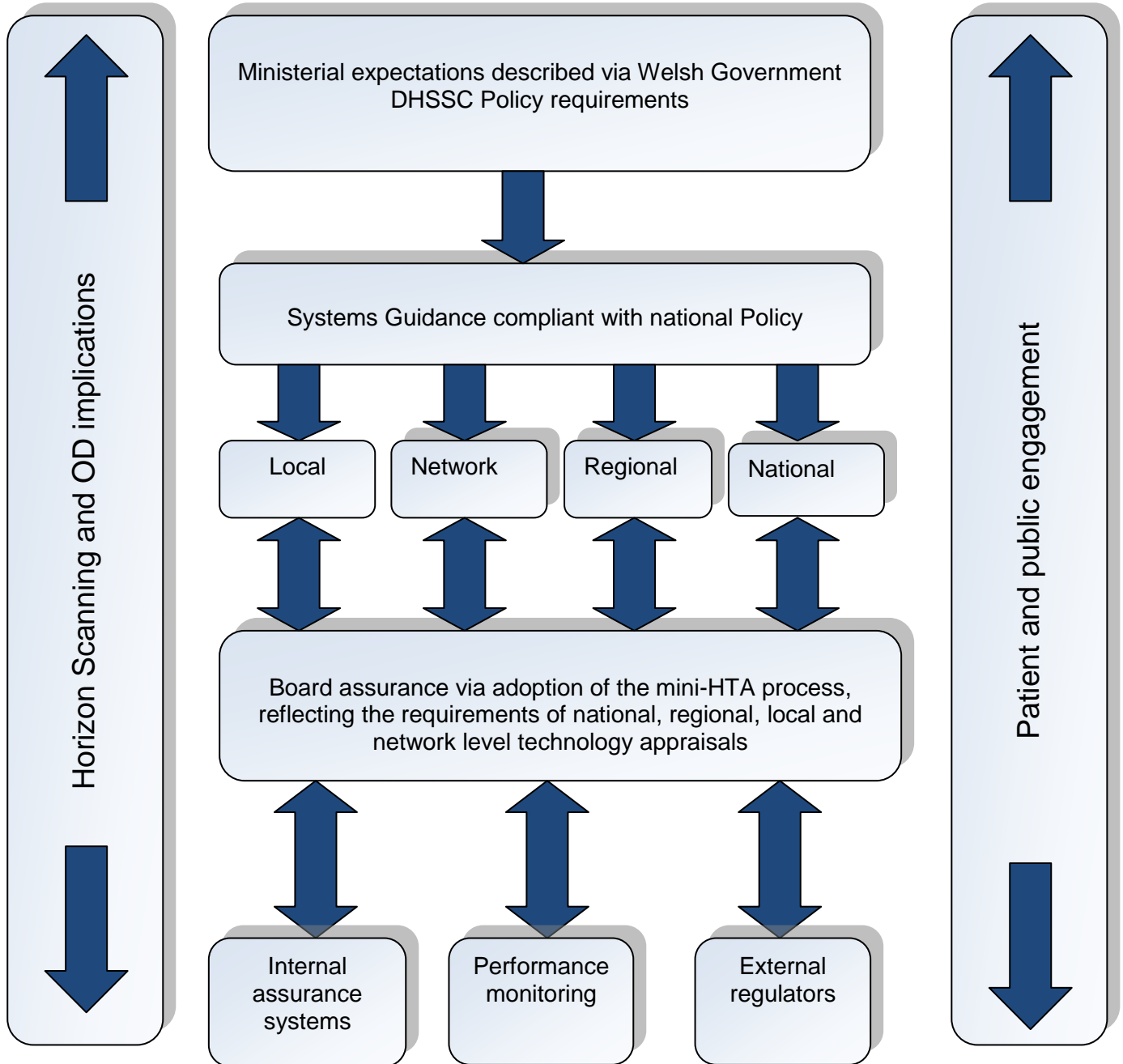
to/from GP practices. The use of these facilities is commended as an example of where new technologies can be safely tested in compliance with Standard 7a.

e) Small Scale Pilot Projects have been successfully used to prove the concept of technology before wider adoption. The NHS Wales Clinical Portal has been used for small scale and controlled testing prior to adoption within a clinical setting.

Publication of completed mini-HTA evaluations

It is recommended that NHS organisations publish completed mini-HTA assessments on their web site so that work is not duplicated and assessments can be shared.

Appendix 1: Outline Systems Process



Appendix 2: Useful Reference/Source Documents

NTAC (NHS Technology Adoption Centre) link to "How to Why to guides" for selected technology

<http://www.ntac.nhs.uk/HowToWhyToGuides/How-to-Why-to-Guides.aspx>

Other NTAC publications (including the report on "Organisational and behavioural barriers to medical technology adoption") are available at::

<http://www.ntac.nhs.uk/Publications/Publications.aspx>

NICE resources on medical technology:

<http://www.nice.org.uk/guidance/mt/index.jsp>

NICE resources on diagnostic technology:

<http://www.nice.org.uk/aboutnice/whatwedo/aboutdiagnosticsassessment/diagnosticassessmentprogramme.jsp>

The Scottish Health Technology Group has produced statements of advice on a number of technologies:

http://www.healthcareimprovementscotland.org/programmes/medicines_and_technologies/shtg/shtg_advice_statements.aspx

NIHR Health Technology Assessment (HTA) programme:



<http://www.hta.ac.uk/about/index.shtml>

There is a funding contribution from NISCHR to this. Results are published in the journal *Health Technology Assessment* available electronically via the above web link.

The NIHR Centre for Reviews and Dissemination (based at the University of York) has a searchable database of systematic reviews, economic evaluations and HTAs (including outputs from the NIHR HTA programme) at:

<http://www.crd.york.ac.uk/CRDWeb/AboutPage.asp>

Appendix 3: NHS Wales Shared Services Partnership Procurement Managers

			
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Betsi Cadwaladr UHB	Simon Whitehead	01745 448448	simon.whitehead@wales.nhs.uk
Public Health Wales Trust	Neil Gazzard	01443 622350	neil.gazzard@wales.nhs.uk
Velindre NHS Trust	Neil Gazzard	01443 622350	neil.gazzard@wales.nhs.uk
Welsh Ambulance NHS Trust	Simon Whitehead	01745 448448	simon.whitehead@wales.nhs.uk

Note: Specific arrangements exist for Powys (t)HB. Please contact SSP for advice.