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Archwilydd Cyffredinol Cymru
Auditor General for Wales

NHS Waiting Times: Compendium of Good and Promising Practice



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I have prepared and published this report in accordance with the Government of Wales Act 1998 and 2006.

The Wales Audit Office study team comprised Mark Jeffs, Gareth Jones, Verity Winn and Steve Ashcroft under the direction of David Thomas.

Huw Vaughan Thomas
Auditor General for Wales
Wales Audit Office
24 Cathedral Road
Cardiff
CF11 9LJ

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Contents

About this document	5
Understanding demand and planning capacity	8
Re-thinking systems and pathways	13
GP consultation	19
Outpatient appointment	22
Diagnostics	27
Decision to treat	29
Pre-admission	32
Inpatients	33

About this document

This compendium accompanies our report on *NHS Waiting Times for Elective Care in Wales*.^{1,2} The aim is to set out some examples of practices from Wales and further afield that have potential to improve waiting times for patients.

The compendium focuses primarily on elective, or planned, care. It starts with broader issues around understanding demand, planning capacity and whole-system change. It then goes on to look at examples of specific initiatives aimed at improving parts of the patient pathway including improving the efficiency and effectiveness of outpatient services, diagnostic services, clinical decision making with patients and inpatient services. **Figure 1** sets out some of the ways in which we found the current design of the elective care system to be inefficient and some of the ideas being explored to improve the system.

Our report on waiting times for elective treatment called for a fundamental review of the whole elective care system and pointed to specific areas that could be improved in line with 'prudent healthcare' principles. Aspects of prudent healthcare are now being implemented in Wales and examples of it can be found internationally. We have not identified anywhere that has a fully 'prudent healthcare' whole-system approach to elective or other kinds of healthcare planning and provision. However, some of the examples included in this compendium, like co-production, and improvements at specific parts of the patient journey give insight into what parts of a re-shaped elective care system might look like.

The case studies in this compendium do not constitute an exhaustive or definitive list of good practice in relation to the management of elective waiting times. They are simply examples that we came across during our study. Indeed, it is highly likely that teams in various other NHS bodies are busy developing new ways of working without drawing any attention to themselves or the innovative work they are doing. We do hope, however, that drawing attention to the examples we have identified will be a stimulus for others to share what they are doing.

We recognise that many of the examples in this compendium are still in development and as such, definitive benefits have yet to be fully assessed. We also recognise that some of the practices highlighted cannot be immediately transplanted wholesale from one place to another. Nevertheless, we offer this compendium in order to provide some insight into what is happening in different areas and to help NHS bodies as they look to re-think and re-design services to better meet and manage demand, and improve access to services.

¹ Auditor General for Wales, *NHS Waiting Times for Elective Care in Wales*, 2015: www.wao.gov.uk/system/files/publications/nhs_waiting_times_for_elective_care_english.pdf

² Auditor General for Wales, *NHS Waiting Times for Elective Care in Wales: Technical Report*, 2015: www.wao.gov.uk/system/files/publications/nhs_waiting_times_technical_report_english.pdf

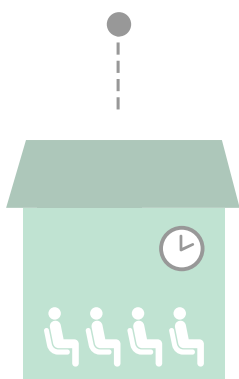
Figure 1 – Examples of inefficiencies across the elective care system and changes being explored

Examples of inefficiency

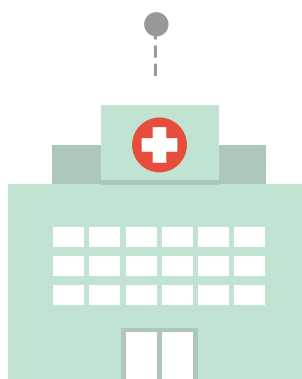
Potential to lose paper based referrals
 Specialist knowledge and support only available in secondary care
 Inappropriate referral/ 'Patient preference misdiagnosis' means alternatives are not fully explored

Scheduling of appointments leads to delays due to 'carve out' effect
 Time taken to mutually agree an appointment
 Delay leads to GP expedite letters
 Patients missing appointments due to Did not attend/Could not attend (DNA/CNA)

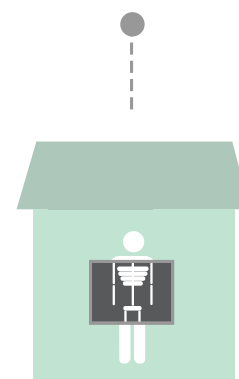
Not always carried out in advance of first outpatient appointment
 Repeated tests due to delays on pathway



GP consultation



First Outpatient appointment



Diagnostics

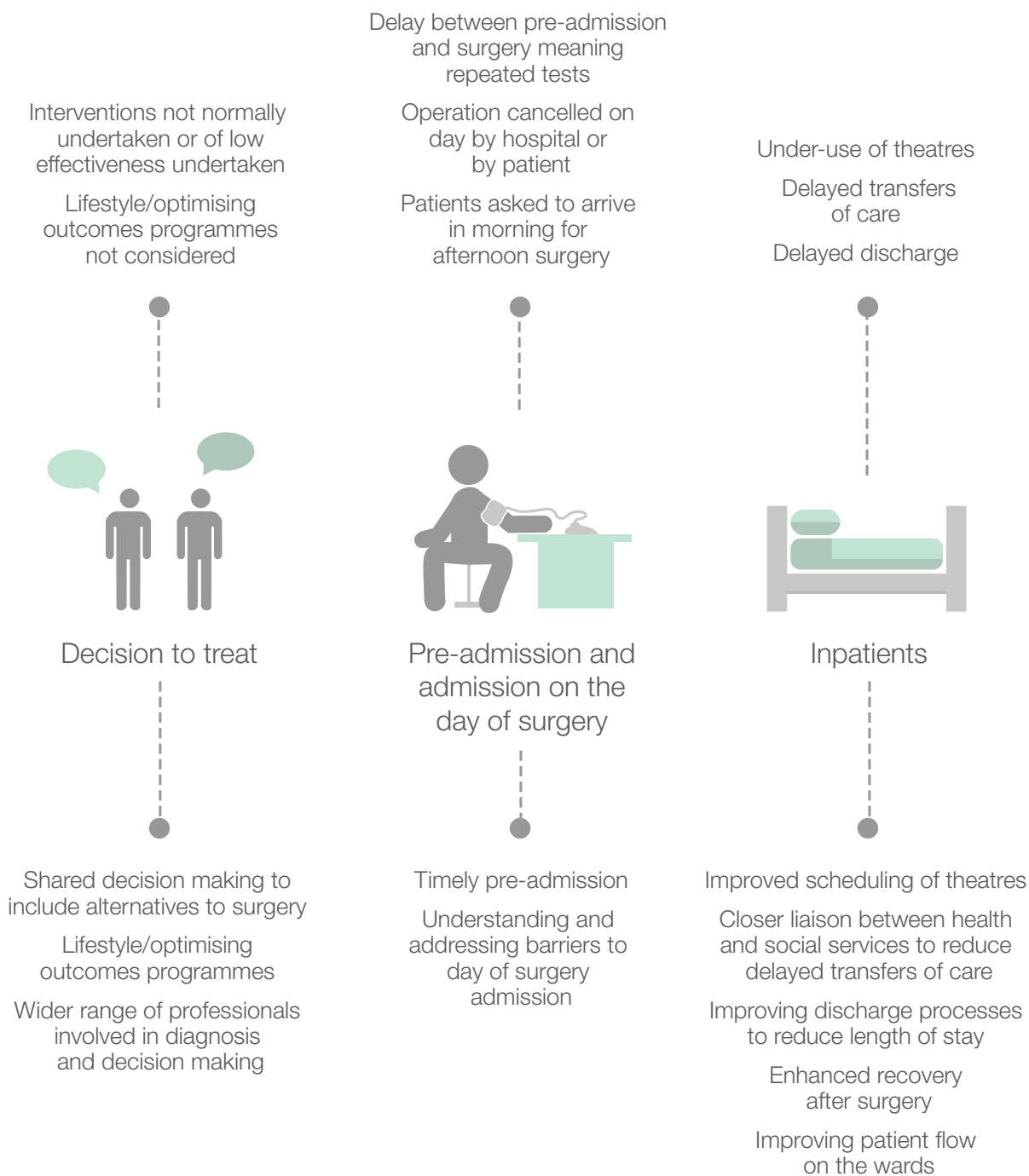
Changes being explored

Electronic referrals from GP to secondary care
 Technological support for GP referral decisions
 Wider range of professionals able to refer
 Alternatives to treatment fully explored with patient
 Agreed referral criteria and pathways

Removing all outpatient waits
 Automated Booking Systems
 Remodelling clinics
 Appointment text reminder services to reduce DNAs/CNAs

Clear pathways where diagnostic carried out and result obtained before 1st Outpatient appointment
 Agreed referral criteria

Underpinned by improved IT systems, patient engagement,



co-production, focus on patient pathways and patient flow

Understanding demand and planning capacity

'Runners, repeaters and strangers': analysis to understand patient demand

- 1 Statistical techniques can help the NHS to better understand the types of patients that are using services and to better plan services. In our report on elective waiting times, we used a technique known as 'runners, repeaters and strangers (also known as the 'Glenday sieve') to split demand into three types:
 - a 'runners' – a small number of conditions or treatments that account for a significant proportion of overall activity;
 - b 'repeaters' – a more diverse group of conditions or treatments that together with the runners account for almost all activity; and
 - c 'strangers' – often a large number of types of conditions or treatments that account for a small proportion of activity.
- 2 For our analysis, we used a baseline of all procedures where at least 33 per cent of patients were admitted from a waiting list in 2012-13 and found that just 35 procedures accounted for half of the episodes. This shows that the bulk of the elective activity is quite common and predictable. [Figure 2](#) shows the full results of our analysis. NHS bodies can do their own analysis at specialist, team and sub-specialist levels and use it to plan outpatient services, theatre lists, and training programmes in order to match service provision and expertise to the predictable demand efficiently and effectively.
- 3 'Runners, repeaters and strangers' is associated with what are known as 'lean methods' that can be used to improve services. More detail on other approaches can be found, for example, in the 1000 Lives Plus publication [How to Improve](#). More detail on our own use of this analysis can be found in [NHS Waiting Times for Elective Care in Wales: Technical Report](#).



Figure 2

Waiting list activity analysed by procedure



Shadowing at Aneurin Bevan University Health Board to understand what patients value

- 4 A shadowing programme was developed by a previous Trauma and Orthopaedics Clinical Director who would shadow a patient from arrival in the A&E Unit or outpatients through to discharge to observe and understand the patient pathway. The findings of this shadowing are reported to have led to raised awareness of what is important to patients. This was often not what might be assumed; for example, a patient who received an operation within 24 hours and good health outcomes said the part of her experience she valued most was when someone made her a cup of tea. Other consultants have now become involved in shadowing. The health board has also started to include some of its waiting list schedulers on the shadowing programme spending time on the wards so that they get a fuller understanding of the patient journey. The health board has not identified any specific changes to services as a result of observations from shadowing but believed that there is considerable value in clinicians understanding the value of what they do for patients and that shadowing reinforces the need to communicate and engage with patients.
- 5 The health board undertakes a wide range of patient experience activities, mostly focused on inpatients and outpatients attending clinics rather than patients on waiting lists. The health board has reconfigured the Surgical Assessment Unit as a result of a large number of complaints from patients about the length of time that they waited on the unit. The health board then conducted an audit and observation of the patient pathway which led to the reconfiguration of the service.

'Frugal innovation': cardiac care in Bangalore, India

- 6 The Narayana Hrudyalaya Institute of Cardiac Sciences, Bangalore, provides an example of some of the key principles of prudent healthcare – or 'frugal innovation' as the institute's practices have become known. The institute matches demand for high-volume cardiac surgery such as bypass surgery or valve replacements with efficient and effective supply of equipment and staffing to meet that demand.
- 7 The institute exemplifies the prudent healthcare principle of 'only do what only you can do'. Specialists only do one type of procedure and build up vast experience. Specialists' time is spent on the complex elements of cardiac care. Other tasks, such as administration and aspects of the preparation and diagnosis, are carried out by other trained staff. The institute uses continuous improvement methods, such as lean and six-sigma, to improve efficiency and increase the number of surgeries each surgeon can carry out each day.

- 8 The institute applies its frugality to its estate and procurement. By concentrating specialists on one site, the service can be more efficient and resilient to staff changes. It has also developed innovative financing arrangements with providers of medical equipment and drugs to drive down costs.
- 9 The institute takes a 'co-productive' approach to involving patients' families more in their care. The UK All Party Parliamentary Group on Global Health recently identified the institute's Care Companion Programme (now known as Noora Health) as good practice. Under this programme, the institute provides the patients' carers with training on aftercare while the patient is being treated. After the training, the carer is certified and supervised while providing care to the patient on the ward until the patient is discharged. The institute reports that 100 per cent of trainees rated the programme as 'very useful', that they integrate very well into the day-to-day running of the hospital and by making family members an integral part of patient care they are reducing the workload for hospital staff.
- 10 The focus on driving down staffing and equipment costs does not appear to come at the detriment of quality. The institute reports high rates of positive outcomes and, despite being located in the developing world, reports mortality rates better than in the USA.
- 11 Although it is a private hospital offering its services internationally, the institute retains a strong focus on equity. By using its staff and other resources prudently, the institute is able to offer affordable or free services to patients on very low incomes.
- 12 While the context of healthcare is very different in India from Wales, this example provides some food for thought around concentrating specialisation for high-volume procedures where it makes sense to do so, building resilience, the benefits of using a wider range of staff and patients' families with appropriate training and also how a tight focus on finances can support, rather than inhibit, innovation and equity.

[Read more about the work of the institute](#) and read more about the [Care Companion Programme/Noora Health](#).

Using Pareto analysis – the 80:20 rule – to identify patients that account for the highest use of NHS resources

- 13 The 'Pareto principle' – otherwise known as the 80:20 rule – is based on the observation that 80 per cent of the effects are due to 20 per cent of the cause. It is named after an Italian economist who found that 80 per cent of land in Italy was owned by 20 per cent of the population. A similar 80:20 split can be found across a wide range of human activity – including healthcare.
- 14 In our report on NHS waiting times for elective care, we carried out a Pareto analysis to examine the use of bed capacity. What we found was that 82 per cent of elective bed days in Wales were used by 20 per cent of patients. Just five per cent of elective patients used 51 per cent of elective bed days. We found a similar pattern for emergency patients.
- 15 Health boards can do their own Pareto analysis to identify the actual patients who used so much of the NHS's bed capacity and to learn from their experiences. Health boards can ask what those patients have in common, why those patients stayed so long and what they could do differently to prevent them from spending so much time in hospital. It may be that more intensive and bespoke services for this group of patients offer them a cheaper and better service than staying in hospital beds for prolonged periods.



Re-thinking systems and pathways

- 16 The Royal College of Surgeons National Surgical Commissioning Centre has developed a series of commissioning guides for high-volume pathways which have been adopted by a number of health organisations across the UK.

[Read more about the commissioning guides on the Royal College of Surgeons website.](#)

- 17 Health boards across Wales are redesigning patient pathways in response to changing and increasing demand. A number of examples are presented below.

Abertawe Bro Morgannwg University Health Board pathway redesign work

- 18 The health board, in common with other boards, has had a clinical pathway programme in place for a number of years. The pathways are focused on areas of high demand/long waiting times or clinical concern. Full care pathways have been developed which map the optimum patient journey from presentation in primary care including appropriate referral into secondary care. Pathways ensure that patients are referred when appropriate thus reducing demand on secondary care:

- a Suspected colorectal and rectal bleeding pathway:

Poor-quality referrals and an increase in rectal bleeding referrals classed as Urgent Suspected Cancer (USC) led to the development of a new pathway. The pathway is in line with NICE guidance and clearly sets out symptoms that constitute an USC, urgent or routine referral. Advice is also provided to GPs on how to manage routine patients, for example, haemorrhoids and when a referral to secondary care would be required. Following the introduction of the new pathway, the health board conducted an audit of activity from August to October 2013 which showed that the vast majority of referrals were appropriate: 38 out of 623 referrals were upgraded, one was downgraded and the others were not changed.

- b Spinal pathway:

A revised pathway was developed as a result of an increase in referrals, long waiting times and duplication of referrals as the health board found that some patients were being referred inappropriately into the spinal services as well as physiotherapy. The revised pathway provides advice to primary care and patients on how to manage back pain and when referral for specialist advice is required (including 'red flag' symptoms that require immediate action). The pathway promotes self-management and use of open-access therapy services before referral to secondary care. The health board reports that the introduction of the Musculoskeletal Clinical Assessment Service (MCAS) for all health board spinal referrals has been a success as patients are now managed more appropriately. Those patients that are seen by a consultant are those with a higher level of need: the proportion of patients seen by a consultant who go on to need some form of surgery increased from 15 per cent to 45 per cent.

- c The health board is also updating referral guidelines for specific conditions in line with latest evidence, including Ganglion Cyst Removal and Surgical Removal of Hallux Valgus.
- d The Ear, Nose and Throat Department successfully implemented the three national pathways (sore throat, hearing loss and chronic nasal conditions). Referrals are now vetted to ensure compliance with the pathway, and where appropriate, referrals are returned with advice on management or for referral to the relevant pathway. Around 70 referrals into secondary care a month are being signposted back to primary care.

Co-production and People Powered Health

- 19 The National Endowment for Science, Technology and the Arts (NESTA) claims that NHS England could achieve savings of at least £4.4 billion per year if it adopts People Powered Health programmes. The think-tank Wales Public Services 2025 estimated that this would translate to an equivalent saving for NHS Wales of around £385 million.
- 20 The People Powered Health approach is based around the principle of co-production. In Wales, the 1000 Lives Plus programme has defined co-production as:
‘An approach to public services which involves citizens, communities, and the professionals who support them, pooling their expertise to deliver more effective and sustainable outcomes and an improved experience for all involved.’
- 21 Co-production is based on changing the balance in the relationship between members of the public and the providers of public services such as the health service. A traditional view of healthcare is that clinicians decide which treatments are most appropriate for patients and then require patients to comply with that decision. However co-production emphasises the patient as an expert in their own life who brings their ‘lived experience’ to the discussions. Patients’ own life experiences are given as much weight as the clinician’s views and collectively they find approaches to managing patients’ conditions.
- 22 In the People Powered Health approach, clinicians were provided with tools to support them to co-produce with patients, including additional patient information leaflets and joint decision-making matrixes. Patients and clinicians look for solutions both within and beyond traditional medical approaches including activities and support from non-health or social care providers which is known as ‘social prescribing’. Social prescribing can be used to link patients with other non-health-based support in a community. That support is tailored to the patient’s need and can draw on a wide range of activities including arts, physical activity and increasing social interaction for the patient.

- 23 NESTA's report on the business case for People Powered Health suggests that changing the way patients and clinicians work together has produced improved health outcomes in a number of long-term health conditions including diabetes, hypertension, heart disease and asthma. Savings as a result of this approach represent a seven per cent reduction in terms of reduced attendance at A&E, planned and unplanned admissions, and outpatient admissions. Other benefits include changes to demands on primary care; reduced length of stay; improved utilisation of provider resources (including clinician time and wards); improved health outcomes and patient experience; and reduced need for support services (eg, social care, housing).
- 24 NESTA argues that People Powered Health could reduce the cost of managing patients with long-term conditions further by up to 20 per cent. Typical annual costs associated with People Powered Health programmes ranged from £100 to £400 per patient amongst NESTA's six case study sites. These were direct costs of services not currently delivered within health and social care (patient training programmes) although much of the investment could be delivered within existing health and social care resources.

[Read more about People Powered Health on the NESTA website.](#)

- 25 The 1000 Lives Plus programme in Wales has published a guide entitled *Co-producing services – Co-creating health*. The guide provides an overview of the principles of co-production, how it fits with current NHS thinking in Wales and provides an overview of some of the techniques and processes. The guide provides an overview of how and when co-production can be used at the levels of strategy, service delivery and individual patient.

[The guide is available on the 1000 Lives Plus website.](#)

Nuka system of healthcare

- 26 The Southcentral Foundation is a citizen-owned health service provider based in Anchorage, Alaska. The foundation operates the Nuka system of primary care which is a 'customer-owner' driven system based on the idea of the patient as a customer where patients have a permanent relationship with a named GP, with a guarantee of same-day access to see a doctor. The foundation reports that the time taken to book a routine appointment with a GP has fallen from four weeks to being seen on the same day. At the same time, workload reduced partly because primary care providers were freed up to manage the needs of the patient rather than trying to manage the appointments system. In some locations, doctors will share their mobile number and email with their patients who can then text or email queries which is reported to have reduced demand for appointments. The Southcentral Foundation reports that the knock-on impact on secondary care has been a 36 per cent reduction in hospital days, 42 per cent reduction in emergency room and urgent care usage and 58 per cent reduction in the use of specialty clinics.
- 27 Healthcare in Alaska is clearly very different from that in Wales, but the benefits of the Nuka system suggest there are lessons around involving patients more and about breaking down the barriers between the patient and clinicians. In doing so, there is scope to develop a more personal system that is also more cost-effective.

[Read more about the Nuka system of healthcare on the Southcentral Foundation website.](#)

[Read a summary of the Nuka system of healthcare and view videos describing the system on the 1000 Lives plus website.](#)

Research on patient flow by the Health Foundation

- 28 The Health Foundation published a review of research on patient flow and concluded that methods to analyse or alter patient flow can improve throughput and continuity and reduce waiting time and length of stay. But as these methods differ, it is not possible to say that all flow-related methods result in similar outcomes. The impact on patient satisfaction, safety and cost is less clear because few studies have investigated these outcomes at an organisation-wide or whole-system level. There are also few studies comparing different methods for managing patient flow so it is not possible to conclude that a specific approach is more or less effective than another.
- 29 The report concludes that patient flow is an important challenge for health organisations but often services and departments work in isolation. This means that an individual patient's journey may not always be the primary focus and this can lead to increased waiting times for elective care. A patient may move between a number of different services across an elective pathway and transition between services can lead to delays. The authors suggest that radical redesign of services and funding would be needed to make individual patient pathways the central focus. They identify five key factors that they consider vital to the successful implementation of any patient flow changes. Those are:
- a Whole-systems development
 - b Diagnostic needs assessment and real-time data
 - c Adapting the range of methods to local contexts
 - d Accounting for practicalities
 - e Staff engagement

[Read more about the Health Foundation's research on patient flow.](#)

Seven-days-a-week working at Torbay Hospital

- 30 Torbay Hospital is a 420-bedded district general hospital with approximately 27,036 elective admissions, 28,193 emergency admissions per annum and a below-national average length of stay. The trust is an integrated community care organisation and has taken a system-wide approach to delivering seven-days-a-week services.
- 31 Two areas merit particular attention. The trust runs seven-days-a-week, 364-days-a-year operating lists in trauma and orthopaedics. It also provides a seven-days-a-week, consultant-led radiology service, with outpatient diagnostic services run on a Saturday as well as during the week.
- 32 The trust reports several benefits including a reduction in waiting times, better patient care and experience and lower lengths of stay. These benefits are attributed to a number of factors including: the move to seven-days-a-week working, an increase in day surgery and an increase in robotic procedures to reduce the degree of invasive surgery which reduce recovery times.
- 33 The trust has identified several key learning points from its experience:
 - a understanding the benefits and risks – computer modelling was used by the trust to identify the likely the impact of seven-day working;
 - b the importance of clinical buy-in – seven-days-a-week services require flexibility and changes in working patterns and practices;
 - c the need for contingency planning – for example, increased access to radiology increased the risk of over testing, and a communication hotline was introduced to avoid inappropriate requests;
 - d using all the functionality of the Picture Archiving Communications System (PACS) – to maximise the benefits of timely reporting of all tests seven days per week; and
 - e understanding that moving to seven-days-a-week services is not an isolated change, it is part of the whole care delivery package.

[Read more about the changes at Torbay Hospital.](#)

GP consultation



Electronic referrals to secondary care

- 34 The Welsh Clinical Communications Gateway (WCCG) developed by NHS Wales Informatics Service (NWIS) saw its one millionth referral in early 2014 and by the end of October 2014 over 1.4 million electronic referrals had been made with 58,426 in October 2014 alone. As of the end of October 2014, 416 GP practices were actively using the system. NWIS reports that GPs have fed back that the system is saving time and improving the process for patients. Paper-based referrals take time to produce and can involve the GP dictating a letter for a medical secretary to type up. This then has to be checked, printed and sent. The letter may not contain the full information and may get lost in transit. But e-referrals use a standard template, which is pre-populated with key information from the patient's medical record held on the GP systems, and includes vital information about medications. NWIS also expects that e-referrals may also help to reduce unnecessary hospital appointments and admissions. This would be achieved by GPs using the e-referral form to ask GP colleagues with specialist knowledge whether a hospital referral is most appropriate or whether another type of care could be provided through a GP-led service. GPs can also check on the progress of their referrals online.

[Read more about e-referrals on the NWIS website and e-referrals in Wales pass one million, on the Building Better Healthcare website.](#)

Teledermatology in Cardiff and Vale University Health Board

- 35 Cardiff and Vale University Health Board has introduced a teledermatology project because between 15 and 20 per cent of all GP appointments are made by patients with skin conditions. The project set out to improve GP knowledge and understanding of dermatology by using telemedicine to provide rapid access to a consultant dermatologist. After reviewing digital photographs and a brief history the consultant reports back to the GP, advising on treatment and management, and allowing them, when appropriate, to continue to manage the patient in the community. The consultant can also identify patients who require a hospital appointment.
- 36 The project started with just five GPs in 2005 and had grown to 40 GP surgeries by 2014. The health board has found that the fast response to primary care referrals (within two days) means that GPs are receiving feedback whilst the case is fresh in their mind. This compares to between three weeks and several months for conventional referrals. The health board has found that 70 per cent of specialist reviews offer advice to GPs to continue managing patients in primary care with the remaining 30 per cent of patients given outpatient appointments. Of those patients, 40 per cent receive urgent appointments for suspected cancers.

- 37 The health board estimates that it has saved around 700 outpatient appointments per year and that GP referrals are becoming more appropriate as GPs use the system more frequently. Patients have also provided positive feedback as care is provided closer to home. The health board won an NHS Wales award in 2011 for the project. The health board identified that its success shows that relatively simple, everyday technology, such as an inexpensive digital camera and email, combined with a willingness to work together, can be used effectively to bridge the gap between primary and secondary care, sharing expertise, educating and helping to provide an effective service to patients in the right place at the right time.
- 38 The health board is now seeking to extend the scope of the service to all GP surgeries within the health board area so that teledermatology is the default secondary care referral method for dermatology patients.

[Read more about the teledermatology service on the Cardiff and Vale University Health Board website.](#)

[Read more about the development of the service at Cardiff and Vale University Health Board.](#)

Telephone and email referral support services

- 39 A number of health boards including Hywel Dda and Cardiff and Vale have introduced referral advice services within secondary care. These may be dedicated referral phone lines or email advice services. Health boards have set up these services to provide GPs with a second opinion about whether a referral is required and in some cases to reduce the demand for outpatient appointments. In some health boards, take up of such services has been lower than initially anticipated. The low take-up rate may highlight the need for such services to be more effectively publicised and for high-quality feedback mechanisms to help develop GPs' knowledge of, and trust in, the service.

Online information provision for primary care

- 40 A number of health boards, including Abertawe Bro Morgannwg University Health Board, have developed online information portals so that primary and secondary care colleagues have a single point of access to up-to-date relevant information about care pathways, details of email advice lines, telephone triage services and referral templates.
- 41 Abertawe Bro Morgannwg University Health Board also publishes data on referral rates for practices and community networks to encourage peer review. The health board monitors the number of hits on the GP portal and reports that those have increased steadily from an average of 1,678 per month in 2010-11 to 5,956 in 2013-14. The health board also collects detailed information about which pages are viewed and in March 2014, found that an increased number of users viewed pages on care pathways and referral guidelines.

Utilising skills of the wider professional team to diagnose and treat patients

Cwm Taf University Health Board

- 42 Extended Scope Physiotherapy Practitioners (ESP) work as part of a multidisciplinary team alongside other healthcare professionals (including podiatry, chronic pain nurse specialist and recently appointed GPs). Clinics are provided in both primary and secondary care settings. Using advanced assessment skills, the health board reports that ESPs can ensure that each patient is placed on the most appropriate treatment pathway (which could include physiotherapy treatment, referral for further investigations or referral for surgical opinion). Where appropriate, the health board reports that patients can be diverted away from orthopaedic clinic thus releasing capacity and reducing waiting times.

[Read more about the contribution of physiotherapy to community service provision in Wales.](#)

Ensuring appropriate radiology referrals at Hywel Dda University Health Board

- 43 At Hywel Dda University Health Board, the Radiology Department found an annual increase in demand of between eight and 14 per cent and large variations in numbers of GP direct access referrals. In response, the health board has sought to better understand why patients are being referred and develop approaches to ensure they are directed to the most appropriate type of service. To do this, the Radiology Department reviewed the Magnetic Resonance Imaging (MRI) waiting list for shoulder scans and found that only two patients out of 100 actually needed MRI with the remainder requiring mostly standard X-ray. The department agreed patient pathways with GPs and relevant stakeholders that involved substituting simple X-rays for MRI scans on shoulders where appropriate.

Outpatient appointment

Aspiring to remove all waits from outpatient clinics

- 44 The Vascular Surgery Department at Good Hope Hospital Trust in Birmingham was redesigned in the mid-2000s. The aim of the redesign was to achieve zero waits for outpatient clinics. The consultant surgeon set out to 'design systems around patients rather than the organisation...designing a patient-centred outpatient system that is affordable and guaranteed to work is difficult – but not impossible.' The redesign took two years and focused on all processes on the patient pathway that did not add value and was supported by the development of a bespoke software system. That system incorporated a shared electronic patient record. The redesign led to a 40 per cent increase in maximum capacity which led to sufficient headroom in the system to allow for changes in demand and reduced follow-up visits. In December 2014, the average wait for a first outpatient appointment at the department was 26 days.

[You can read more detail about the project.](#)

Fully automated booking

- 45 Since November 2013, Cardiff and Vale University Health Board has, with agreement from the Welsh Government, piloted a new booking system for a sample of outpatient appointments. The purpose of the Fully Automated Booking (FAB) system is to try and increase efficiency within the booking process thereby reducing the number of patients who do not turn up to their appointments. The system was initially trialled with around 2,000 patients in four specialties (Rheumatology, Immunology, Neurosurgery and Paediatrics).
- 46 The FAB system automatically allocates an appointment date and time based strictly on the patient's position on the waiting list. Patients are sent a letter with an appointment time and date around four and a half weeks prior to their appointment. Patients are asked to confirm whether they wish to accept the appointment or can request an alternative date with no sanction being applied. If patients do not respond to the first letter, they are sent a second letter two weeks later asking them to confirm or change the date of the appointment. If patients do not respond to those two letters, then they are contacted by phone to seek confirmation of the appointment and they have up to six days prior to the appointment to respond. If there is no response at this stage, the appointment is allocated to another patient. Patients can confirm attendance by using an automated telephone system. Patients who do not contact the health board and do not attend on the scheduled appointment date are only removed from the waiting list after the date of the appointment with clinical agreement. The health board reports that data collected during the initial pilot phase demonstrated Did Not Attend (DNA) rates consistently below five per cent but this will be reviewed again during the further roll-out of the system in autumn 2014.



- 47 Because the health board allocates timeslots to patients, rather than agreeing them in person, the FAB system does not comply fully with the Welsh Government's Referral to Treatment guidelines on reasonable appointment offers. However, given the promising results, in July 2014, the Welsh Government granted permission to the health board to increase the trial of the system.

Remodelling patient booking at Aneurin Bevan University Health Board

- 48 Aneurin Bevan University Health Board has, in recent years, used a single booking centre for all outpatient appointments. That single centre was developed on the basis of improving efficiency. The health board has recently reviewed the centre and found that the anticipated efficiency gains have not, however, been achieved. Therefore, the health board has implemented a pilot project in Urology whereby booking clerks sit in that department as part of a multidisciplinary team so that they become experts in their specialty and have greater ownership of the booking process for patients. This new system is also being trialled in Dermatology and the health board reports that this has led to a decrease in DNA rates. The health board also reports that the new system has reduced double booking and is clearer for patients to understand. There may be greater staff costs initially but the health board believes it will lead to savings in the long term. The health board reports that there may be other factors which may affect the DNA rates and so will be undertaking a fuller evaluation of the pilot in due course.
- 49 Alongside the specific lessons for outpatient booking, we have chosen this example because it reflects the importance of being prepared to change direction if a change – such as a single booking centre – is not working out as planned.

[Read more about Aneurin Bevan University Health Board's Outpatient Transformation Programme.](#)

Aneurin Bevan University Health Board Fracture Clinic redesign

- 50 As part of its wider Outpatient Transformation Programme, Aneurin Bevan University Health Board has remodelled its Fracture Clinic at the Royal Gwent Hospital based on practice in Scotland. The clinic was previously facing increasing demand which was leading to long delays for first outpatient appointments and overbooked clinics so patient experiences were worsening. The revised service was devised by a multidisciplinary team led by the lead orthopaedic consultant and started in September 2013. All A&E referrals are screened by consultants virtually with a view to ensure patients are booked into the right sub-specialty clinic at the right time. New agreed clinical protocols for six common fractures have been introduced and there is a 24-hour advice line staffed by nurses for patients. The health board's own initial informal evaluation has shown a 30 per cent reduction (250 patients) per month in attendance at fracture clinics. Ninety-four per cent of patients surveyed by the health board reported being very pleased with the service and the health board reported increased consultant input with every patient. A formal review was being undertaken during the summer of 2014 but at the time of compiling this compendium, the results of the review were not available.

[Read more about Aneurin Bevan University Health Board's Outpatient Transformation Programme.](#)

Changing audiology outpatient models in Cardiff and Vale University Health Board

- 51 The Ear, Nose and Throat Department identified the need to change the audiology outpatient service at Cardiff and Vale University Health Board. Previously, all outpatients travelled to the main hospital site to attend outpatient appointments. However, the health board identified that many of its patients were older and they struggled to get to the hospital and, when there, to negotiate the hospital site. The health board found that 24 per cent of deaf patients have missed a medical appointment due to communication problems and 19 per cent have missed more than five appointments.

- 52 The lead surgeon led the development of an alternative outpatient clinic model which was developed with primary care colleagues. The new model is based on a self-contained clinic located at a GP practice in Barry. Two GPs have received specialist training to treat patients' ear conditions, hearing loss and fit hearing aids. The new clinic treats between 5,000 and 7,000 patients annually. The health board reports that the new clinic has delivered significant patient benefits: reduced travel by 62 per cent, travel costs for patients have reduced by 60 per cent and increased patient satisfaction with the service. Benefits for the health board include: a 70 per cent reduction in appointment costs, decreased referrals to secondary care and reduced DNA rates from 13 per cent at the main hospital site to less than one per cent at the clinic.

[Read more about the development and impact of the new service model on the Health Foundation website.](#)

Appointment reminder systems

- 53 Betsi Cadwaladr University Health Board launched a hospital appointment reminder service to try to reduce the number of missed outpatient appointments. The health board estimates that each hospital appointment costs up to £150 and that approximately 50,000 people miss their hospital appointment every year. Whilst there is a cost to the health board in terms of time, missed appointments also mean that the slot cannot be offered to another patient, thus increasing overall waiting times. The reminder service uses either text messages to mobile phones or interactive voice messaging to a patient's landline. The initial phase of the project sent around 70,000 reminders by August 2014. The project was being extended in autumn 2014 to a larger number of specialties with the intention to include the majority of appointments at the health board. The health board will analyse the full impact of the introduction of the new system in December 2014 but it reports that positive feedback has been received from patients in the initial phase.

[Read more about the text reminder service offered by Betsi Cadwaladr University Health Board.](#)

- 54 Aneurin Bevan University Health Board has been operating a text reminder service for orthopaedic follow-up appointments since May 2012. Data show that following the introduction of the service, the patient DNA rates reduced to below six per cent and have remained at that level. The health board estimates that the system has led to the avoidance of around 1,200 wasted appointments per annum. The health board's preliminary evaluation of the service indicated that significant reductions can be made in DNA rate but further work is required to understand the true costs and benefits of extending the service and the health board is considering alternative approaches.

Barts Health NHS Trust – review of text messaging appointment reminder systems

- 55 Barts Health NHS Trust in England found that following the introduction of text reminders for outpatient appointments, its DNA rates had reduced from 15 to nine per cent but had not decreased further. The trust found that the text reminders encouraged patients to cancel appointments rather than simply not attend, but did not effectively encourage patients to attend. To encourage patients to attend appointments, the trust then trialled an alternative approach to text messaging with more than 9,000 patients across five services. The alternative text messages were based on persuasion theory which states that people's choices can be affected by the communications they receive. Five different messages were created based on persuasion theory. The trial found that only one of the five messages had a statistically significant impact on cancellation and attendance rates compared to the rates in the preceding four months. The message that had the most impact was based around notions on 'authority' (it was signed by the consultant), 'scarcity' (it highlighted that appointments were a scarce resource as they were fully booked up) and 'liking' (it emphasises that the hospital was looking forwards to seeing the patient). The message in full was:
'I just wanted to remind you that you have an appointment in one of our clinics at [clinic] on [mm] [dd] at [hh]. We are looking forward to seeing you. Please text back CANCEL if your appointment is no longer needed or text REBOOK if you want to reschedule as we are usually fully booked. Dr Benjamin Turner MRCP MS (Neurology Clinical Director).'
- 56 The trial highlighted that a tailored message can be more effective in securing attendance rather than a generic reminder message.

[Read more about the trial of text messaging based on persuasion theory at Barts NHS Trust on the Health Service Journal website.](#)

Diagnostics



Picture Archiving and Communications Service (PACS)

- 57 The PACS manages the storage, retrieval, distribution and presentation of images including X-rays, ultrasound, CT and MRI scans. In 2012, a seven-year framework contract, valued at around £20 million, was awarded to provide a single PACS for Wales. The service was established to make the patient pathway more efficient. Prior to its introduction, there was a variety of systems used by local health boards to store and transfer images. However, with an increasing number of patients now receiving care at locations different to where their original diagnostic test was completed there were delays for patients; in some cases, patients had repeated scans or X-rays as the original images were not available, or treatment was delayed while images were transferred. The new single PACS ensures that all images, regardless of where they were taken originally, will be available where and when they are needed.
- 58 The system is currently in use at Betsi Cadwaladr, Cwm Taf, Hywel Dda and Aneurin Bevan Health Boards as part of a planned roll out across all health boards in Wales.

[You can read more about the service on the NWIS website.](#)

Scotland Eye Care Integration Programme

- 59 In 2011, the Scottish Government announced a 10-year £6.6 million investment to allow electronic patient referrals from optometrists to hospital eye services. This allows optometrists to transfer digital images securely and instantaneously to eye clinics in hospitals thus removing the need for a referral pathway through GPs. Optometrists also receive automatic electronic feedback and can see whether referrals have been reviewed.
- 60 The overarching programme aim was to deliver 95 per cent of referrals from optometrists to hospital eye services by April 2014. The Scottish Government set out that through this programme, eye care patients will benefit through improved patient care including:
- quicker, more accurate, more reliable referral processes including providing image information critical for clinical decision making;
 - quicker assessment of urgent referrals;
 - better use of existing primary care resources to identify patients who can be followed up in the community particularly in the chronic disease areas of glaucoma suspect, dry macula pathology, known diabetic retinopathy and non-sight-threatening retinal pathology;
 - reduced waiting times for patients;

- e enhanced patient safety – by improving timely delivery of sight-saving treatments;
 - f maximising the number of patients with wet macular degeneration disease that can receive potentially sight-saving intraocular injections within a ‘golden’ two-week window;
 - g a reduction in first-time appointments in hospital eye services, saving patients’ time, expense and anxiety; and
 - h process improvements within hospital-based services – smoothing the patient journey.
- 61 The Scottish Government has confirmed that the programme is still being implemented, and that an assessment of the impact of the programme is to be undertaken.

[Read more about the Scottish Eyecare Integration Programme on the NHS Scotland website.](#)

Improving endoscopy access in Hywel Dda University Health Board

- 62 Since spring 2014, Hywel Dda University Health Board has been seeking to improve access to endoscopy services as a result of the significant waiting times for such procedures. The lead consultant has met with the local GP forum to explain the planned changes and has offered to then meet individual GP practices. The main changes that have been introduced include:
- a Revised referral forms to take account of recently published clinical guidance.
 - b An algorithm for the management of dyspepsia in primary care.
 - c Daily validation of all referrals by the lead consultant. Inappropriate referrals are returned to the referrer with clarification of why the referral was inappropriate.
 - d The consultant also validates all patients on the waiting list. Patients are then reviewed in clinic by the consultant where considered necessary. This has led to some patients being allocated an admission date, others receiving an amended surveillance procedure date and others have been removed from the waiting list.
- 63 The updated referral form only permits referrals for USC patients or urgent referrals. Routine referrals are made via clinical letter following use of the algorithm. Through the above changes, the health board is seeking to reduce waiting times for urgent patients to two weeks and routine patients to eight weeks.

Decision to treat



Lifestyle management/optimising outcomes policies

- 64 Based on recognised clinical risks of post-operative complications for overweight patients or smokers, a number of health boards have introduced policies that require patients to engage with weight loss or smoking cessation programmes prior to being placed on a waiting list for elective surgery. Cardiff and Vale University Health Board has introduced an Optimising Outcomes Policy for patients who have a BMI over 40 and/or smoke. Patients are required to attend and complete smoking cessation sessions and/or weight management sessions prior to elective surgery. Betsi Cadwaladr University Health Board has introduced a Lifestyle Management Policy for patients with a BMI over 35 who require either hip or knee surgery. The programme will be formally evaluated by the University of Bangor.

[Read Cardiff and Vale University Health Board's Optimising Outcomes Policy.](#)

[Read more about the Lifestyle Management Policy on the Betsi Cadwaladr University Health Board website.](#)

Making Good decisions In Collaboration programme – implementing shared decision making into clinical practice

- 65 The Making Good decisions In Collaboration (MAGIC) programme implements shared decision making into clinical practice. Shared decision making is defined as 'a process whereby a patient (expert in their own life) and a clinician (expert in evidence-based care) communicate together to make a decision', for example:
- a when undergoing a screening, a diagnostic test or a medical/surgical procedure;
 - b when choosing between different types of medication; and
 - c when attempting a lifestyle change.
- 66 A review by the Cochrane Collaboration found that 86 trials which evaluated shared decision-making tools in 35 screen or treatment decisions found that the use of such tools led to:
- a greater participation in decision making;
 - b greater knowledge;
 - c more accurate risk perception;
 - d greater comfort with decisions;
 - e fewer people remaining undecided; and
 - f fewer patients choosing major surgery.

- 67 The programme has been implemented with a number of specialties across Cardiff and Vale University Health Board. Training was provided to the participating teams including measures to capture data and also to develop tools to help patients make decisions. The programme focuses on three questions for patients to ask:
- a What are my options?
 - b What are the possible risks and benefits?
 - c How likely are the benefits and risks of each option to occur?
- 68 The programme has been successful with women with early breast cancer who are faced with decisions between having a mastectomy or wide local excision with radiotherapy. Patients are taken through an option grid with team members who support them to make their decisions by answering questions prompted by the option grid. The health board found that after introducing the programme option grids, patients' readiness to decide and confidence in choice of treatment dramatically improved. The health board found that there was some initial resistance to the implementation of the programme including clinicians feeling that they were already involving patients in decisions and concerns that the process would take too long. The health board reports that the process of shared decision making has since become routine practice in the Breast Unit and patients have reported high levels of satisfaction in being more involved in treatment decisions.

[Read more about the MAGIC programme on the Cardiff and Vale University Health Board website.](#)

Alternatives to surgery

- 69 In 2010, Aneurin Bevan University Health Board introduced lifestyle clinics under the Joint Treatment Programme. The orthopaedic and therapy directorates worked together to identify and introduce alternative non-surgical, evidence-based programmes for patients presenting with degenerative hip or knee conditions for whom lifestyle changes rather than surgery is the preferred option. Target patients include patients with a high BMI (over 35) and low-grade joint degeneration where an alternative to surgery is an option. The programmes currently include:
- a 'Slim for Life' weight management education programme led by the dietetic service; and
 - b National Exercise on Referral Services delivered by local authority exercise specialists.
- 70 A further individual joint-specific physiotherapy management programme is currently being developed.

- 71 Patients were initially recruited at the pre-operative assessment clinic stage by mutual consent of the patient and consultant. Identified patients are assessed by a specialist orthopaedic physiotherapist and referred on as appropriate. An evaluation carried out by the health board found that 83 per cent of participants lost weight at the end of the first eight sessions with an approximate weight loss of 0.5kgs per week. Eighty-seven per cent had sustained weight loss at six months, with an average loss of seven per cent.
- 72 Work undertaken for the National Orthopaedic Innovation and Delivery Board based on experience in Aneurin Bevan University Health Board has suggested that a comprehensive weight management, structure exercise and joint-specific exercise programme can be provided at around £240 per patient. The average cost of a hip replacement in Wales is £9,600 and a knee replacement £8,400. Modelling for the National Orthopaedic Innovation and Delivery Board suggested that comprehensive weight loss and exercise programmes as an alternative to surgery could lead to all-Wales savings of between £8.4 million and £10.5 million.

Pre-admission



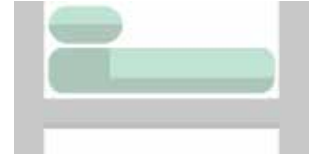
Ensuring timely pre-operative tests at Aneurin Bevan University Health Board

- 73 Pre-admission tests for foot and ankle surgery at Ysbyty Ystrad Fawr include taking swabs from patients for MRSA. Those swabs last 28 days but increasingly the time between pre-operative assessments and surgical dates was beyond 28 days. There was, therefore, a considerable level of duplication of MRSA swabs which were estimated to cost £40 per patient to process excluding nurse time.
- 74 The team working on the assessments reviewed the costs for one year and decided that there was a need to change the process for MRSA swab tests. The solution that was found was swabs-to-go packets that the patient received at the pre-admission tests to take home. Patients then use the swab tests when they receive their confirmed date for their operation or can visit their GP who can conduct the test. The costs of processing the swabs are retained by the secondary care team. The health board reports that patients have responded well to the change in process, are less inconvenienced by repeated tests and are happy to take ownership of their treatment.

[Read more about the project on the Aneurin Bevan Continuous Improvement Team blog \(7 August 2014 entry\).](#)

Detailed root-cause analysis to improve day-of-surgery admission

- 75 Many health boards are seeking to increase the proportion of day-of-surgery admissions (DOSAs) thus reducing the number of patients who require a hospital bed on the night before surgery. At Aneurin Bevan University Health Board, the Aneurin Bevan Continuous Improvement (ABCi) Team was asked to increase the efficiency of the DOSA ward. The ABCi Team used a range of methods to build up a detailed picture of the constraints in the system and how patients actually use the services. The methods included detailed analysis of cancellations, shadowing staff, observation of patient behaviour as they attended the ward, and analysis of patient flow through the system. Its detailed work identified that the data staff used was inconsistent and hampered their understanding of daily patient flow. The team also studied how emergency patients admitted onto the DOSA ward affect the flow of patients and overall capacity of the ward. The team reviewed how the ward plans to flex its capacity to respond to known patterns of patient demand and patient flow across the hospital site as well as how consultant job plans are aligned to actual bed capacity on the ward. The team also spent time observing patients arriving at the ward and the limited physical capacity available. A number of issues were identified through the work of the ABCi Team and the health board reports that it now has a greater insight into the detailed causes of the issues that have been affecting the efficiency of the DOSA ward.



Inpatients

Enhanced recovery after surgery

- 76 The Enhanced Recovery After Surgery (ERAS) programme began in Wales in 2010. The programme seeks to standardise and optimise post-operative care for major surgery (colorectal and joint replacement) using evidence-based practice. Research has shown that the use of ERAS can reduce length of stay by more than 30 per cent and reduce post-operative complications by up to 50 per cent.
- 77 The main goals of the programme are to improve the quality of care to patients, improve patient outcomes after surgery and enable early discharge from hospital. The idea is to follow a set of practices, known as 'care bundles'. These practices have been clinically proven to have the greatest impact on helping patients to recover after surgery. The 'care bundles' cover the whole patient pathway: ensuring that patients are in the best possible condition before surgery as well as providing effective post-operative recovery.
- 78 A national evaluation of the programme in 2013 found some health boards reported a reduction in length of stay of almost 50 per cent and that the reduction was most noticeable for orthopaedic patients. This national evaluation also showed that there was considerable scope for health boards to make more and better use of ERAS across a wider range of surgical specialities.

Discharge boards at Cardiff and Vale University Health Board

- 79 Cardiff and Vale University Health Board introduced board rounds initially in 2012 through the Chief Executive-led Unscheduled Care Taskforce. By October 2014, all surgical wards, most medical wards and some specialist wards held board rounds (23 in total). Board rounds focus on the 'discharge board' which is a large whiteboard displayed in the ward. Members of the multidisciplinary team (including ward clerks, nursing staff, consultants and junior doctors) meet at the discharge board at a set time every day. They consider each patient on the ward and what needs to be done that day for them to progress and whether the patient is medically fit for discharge or not. The meetings last no longer than 20 minutes. While it can be difficult for some consultants to attend the meetings due to their theatre commitments, the health board reports that consultants find the updated information very useful when they do attend the wards. Having a single point of information has helped reduce the time taken to communicate the same information about patients to a number of staff.

- 80 The team also reviews progress against previously agreed actions. Each ward manually records the daily delays and those data sheets are collected centrally on a weekly basis. Work is underway to move towards electronic data capture through the Ward Clinical Workstation system. The Continuous Improvement Team analyses those data and presents each ward, senior managers and clinicians with monitoring data. The Clinical Board Nurse reported that the board rounds mean that all members of staff have the same version of the truth as to the causes of delays. Prior to the introduction of the system, staff knew anecdotally those causes but there was not a robust dataset available.

Introduction of the new system

- 81 The system was trialled on one ward and evaluated. After that, the system was extended to other wards. The health board did not mandate a set format for the board and has allowed each ward to customise the detail for its patients. The health board felt that the energy and commitment of key nursing staff as well as the flexibility of design contributed to the successful introduction of the system.

Outcomes

- 82 There are now evidence-based debates between the multidisciplinary teams based on the board round data. Initially, the data was challenged as being incorrect but that was not the case and it is now accepted. Ward sisters report that their discussions with clinicians have become more focused and shorter as there is greater clarity around the key issues.
- 83 Cardiff and Vale University Health Board has a long-established Integrated Discharge Team which liaises with social services. However, as a result of the board rounds, a new Medical Discharge Team has been created with 2.9 full-time-equivalent members of staff. Funding was sought from the Welsh Government to establish this new team. The role of the team is to use the data collected to identify the constraints that lead to delayed transfers of care and to ensure that learning around those and how to remove those is shared across the wards.
- 84 The health board reports that across a number of wards, the number and length of multidisciplinary team meetings has reduced as the key information is now captured during the board round meetings. Staff have fed back that this has given them greater time to care for patients.
- 85 The health board reports that staff have a better understanding of their internal process and the blockages within those. The data can be used as an aid to reviewing the effectiveness of services, and in some cases, has been used to make the case for increased resourcing. Work is ongoing with various services and teams across the health board to review current processes and resources as a result of the board round data. The health board feels that this will help them to plan more effectively for the future.

- 86 The health board considers that nursing staff feel that they are able to take better-informed decisions as to where patients should be cared for and there has been a reduction in unnecessary movement of patients.
- 87 The health board has also found that staff have an increased understanding of the importance of all processes for a patient and will take greater responsibility for ensuring that they are completed.
- [Read the Cardiff and Vale University Health Board Chief Executive's blog about board rounds.](#)

Megan project in Aneurin Bevan University Health Board

- 88 The Megan project (make every day count) started in September 2012 with 11 different workstreams across five divisions of the health board. Megan is a fictitious patient used to represent patient experience and challenge current ways of working. Megan's name has been associated with a wider campaign to reduce bed days by 100,000. The health board sees this figure as a realistic estimate of the time people currently spend in hospital when they could be at home getting on with their lives. The project aims to provide patient-centred care focused on 'get in and get out safely' and a whole-systems approach to healthcare. The project is based on work undertaken in New Zealand 'Ko Awatea'.
- 89 The Mathematical Modelling Team of ABCi has been working on the project to improve efficiency in one ward (this is now being rolled out in six other wards). Staff analysed how long each stage in the pathway took for a set of patients. They then looked at the causes of delays in order to develop ways to address the barriers. The health board reports that the work led by ABCi has led to reduced length of stay and mortality. The health board plans to link this work to its integrated medium-term plan targets to reduce length of stay. The main focus for the ABCi support staff in 2013 were the pilot wards in both acute and community divisions building on the success seen during the pilot stages of the 'safe timely return home' element of the programme. The modelling team also plans to introduce an end-of-life care workstream including statistical analysis of projected bed days that can be saved as a result.
- [Read more about the Megan project on the 1000 Lives Plus website.](#)
- [View a presentation about the Megan project.](#)

Wales Audit Office

24 Cathedral Road

Cardiff CF11 9LJ

Tel: 029 2032 0500

Fax: 029 2032 0600

Textphone: 029 2032 0660

E-mail: info@wao.gov.uk

Website: www.wao.gov.uk

Swyddfa Archwilio Cymru

24 Heol y Gadeirlan

Caerdydd CF11 9LJ

Ffôn: 029 2032 0500

Ffacs: 029 2032 0600

Ffôn Testun: 029 2032 0660

E-bost: info@wao.gov.uk

Gwefan: www.wao.gov.uk