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A Comparative Picture of Orthopaedic Services

Powys Teaching Health Board

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This report has been prepared on the basis of work done under the Government of Wales Act 1998 and the Public Audit (Wales) Act 2004.

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Contents

	Summary report	4
1	Primary and community based services	12
	Primary care provision	12
	GP referrals	15
	Community musculoskeletal assessment and treatment services	17
2	Outpatients and diagnostic services	20
	Outpatient services	20
	Physiotherapy services	25
	Radiology services	27
3	Inpatient services	30
	Waits and preparation for admission	30
	Admission	34
	During admission	35
	Discharge	36
4	Follow-up and outcomes	39
	Follow-up arrangements	39
	Patient outcomes and experience	40
	Appendices	
	Sources of data	45

Summary report

- 1 In 2013 and 2014, the Auditor General undertook a local mandated review of orthopaedic services across Wales. The review sought to answer the following question: Are orthopaedic services efficient, effective and economical and are they being designed and delivered in a sustainable manner? The findings of that work are set out in the national report **A Review of Orthopaedic Services**.
- 2 As part of the methodology underpinning the review, we collected a range of data to understand the performance of current orthopaedic services within each health board. This report sets out our view of orthopaedic services in Powys Teaching Health Board (the Health Board) based on that data, and our view of how the service compares to the rest of Wales. Where relevant, it also reflects the performance of the main provider health boards in Wales in which Powys patients may receive elective orthopaedic treatment.
- 3 We have based our view on the efficiency, effectiveness and economy of orthopaedic services provided by the Health Board using the patient pathway. Data is taken from a range of sources set out in **Appendix 1**, and the data used is the most recently available data at the point of reporting. The findings from the data analysis are set out in the main body of this report but the high-level messages are set out in **Exhibit 1**. **Exhibit 2** is a summary assessment that uses a traffic light rating to show how the Health Board compares with the rest of Wales on each indicator, and where applicable, Welsh Government targets.

Exhibit 1: High-level messages

Although there is some scope to improve efficiency, orthopaedic services provided by the Health Board generally perform well but there is variation in the provision of its commissioned orthopaedic services by its main Welsh health board providers:

- There is a positive level of investment in primary care services, a good range of community based services available to GPs and low referral rates although there is scope to strengthen the Clinical Musculoskeletal Assessment and Treatment Services (CMATS) to reduce referrals even further.
- Outpatient and physiotherapy services are generally meeting demand, although waits for radiology have been problematic, outpatient cancellation rates could be improved and there is scope to extend physiotherapy services into primary care settings.
- The provision of inpatient care by the main Welsh secondary care providers varies; however, surgery undertaken in the Health Board is generally efficient although there is scope to improve theatre utilisation.
- Patients are followed up although they can experience different outcomes depending on where they receive care.

Exhibit 2: Summary assessment

Primary and community based services		
Indicator	Health board performance	Performance rating
Has the Health Board invested in primary care provision?		
Increased investment in primary care musculoskeletal provision	Spend on primary care provision for musculoskeletal problems has increased by 34 per cent between 2010 and 2013.	
Total spend on primary care provision	Average spend per head of population on primary care is above the all-Wales average at £15.50 and the second highest in Wales.	
Proportion of total musculoskeletal spend allocated to primary care	The proportion of total spend on primary care is the highest across Wales at 17.1 per cent.	
Range of community based services available to GPs	The range of community based services available to GPs compares well to other health boards.	
Receipt of alternative intervention prior to surgery	The extent to which patients receive alternative intervention prior to surgery is low.	
Is demand for secondary care services managed?		
GP referral rate	The rate of GP referrals per 100,000 head of population is the lowest in Wales.	
Trend in referrals	The trend in GP referrals is relatively constant, with some fluctuation linked with periods of bad weather.	
Is the CMATS operating effectively?		
CMATS in place	The Health Board has introduced CMATS in each of the localities.	
CMATS operational arrangements	CMATS do not comply with the key Welsh Government principles with no medical involvement, no direct access to diagnostics and only acting as a gateway to all GP referrals in the south locality.	

Primary and community based services		
Indicator	Health board performance	Performance rating
CMATS staffing levels	The level of staff per 1,000 GP referrals compares better than many other teams, although actual numbers of staff are small and make the service vulnerable.	
Patients treated by CMATS	The Health Board was unable to report the proportion of patients treated by CMATS.	-
Waiting times for face-to-face assessment by CMATS	The wait from referral to face-to-face assessment by CMATS is between two and six weeks, although waits are included in referral to treatment times, which is contrary to Welsh Government guidance.	

Outpatient and diagnostic services		
Indicator	Health board performance	Performance rating
Are outpatient services effective?		
Waits for first outpatient appointment	The percentage of patients waiting more than 26 weeks for first outpatient appointment is significantly lower than the all-Wales average, with very few patients waiting more than 26 weeks.	
Consultant outpatient sessions	The Health Board does not directly employ any orthopaedic consultant staff.	-
Cancelled outpatient clinics	The proportion of outpatient clinics cancelled is 15 per cent. This rate varies across clinic sites, the lowest being around nine per cent at Brecon hospital. There is no comparison available.	
New to follow-up ratios	The ratio of follow-up to new appointments in the Health Board was the lowest across Wales at 0.7 and well within the Welsh Government target of 1.9.	

Outpatient and diagnostic services		
Indicator	Health board performance	Performance rating
Did Not Attend (DNA) rates	The DNA rates for both new and follow-up outpatient appointments are the lowest across Wales at 2.0 per cent and 3.8 per cent respectively.	
Patient cancellations	The patient cancellation rate is high at 12.5 per cent and 15.7 per cent for new and follow-up appointments respectively.	
Co-ordination of visits	Fourteen out of 15 patients (93 per cent) felt that the respective secondary care provider tried to co-ordinate the number of visits that they needed to make. This is the highest response across Wales.	
Cost per outpatient attendance	The cost per outpatient attendance is the second lowest in Wales at £89.86 per outpatient attendance.	
Are physiotherapy services able to meet demand?		
Waits for physiotherapy services	The percentage of patients waiting less than eight weeks is higher than the all-Wales average and very few patients, if any, wait more than 14 weeks.	
Range of settings	Physiotherapy services are provided in a range of primary and community settings.	
Ease of access	Patients are able to self-refer directly to the physiotherapy service.	
Availability of services	The provision of outpatient physiotherapy services remains, in the main, a traditional five-day service.	

Outpatient and diagnostic services		
Indicator	Health board performance	Performance rating
Are radiology services able to meet demand?		
Waits for all radiology tests	Waits for radiology have been consistently better than the all-Wales average, although there were periods of increased delay for GP referrals.	
MRI referral rates	As the Health Board does not have MRI provision, we are not able to understand the extent to which GPs and consultants are requesting MRI scans.	-
Waits for MRI scans	The Health Board does not provide MRI services; however, waits experienced by Powys residents vary depending on which secondary care provider they are referred to.	

Inpatient services		
Indicator	Health board performance	Performance rating
Is there evidence that arrangements relating to surgical procedures are effective?		
Pre-operative assessment arrangements	Pre-operative assessment arrangements are in place for orthopaedic surgery undertaken in Powys.	
Receipt of pre-operative assessment	All patients undergoing knee replacement surgery received pre-operative assessment from the respective secondary care providers.	
Procedures of limited clinical effectiveness	The rate of procedures of limited clinical effectiveness is low across the Health Board, and the second lowest in Wales.	
British Association of Day Surgery (BADS) day-case rates	All procedures undertaken in the Health Board are carried out on a day-case basis.	

Inpatient services		
Indicator	Health board performance	Performance rating
Implementation of 'joint school' ¹	The Health Board is reliant on its secondary care providers to provide a 'joint school'. The availability of a 'joint school' varies by secondary care provider.	
Waits for surgery	The percentage of patients waiting more than 26 weeks for admission is consistently lower than the all-Wales average.	
Is bed capacity used effectively?		
Day of surgery admission	All patients are admitted on the day of surgery.	
Reduction in inpatient beds	There are no inpatient beds for orthopaedics in the Health Board.	Descriptor indicator
Bed occupancy	There are no inpatient beds for orthopaedics in the Health Board.	-
Is operating theatre capacity used effectively?		
Theatre utilisation	Performance ranges between 70 and 100 per cent across the two surgical sites. This compares to the Welsh Government target of 95 per cent.	
Cancelled operations	The rate of cancelled operations made by the Health Board was 2.5 per cent, compared with the Welsh Government target of two per cent. This ranges from one per cent in Brecon hospital to six per cent in Llandrindod Wells hospital. There is no comparison available.	

¹ Joint schools provide educational sessions for patients undergoing orthopaedic surgery including an opportunity for patients to practice physiotherapy exercises and techniques that will be required post-operatively.

Inpatient services		
Indicator	Health board performance	Performance rating
Is length of stay kept to a minimum?		
Average length of stay for elective orthopaedic admissions	All elective orthopaedic patients treated in the Health Board are day cases. The average length of stay for Powys residents treated elsewhere varies by secondary care provider.	
Average length of stay for hip and knee replacements	The Health Board commissions joint replacement surgery from its neighbouring secondary care providers. The average length of stay for Powys residents treated elsewhere varies by secondary care provider.	
Cost per inpatient episode	Average cost of an elective orthopaedic hospital episode in the Health Board is the lowest in Wales at £451.	
Prosthetic cost per inpatient episode	Due to the type of orthopaedic activity undertaken in the Health Board, it does not incur costs associated with prosthetics.	-
Cost per day case	The cost of an elective orthopaedic day case is the lowest in Wales at £681.	
Cost per inpatient bed day	The cost of an elective inpatient bed day is the lowest in Wales at £451.	

Follow-up and outcomes		
Indicator	Health board performance	Performance rating
Are patients followed up?		
Follow-up appointment	All patients undergoing knee replacement surgery received a follow-up appointment post-discharge from the respective provider sites.	
Follow-up appointment within recommended timescales	All patients undergoing knee replacement surgery received a follow-up within six weeks and three months after discharge.	
Are adverse complications avoided and the benefits of surgery optimised?		
Surgical Site Infections (SSIs) for hip and knee replacements	The rate of SSIs varies by secondary care provider, with performance generally above the Welsh Government target of zero per cent.	
Readmission rates for hip and knee replacements	Readmission rates vary by secondary care provider, with performance both above and below the Welsh Government targets.	
Mortality rates for elective orthopaedic patients	No patients died following elective orthopaedic treatment in the Health Board, although mortality rates following elective orthopaedic surgery vary across the secondary care providers with performance better in Hywel Dda University Health Board.	
Revision rates	The rate of revision for hips and knees amongst Powys residents is below the all-Wales average.	
Improvement of symptoms	Seventy-three per cent of Powys patients reported that their symptoms had partially or significantly improved following knee replacement surgery. This is the second lowest in Wales.	

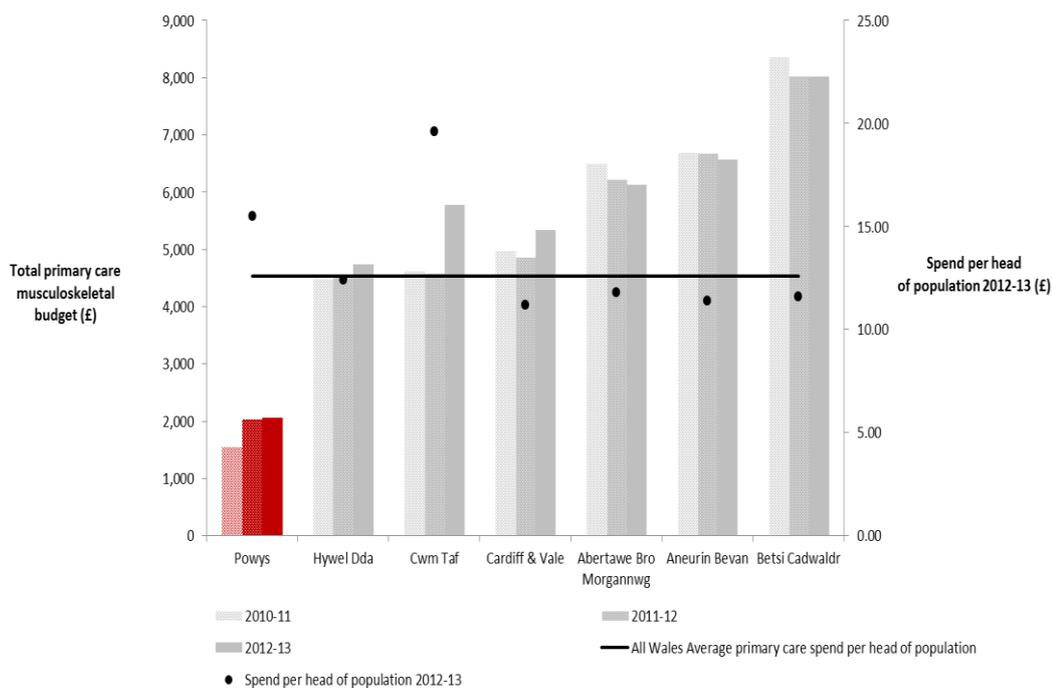
Part 1

1 Primary and community based services

Primary care provision

1.1 Between 2010 and 2013, the Health Board was only one of two health boards across Wales to increase primary care spend on musculoskeletal services, with an overall increase of 34.7 per cent (Exhibit 3). In 2013, the Health Board spend per head of population on primary care musculoskeletal services was above the all-Wales average at £15.50 (Exhibit 3).

Exhibit 3: Musculoskeletal programme budget spend on primary care between 2010 and 2013



Source: Stats Wales

1.2 The proportion of total musculoskeletal monies spent on primary care was one of the lowest in Wales in 2010-11 (Exhibit 4). Since then it increased considerably, and by 2012-13 was the highest across Wales, accounting for 17.1 per cent of total expenditure. This compares against an all-Wales average of 11.2 per cent. The Health Board's position suggests that investment in musculoskeletal services has shifted in focus towards primary care rather than secondary care provision. This is likely to have been influenced by the Health Board's focus on repatriating patients back into the community.

Exhibit 4: Proportion of musculoskeletal programme budget spent on primary care between 2010-11 and 2012-13

Health board	% of MSK programme budget spent on primary care		
	2010-11	2011-12	2012-13
Abertawe Bro Morgannwg	11.3	9.8	10.8
Aneurin Bevan	10.2	10.2	9.7
Betsi Cadwaladr	10.7	9.3	9.9
Cardiff and Vale	11.9	10.6	12.0
Cwm Taf	16.0	15.1	15.4
Hywel Dda	9.3	9.0	10.3
Powys Teaching	9.9	14.0	17.1
All Wales	11.1	10.4	11.2

Source: Stats Wales

1.3 As part of our work, we reviewed the level of direct access by GPs to primary and community based services, which could prevent an unnecessary referral to secondary care orthopaedic services. This would include such services as community pain services, self-management programmes, community based lifestyle programmes, community physiotherapy and chiropractic therapy. The Health Board reported having a number of services in place, which allow direct access by GPs, although there is scope to consider the option of developing a GP with specialist interest and the opportunities presented through enhanced services (Exhibit 5).

Exhibit 5: GP direct access to primary and community based services

	Abertawe Bro Morgannwg	Aneurin Bevan	Betsi Cadwaladr	Cardiff and Vale	Cwm Taf	Hywel Dda	Powys
Physiotherapy	✓	✓	✓	✓	✓	-	✓
Extended role physiotherapist	✓	✓		✓	✓	-	✓
Community pain service	✓			✓	✓	-	✓
GP with special interest in orthopaedic conditions/ complaints	✓	✓	✓	✓		-	
Enhanced services relevant to orthopaedic conditions/ complaints		In part				-	
Enhanced access to diagnostics		✓	In part			-	✓
Chiropractic therapy						-	
Community based lifestyle/ weight-loss programmes		✓	✓	✓	✓	-	✓
Self-management programmes	✓					-	

Source: Wales Audit Office Health Board Survey

Note: No data was provided by Hywel Dda University Health Board

1.4 As part of our Survey of Patients Undergoing Knee Replacement Surgery, we asked patients whether they had received a range of alternative interventions prior to receiving surgery. Patients from Powys generally received less alternative intervention than the all-Wales average with no patients receiving weight management advice or exercise programmes, and very few receiving physiotherapy advice ([Exhibit 6](#)).

Exhibit 6: Percentage of patients who received alternative intervention prior to knee replacement surgery

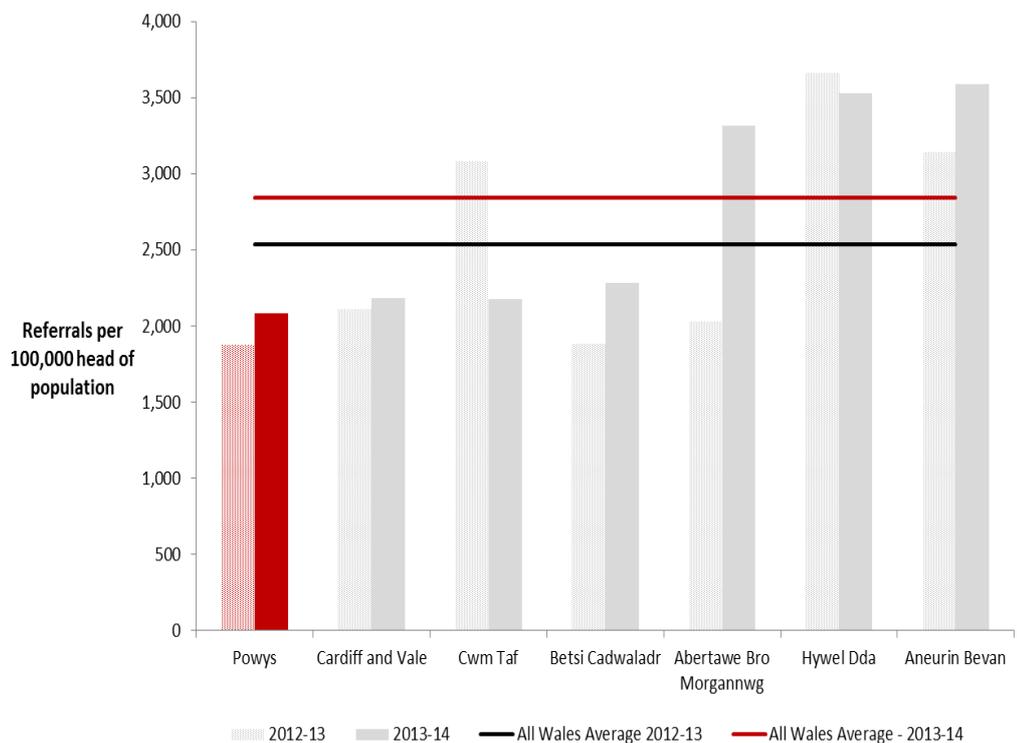
	Powys	All-Wales average
Percentage of patients receiving pain relief before surgery	66.7	74.9
Percentage of patients receiving physiotherapy advice or treatment before surgery	6.7	26.1
Percentage of patients receiving an exercise programme before surgery	-	23.4
Percentage of patients receiving weight management advice before surgery	-	9.1

Source: Wales Audit Office Survey of Patients Undergoing Knee Replacement Surgery

GP referrals

1.5 Despite a slight rise in the rate of referrals since 2012-13, the Health Board has the lowest rate of GP referrals for orthopaedics per 100,000 head of population in Wales ([Exhibit 7](#)). The proportion of residents aged 65 and over, however, is one of the highest in Wales. Typically, this age group places the greatest demand on orthopaedic services; however, the low referral rate in Powys would suggest that this is not the case.

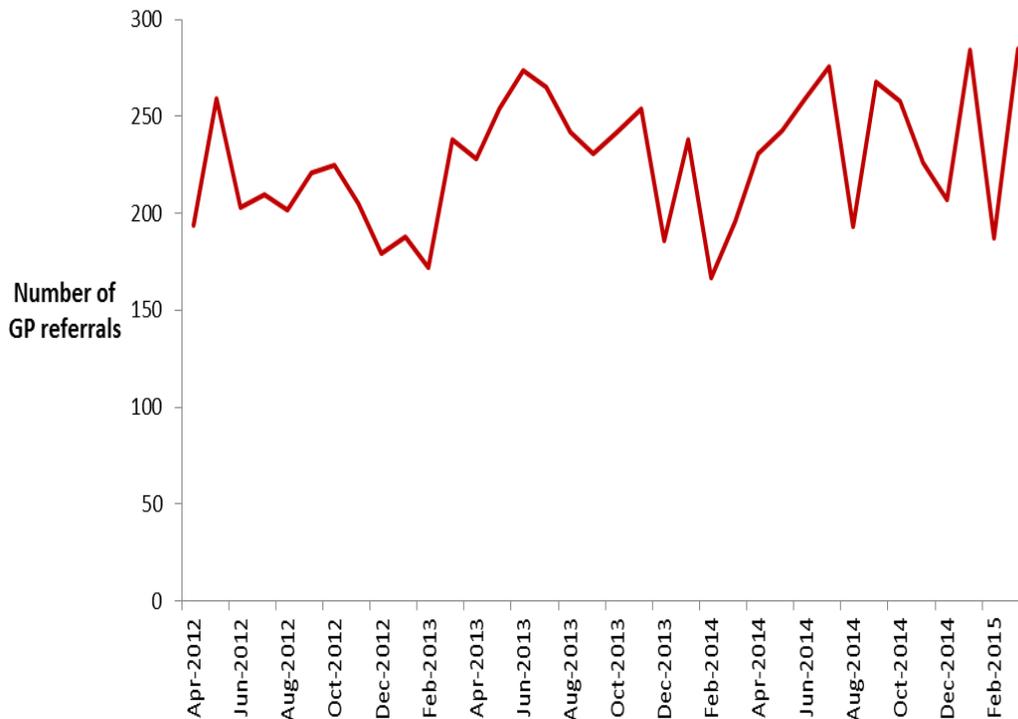
Exhibit 7: GP referrals per 100,000 head of population 2012-2014



Source: Stats Wales

1.6 The number of GP referrals into orthopaedic services has fluctuated over the last two years, with an average of 222 GP referrals received per calendar month (Exhibit 8). The rate of referrals appears to drop during the winter period, which may reflect the poor weather experienced across Powys during the winters of both 2012 and 2013 and the associated difficulties that patients may have faced in accessing GP services. The Health Board reported having mechanisms in place to monitor GP referral patterns at GP, practice and locality level, which is recognised as good practice.

Exhibit 8: Number of GP referrals received April 2012 – March 2015



Source: Stats Wales

Community musculoskeletal assessment and treatment services

- 1.7 In 2012, the Welsh Government introduced the concept of the CMATS. The aim of the CMATS is to provide a first point of contact for GP referrals for assessment and treatment of musculoskeletal-related pain and conditions as a way of ensuring that the right referrals for orthopaedic services are filtering through to secondary care. The Health Board introduced the basis of CMATS in 2011 in the mid locality, and in 2012, in the north and south localities.
- 1.8 The Welsh Government set out clear guidance as to how CMATS should operate. Local compliance with some of the key principles set out in the Welsh Government guidance, however, is variable ([Exhibit 9](#)).

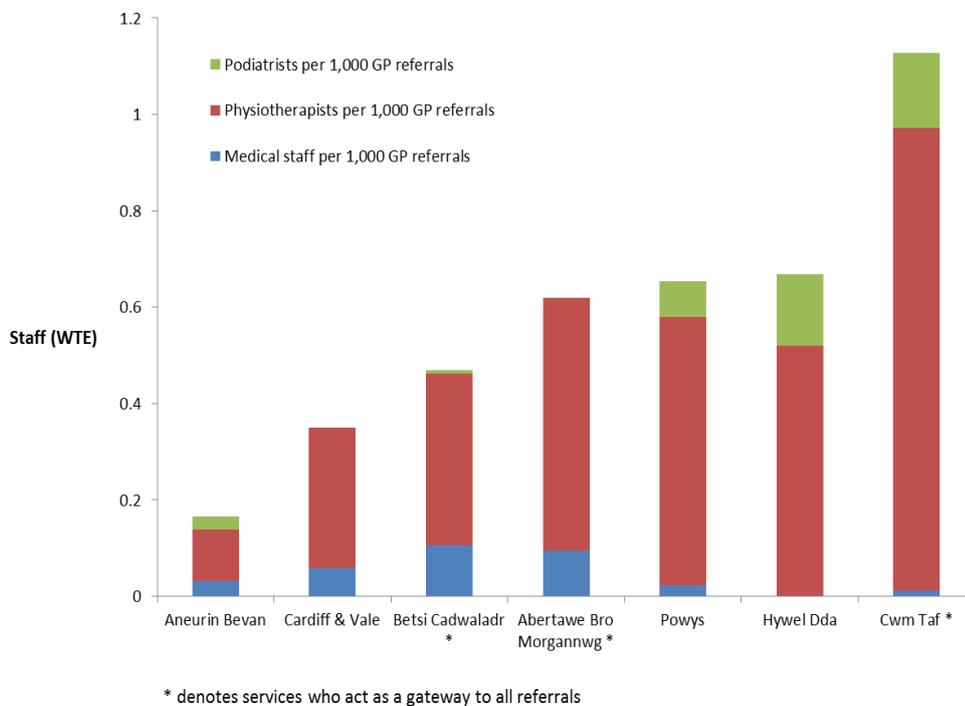
Exhibit 9: Compliance with the key principles set out in the Welsh Government guidance on CMATS

Principle	Compliance by this health board	Number of health boards across Wales complying
Clinics held in a combination of locality and secondary care centres	✓	All except Aneurin Bevan and Cwm Taf
All musculoskeletal referrals (with the exception of specific exclusions) will go to the CMATS	✗	Three (Abertawe Bro Morgannwg, Betsi Cadwaladr and Cwm Taf)
Staff have direct access to diagnostics	✗	All except Powys
The service consists of:		
Advanced practice physiotherapists	✓	All
Advanced practice podiatrists	✓	All except Abertawe Bro Morgannwg and Cardiff and Vale
GPs with knowledge, skills and interest in MSK conditions/ complaints	✗ (Although there is a strong working relationship with visiting orthopaedic consultants)	Four (Abertawe Bro Morgannwg, Aneurin Bevan, Betsi Cadwaladr and Cardiff and Vale)

Source: Wales Audit Office Health Board Survey

1.9 The total staffing level for the CMATS at the Health Board compares better than most other teams across Wales (Exhibit 10). The Health Board's CMATS only act as a gateway to all referrals in south Powys, so will be under less pressure than services with similar staffing levels that do, such as at Abertawe Bro Morgannwg University Health Board. However, given the geographical spread of the Health Board, these staff are based across the different localities and it is likely that there are variances in staffing levels per 1,000 referrals at a locality level. Locality staffing information would indicate that only podiatry resources are available in the mid locality, and although the total level of staff per 1,000 referrals is positive, the actual Whole-Time Equivalent (WTE) is extremely low with total staffing levels in the south locality, for example, at just 0.1 WTE. This makes the CMATS vulnerable across Powys as they are predominantly staffed by one or two members of staff in each locality as an additional responsibility to the main role. Should those staff be absent from work, the CMATS would not function.

Exhibit 10: CMATS staffing levels



Source: Wales Audit Office Health Board Survey

1.10 One of the principles of CMATS is to assess, diagnose and treat patients whose treatment is applicable to the specialists within CMATS and where it is deemed possible that the patient can be seen and treated in a maximum of two visits ('face-to-face assessments'). Those patients who need treatment that is more intensive should be referred on to more appropriate services at the point of referral. The Health Board was unable to report the percentage of patients receiving a face-to-face assessment. Across the Health Board localities, waiting times to see the CMATS for a face-to-face assessment are included in the referral to treatment pathway. This is contrary to Welsh Government guidance. The average wait from referral to face-to-face CMATs assessment at the Health Board is stated as four weeks. This is well within the Welsh Government target of eight weeks.

Part 2

2 Outpatients and diagnostic services

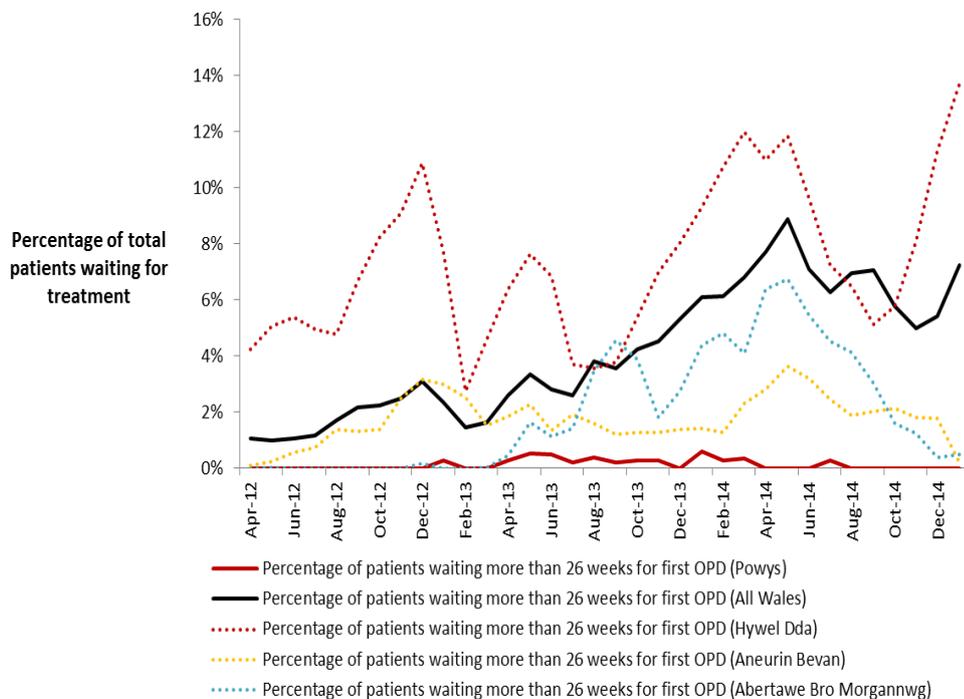
Outpatient services

- 2.1 In order to meet the Welsh Government target of 95 per cent of patients treated within 26 weeks of referrals, health boards should be working to an internal target of between 12 to 14 weeks for first outpatient appointment. For patients seen in Powys hospitals, the Health Board is currently working to an internal target of 14 weeks for first appointment. The percentage of patients waiting more than 26 weeks for their first outpatient appointment at the Health Board for a long period of time was zero, although since January 2013, there had been a small number of patients waiting more than 26 weeks ([Exhibit 11](#)). Since August 2014, no patient has waited more than 26 weeks.
- 2.2 Many patients in Powys will receive their first outpatient appointment in one of the surrounding district general hospitals in the neighbouring health boards or English trusts. We do not have the information relating to the number of patients waiting more than 18 weeks in England². The percentage of patients waiting more than 26 weeks in the health boards that provide the majority of orthopaedic services to the population of Powys, however, is variable, with the proportion waiting more than 26 weeks³ the greatest in Hywel Dda University Health Board ([Exhibit 11](#)).

² NHS England waiting time target for referral through to treatment is 18 weeks.

³ Waits relate to all patients treated in these health boards and not just Powys residents.

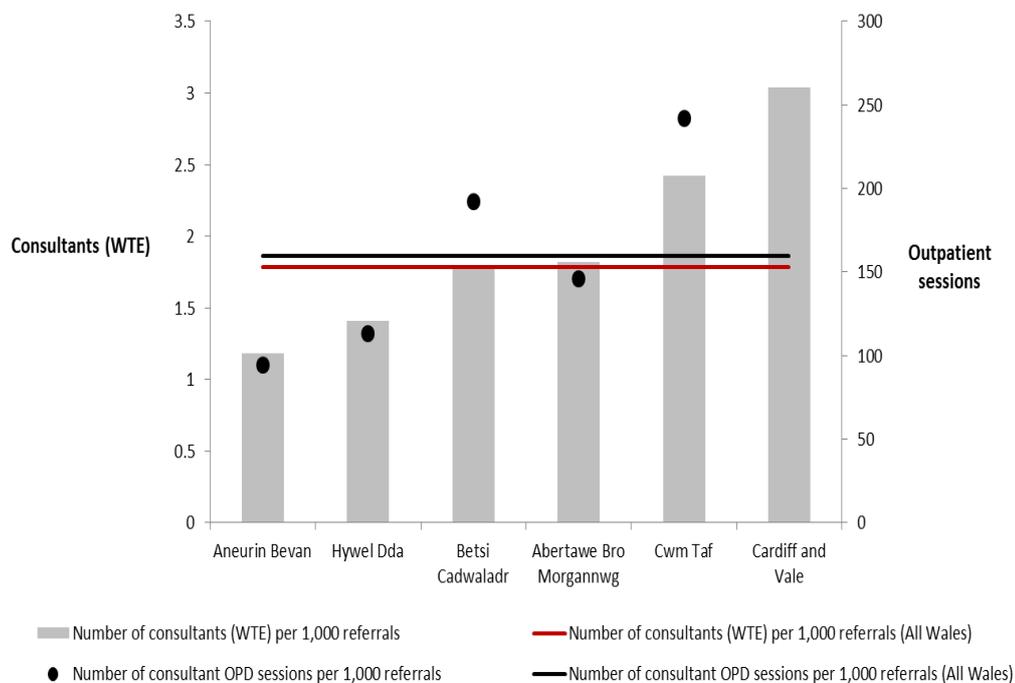
Exhibit 11: Percentage of patients waiting more than 26 weeks for first outpatient appointment



Source: Welsh Government Delivery Unit

2.3 The ability to meet outpatient demand is dependent on the extent to which health boards have the right level of medical staffing. Within the consultant capacity, it is also important to consider whether there is an appropriate balance within individual job plans between outpatient direct clinical care sessions and theatres. The number of consultants per 1,000 referrals and the number of consultant sessions dedicated to outpatient activity vary considerably across Wales (Exhibit 12). As the Health Board does not directly employ consultants, there is no comparative position for Powys.

Exhibit 12: Consultant staffing and outpatient sessions per 1,000 referrals for 2013-14

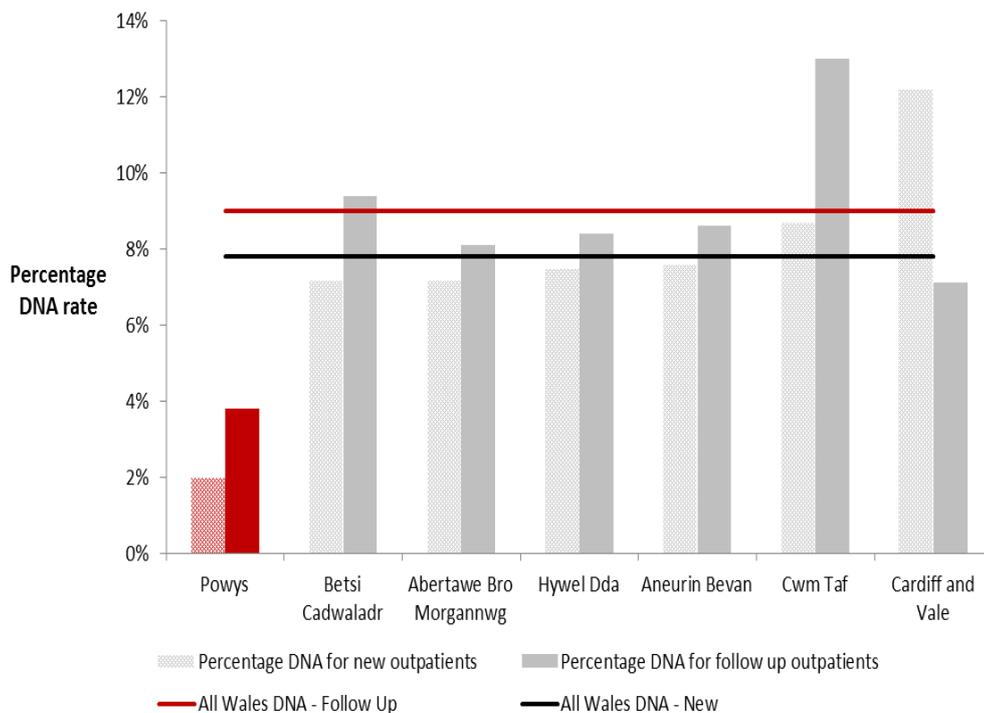


Source: Stats Wales and Wales Audit Office Health Board Survey

- 2.4 Once an outpatient session is planned, it is important that those sessions be maintained as cancelling a clinic creates additional pressures within the system, as it is still obliged to treat patients within 26 weeks. The Health Board told us that the rate of cancelled outpatient clinics for 2012-13 was around 15 per cent. This rate varied across clinic sites, the lowest being around nine per cent at Brecon hospital. Many health boards are unable to report this data and therefore there is no comparison available.
- 2.5 Clinics consist of a mix of new and follow-up appointments based on demand for the service. Some patients may require follow-up appointments before professionals can make a clinical decision, while for other patients a single visit to outpatients is sufficient. Some patients who require follow-up appointments do not necessarily need to be seen by a doctor, or to be seen in the hospital setting. It is therefore important that patients are asked to return only when necessary and to the appropriate setting. This will help to avoid unnecessary follow-up attendances, which could displace patients who urgently need first appointments.

- 2.6 For the period 2013-14, the ratio of follow-up to new appointments in the Health Board was the lowest across Wales at 0.7 follow-up appointments to every new appointment. This was well within the previous Welsh Government target of 1.9 and is good practice; however, this may also reflect clinical practices whereby some follow-up appointments are seen outside of the Health Board ie, in the main secondary care provider site and therefore the follow-up activity would not be recorded as Powys activity. In contrast, some patients may receive their follow-up appointment in Powys, having received their initial treatment outside of the Health Board but these are classed as new appointments. The ratio of follow-up to new appointments in the main Welsh health board providers is variable with the follow-up ratio at Aneurin Bevan University Health Board above the Welsh Government target at 2.2 follow-up appointments to every new appointment. Follow-up ratios at both Abertawe Bro Morgannwg and Hywel Dda University health boards were below the Welsh Government target at 1.7 to 1, and 1.6 to 1 respectively.
- 2.7 Changes to the provision of outpatient services can help to reduce the number of times patients have to come to hospital. This could include hot clinics, or virtual clinics whereby patients are consulted with using modern technology. In our survey of patients who underwent knee replacement surgery, 14 out of 15 patients (93 per cent) from Powys felt that the respective secondary care provider tried to co-ordinate the number of visits that they needed to make. This was one of the most positive responses across Wales, which may reflect the distances that patients need to travel to receive secondary care provision and therefore the increased focus on making sure that patients do not travel unnecessarily.
- 2.8 The DNA rate and patient cancellation rate can provide an indication as to whether appointments are appropriate. The DNA rate for both new and follow-up outpatient appointments in the Health Board are the lowest across Wales at 2.0 per cent and 3.8 per cent respectively. This performance is within the Welsh Government target of five per cent for new appointments and seven per cent for follow-up appointments (**Exhibit 13**). Through the Health Board Survey, the Health Board reported that the rates of patient cancellation for new and follow-up orthopaedic outpatient appointments, however, are both high at 12.5 per cent and 15.7 per cent respectively. Not all health boards were able to report orthopaedic cancellation rates and therefore there is no comparison available.

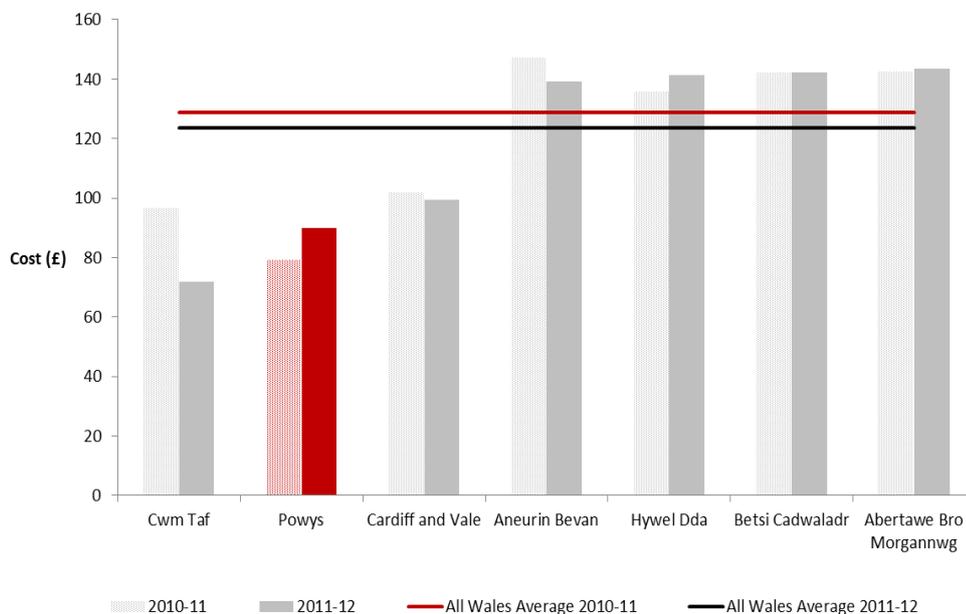
Exhibit 13: DNA rates for new and follow-up outpatients 2013-14



Source: Stats Wales

2.9 Using financial information submitted by the Health Board to the Welsh Government on an annual basis, we identified that the cost of an orthopaedic outpatient attendance in the Health Board was the second lowest across Wales in 2011-12 (Exhibit 14) at £89.86, but had increased by 13 per cent on the previous year. The level of activity that goes through the outpatient departments will influence the cost of an outpatient attendance, although other costs associated with staff and equipment will also be important factors.

Exhibit 14: Cost of an orthopaedic outpatient attendance for 2010-11 and 2011-12

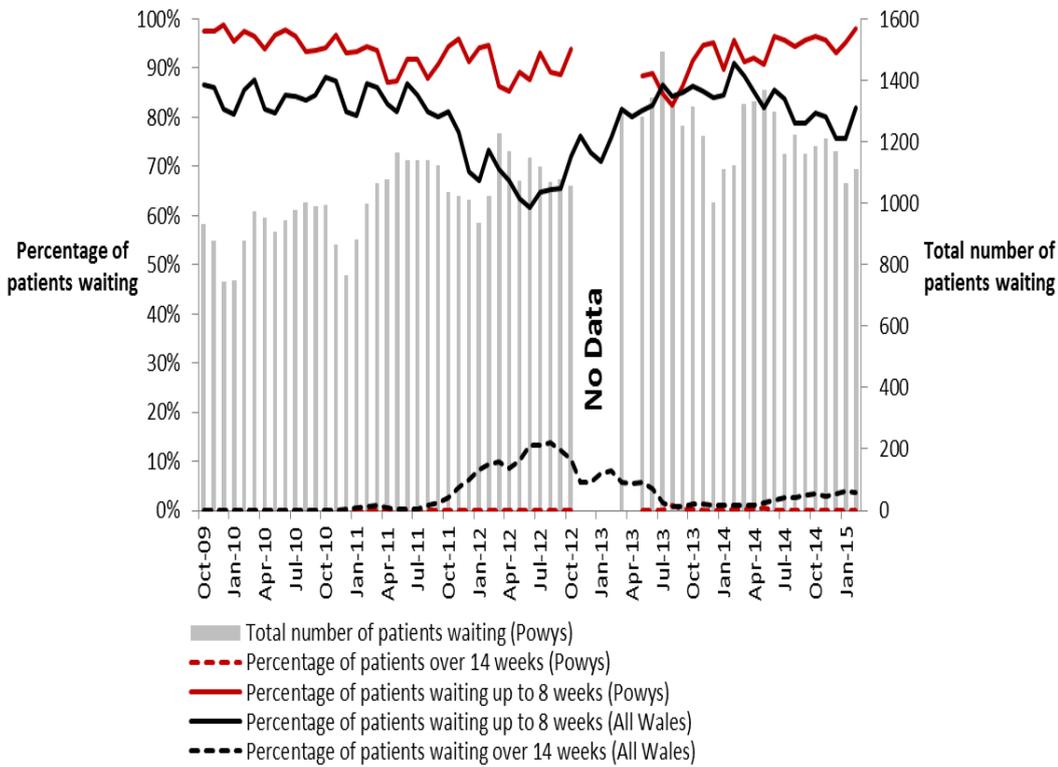


Source: Welsh costing returns

Physiotherapy services

- 2.10 The Health Board generally sees patients requiring physiotherapy to treat musculoskeletal problems quicker than in other parts of Wales, with the percentage of patients waiting less than eight weeks averaged around 94 per cent compared to the all-Wales performance of 86 per cent between January 2014 and February 2015 (Exhibit 15).
- 2.11 The Welsh Government target is that no patient should wait more than 14 weeks for therapy services. Less than 0.2 per cent of patients wait more than 14 weeks in the Health Board (Exhibit 15) which reflects good performance against the all-Wales average of 2.1 per cent. Physiotherapy waits had been more problematic in Brecon hospital with just under four per cent of patients waiting more than 14 weeks in August 2013, although these have since improved.

Exhibit 15: Waiting times for physiotherapy (adults)



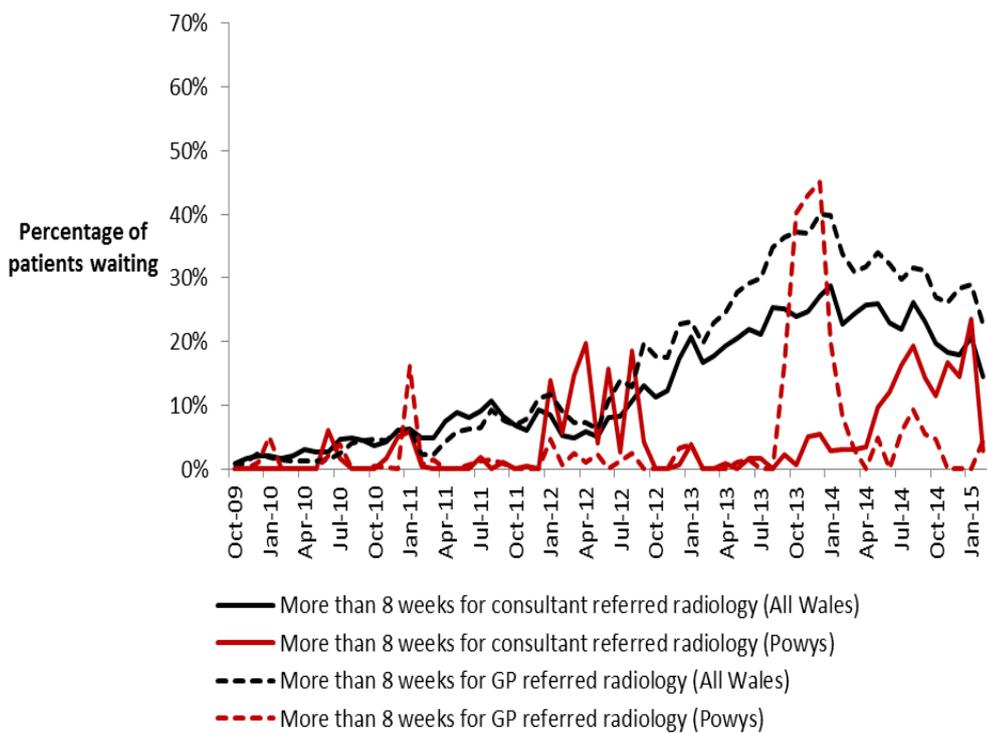
Source: Stats Wales

2.12 Outpatient physiotherapy services are provided in many of the Health Board’s community hospitals, along with a number of GP surgeries. The Health Board has recently introduced a self-referral service, which allows patients to contact the physiotherapy department directly. This reduces the need for patients to be seen by another healthcare professional prior to referral. Where self-referral schemes have been established in other health boards, some physiotherapy services also offer a contact number for advice prior to making a referral. This provides an opportunity to signpost patients to other more appropriate services and reduces some unnecessary waits. In common with the rest of Wales, the provision of physiotherapy services remains, in the main, a traditional five-day service within the working week.

Radiology services

2.13 In the main, patients with musculoskeletal problems will require access to radiological tests. Timely access to all radiology tests requested by GPs and consultants in this Health Board has consistently been better than the all-Wales average, although data indicates periods of increased delay for patients referred to the service by their GP between August 2013 and February 2014 (Exhibit 16). These delays related specifically to Ystradgynlais and Builth Wells. Since December 2013, waits for GP radiology tests are only reported for Ystradgynlais.

Exhibit 16: Percentage of patients waiting more than eight weeks for radiology tests



Source: Stats Wales

2.14 Across Wales, requests for MRI scans in 2013-14 accounted for 23 per cent and 39 per cent of all GP-referred radiology requests and consultant-referred radiology requests respectively. As Powys does not have MRI provision, we are not able to understand the extent to which GPs and consultants are requesting MRI scans.

2.15 An increased rate of demand, particularly for GP-referred MRI scans, can place pressure on health boards' radiology departments. Across Wales, waiting times for MRI scans have increased in recent years, although performance improved in the latter part of 2014. In February 2015, an average of 15 per cent of patients referred by their GP or consultant waited more than eight weeks for their MRI tests (Exhibit 17). Waiting times for the main Welsh health board providers vary, with the greatest waits previously experienced in Hywel Dda University Health Board for both GP and consultant-referred MRI scans.

Exhibit 17: Percentage of patients waiting more than eight weeks for a GP-referred MRI scan

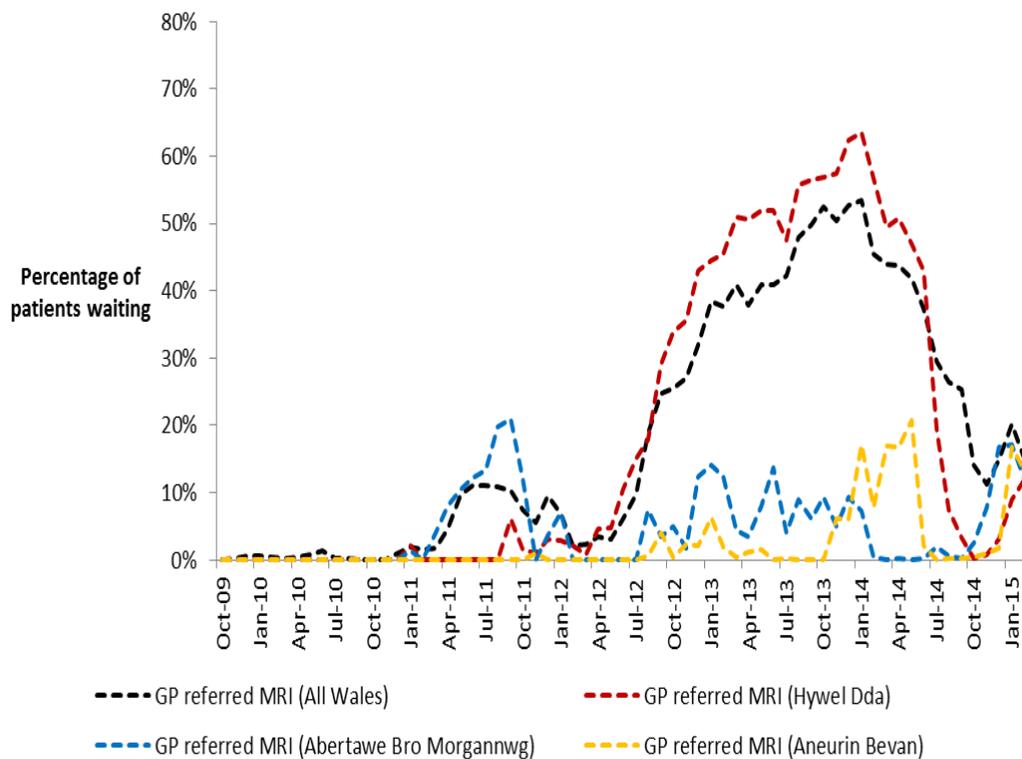
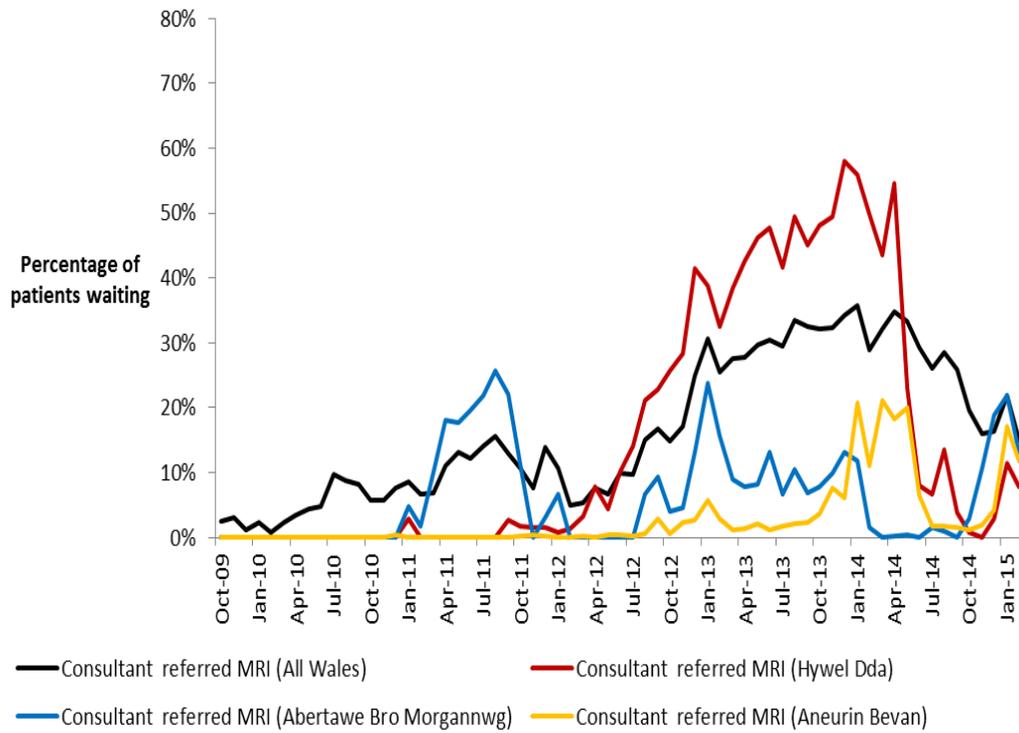


Exhibit 18: Percentage of patients waiting more than eight weeks for a consultant-referred MRI scan



Source: Stats Wales

Part 3

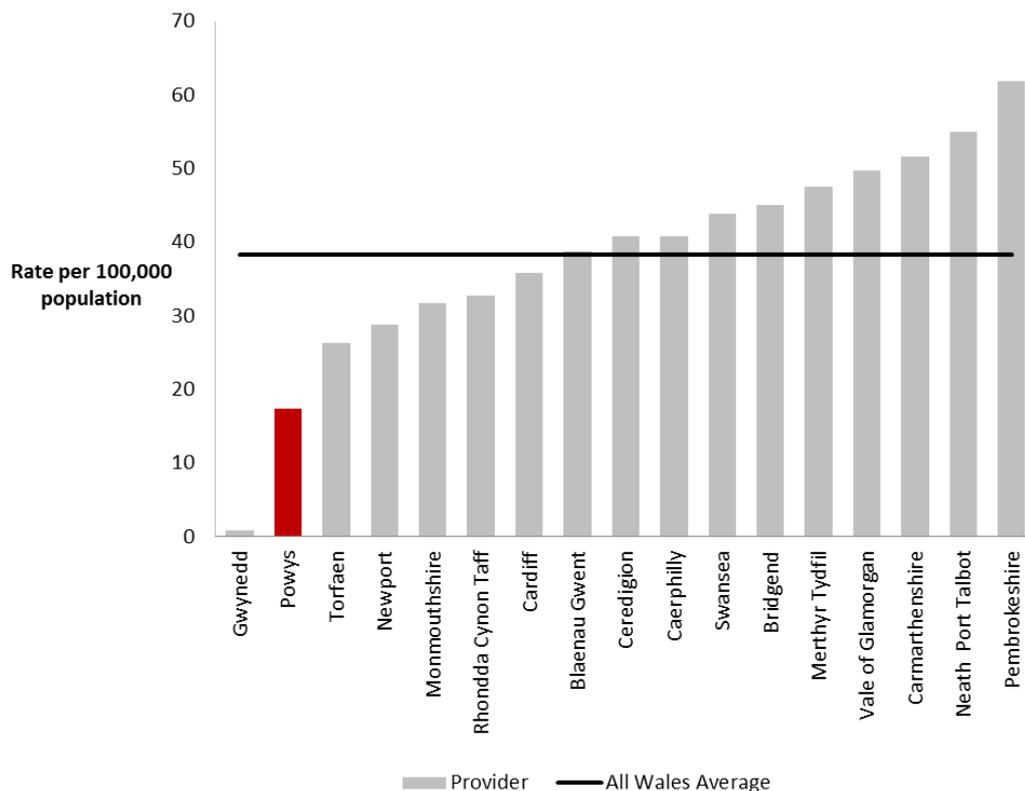
3 Inpatient services

Waits and preparation for admission

- 3.1 Once the clinician has made the decision that the most appropriate course of action to deal with musculoskeletal problems is a surgical intervention, the Health Board should list the patient for surgery and arrange a date for pre-operative assessment to make sure that the patient is clinically fit. Pre-operative assessment arrangements are in place to support orthopaedic day-case activity undertaken in the mid and south localities.
- 3.2 Pre-operative assessment for Powys residents undergoing orthopaedic surgery in one of the main secondary care providers should take place in the respective district general hospital. Our survey of patients undergoing knee replacement identified that all patients received a pre-operative assessment prior to admission. One-fifth of these patients were assessed less than three weeks before surgery, with this performance consistent across the various district general hospitals.
- 3.3 When listing a patient, it is important that the benefits of surgery are considered and that patients are not listed for procedures that research has demonstrated have limited clinical effectiveness⁴. For the period 2012-13, we identified that the rate of procedures of limited clinical effectiveness was low across Powys ([Exhibit 19](#)).

⁴ The procedures reviewed include decompression on lumbar spine, excision of lumbar intervertebral disc, fusion of other joint of spine, extirpation of lesion of spine, biopsy of spine, denervation of spinal facet joint of vertebra and exploration of spine.

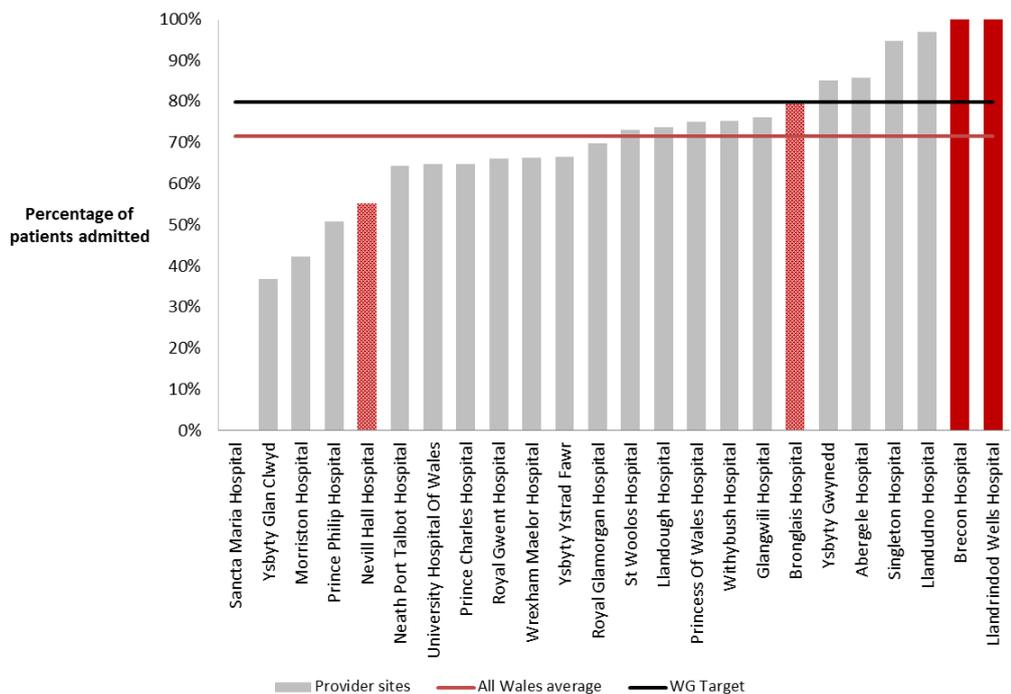
Exhibit 19: Rate of procedures of limited clinical effectiveness per 100,000 head of population 2012-13



Source: Patient Episode Database Wales

3.4 When listing a patient, it is also important that there is consideration of the potential for providing surgery on a day-case basis so that patients are not kept in hospital unnecessarily. The BADS has recommended a number of orthopaedic procedures which are suitable as day case. These have previously formed part of the Welsh Government performance management framework with a target of 80 per cent. For the financial year 2012-13, all orthopaedic procedures undertaken in Brecon and Llandrindod Wells hospitals were undertaken as day cases (Exhibit 20). Performance in a number of the surrounding district general hospitals to which Powys residents would receive orthopaedic treatment, however, is variable. The percentage of recommended procedures undertaken as a day case in Nevill Hall hospital is below the Welsh Government target.

Exhibit 20: Percentage of BADS-recommended orthopaedic procedures undertaken as a day case 2012-13



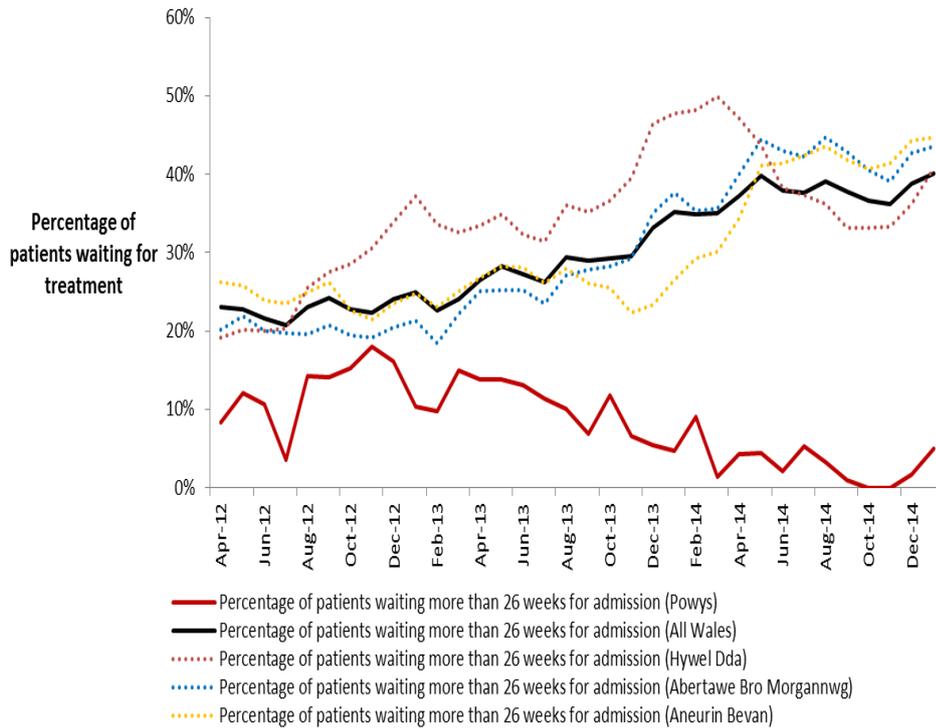
Source: Patient Episode Database Wales

Note: Private hospital facilities that carried out activity on behalf of the NHS are included.

3.5 To ensure that patients receive the optimal outcome from surgical intervention, health boards have adopted the Enhanced Recovery After Surgery (ERAS) programme. This includes the establishment of a 'joint school' to provide educational sessions for patients about to undergo hip or knee replacement surgery. Support includes an opportunity for patients to practice physiotherapy exercises and techniques that will speed recovery post-operatively. The 'joint school' is held prior to hospital admission and research indicates that the 'joint school' principle results in quicker recovery post-surgery and a reduced hospital stay. Of the main Welsh health board providers, a 'joint school' is only available in Abertawe Bro Morgannwg University Health Board.

3.6 The percentage of patients waiting more than 26 weeks for an inpatient or day-case admission has increased across Wales since 2012 (Exhibit 21). At January 2015, 41 per cent of patients had waited more than 26 weeks for their admission. Delays could be due to a lack of capacity for theatre sessions, but they can also be influenced by extended waits for diagnostic tests, radiology or outpatient appointments prior to admission. The percentage of patients waiting more than 26 weeks for admission to Powys hospitals, however, is comparably low with very few patients waiting more than 26 weeks by January 2015. Powys residents receiving orthopaedic inpatient treatment in one of the main neighbouring Welsh health board providers will experience longer waits, with the percentage of patients waiting more than 26 weeks the longest in Aneurin Bevan University Health Board.

Exhibit 21: Percentage of patients waiting more than 26 weeks for inpatient or day-case admission between April 2012 and January 2015

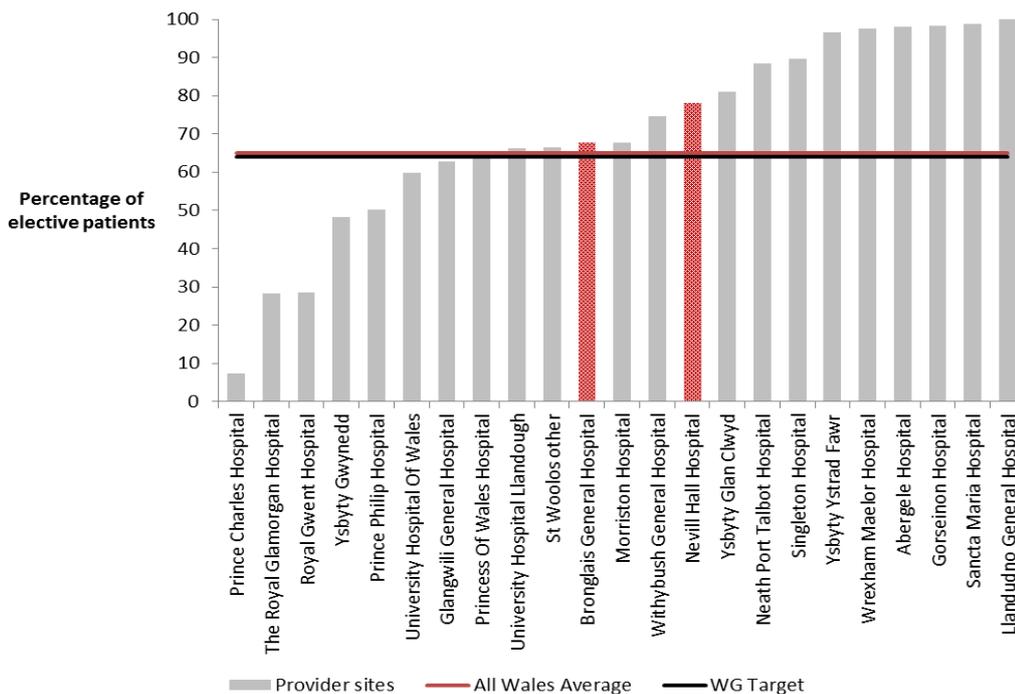


Source: Welsh Government Delivery Unit

Admission

3.7 To prevent any unnecessary overnight stays in hospital and to make best use of the bed capacity available, it is good practice for patients to be admitted on the day of surgery. The Welsh Government target is that at least 64 per cent of patients are admitted on the same day. All orthopaedic patients treated in Powys are admitted as day case and therefore this indicator does not apply. However, it is important that Powys residents who receive orthopaedic inpatient treatment elsewhere do not spend unnecessary nights in hospital. Positively, performance within the main Welsh district general hospitals to which Powys residents may receive inpatient orthopaedic treatment is above the Welsh Government target ([Exhibit 22](#)).

Exhibit 22: Percentage of elective orthopaedic patients admitted on the day of surgery 2012-13



Source: Patient Episode Database Wales

3.8 All orthopaedic activity undertaken in the Health Board is on a day-case basis through the respective day-case units at Llandrindod Wells and Brecon hospitals. Therefore, there is no dedicated orthopaedic bed capacity. Across Wales, there were just over 900 available beds for trauma and orthopaedic activity for the financial year 2013-14, with an average occupancy rate of 80 per cent, compared to an optimal occupancy rate of 85 per cent. This would indicate that there are opportunities to further increase throughput or to reduce the available bed capacity. Figures varied considerably between health boards and sites with occupancy rates for the main Welsh health board providers ranging between 76 per cent in Aneurin Bevan University Health Board to 84 per cent in Abertawe Bro Morgannwg University Health Board ([Exhibit 23](#)).

Exhibit 23: Available beds and occupancy rates 2013-14

	Available beds	Occupancy rate (%)
Aneurin Bevan	192.7	76.3
Nevill Hall Hospital	75.2	76.1
Abertawe Bro Morgannwg	183.5	84.1
Morrison Hospital	111.5	82.5
Hywel Dda	109.6	82.3
Bronglais Hospital	13.9	92.6

Source: Stats Wales

During admission

3.9 Operating theatres play an important part in the hospital stay of an elective orthopaedic patient, and any delays in surgery or cancellations can result in poor patient experience and inefficient use of resources. Cancellations on the day of surgery can also result in underutilisation in theatre capacity. The Health Board provided comprehensive information on the utilisation of its orthopaedic theatre lists. Theatre utilisation over a three-month period January 2013 to March 2013 ranged between 70 and 100 per cent of available capacity for day surgery across Brecon and Llandrindod Wells hospitals ([Exhibit 24](#)). During the same period, no theatre lists were cancelled which is good practice. The Welsh Government target for utilisation is 95 per cent. Not all health boards provided us with theatre utilisation performance and therefore full comparison across Wales is not available.

Exhibit 24: Theatre utilisation

	January 2013	February 2013	March 2013
Brecon Hospital	70%	92%	100%
Llandrindod Wells Hospital	97%	95%	90%

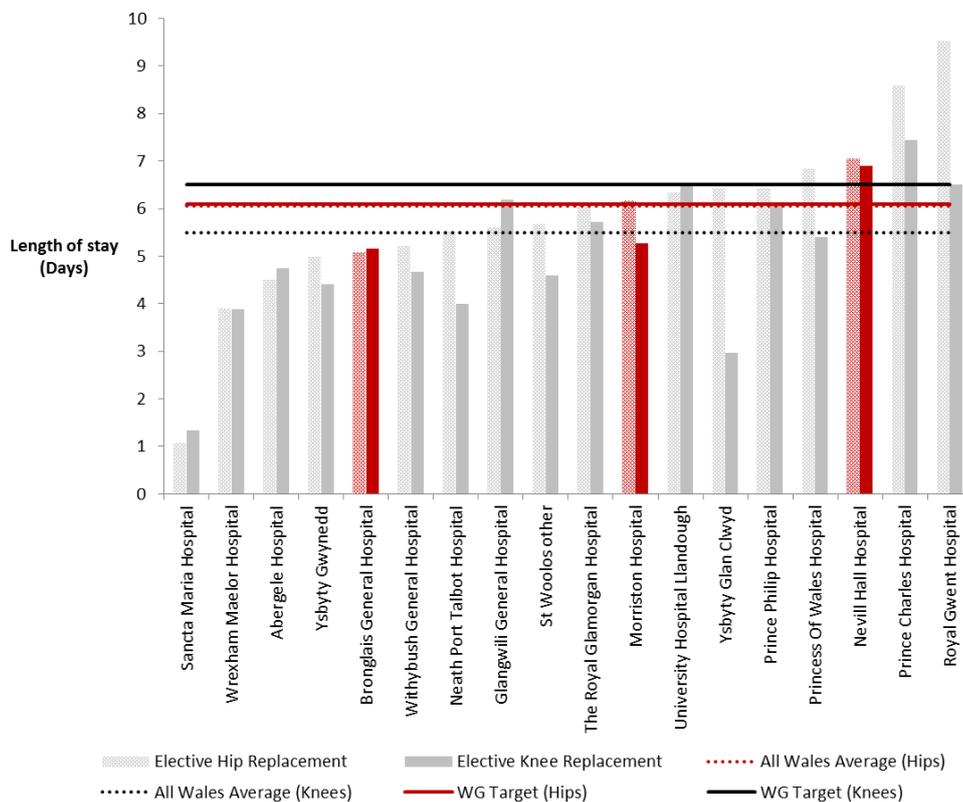
Source: Wales Audit Office Health Board Survey

3.10 For the period 2012-13, the Health Board reported a rate of cancelled orthopaedic operations by the health board as 2.5 per cent, ranging from one per cent in Brecon hospital to six per cent in Llandrindod Wells hospital. Not all health boards were able to report orthopaedic cancellation rates and therefore full comparison across Wales is not available.

Discharge

- 3.11 All elective orthopaedic patients treated in the Health Board are day cases. The average length of stay for an elective orthopaedic patient across Wales is 3.9 days, which falls within the Welsh Government target of four days. Of the main Welsh health board providers of orthopaedic services to Powys, the average length of stay for an elective orthopaedic patient is shorter in Bronglais hospital at 3.7 days compared with Nevill Hall hospital at 4.6 days.
- 3.12 The average lengths of stay for patients undergoing hip and knee replacements across Wales are 6.1 and 5.5 days respectively. These fall within the Welsh Government targets set for these procedures of 6.1 days for hip replacements and 6.5 days for knee replacements. Of the main Welsh health board providers of orthopaedic services, the average length of stay for these procedures are variable, with the average length of stay for both hips and knees in Nevill Hall hospital the third highest in Wales ([Exhibit 25](#)).

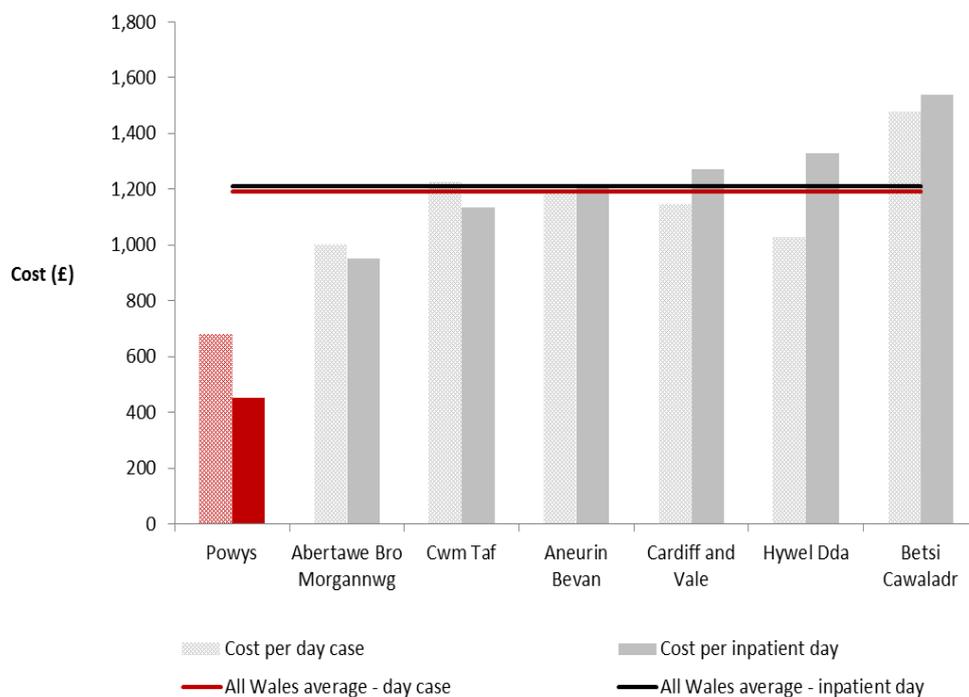
Exhibit 25: Average length of stay for elective hip and knee replacements between April 2012 and October 2013



Source: Patient Episode Database Wales

- 3.13 The average cost of an elective orthopaedic hospital episode in the Health Board for 2012-13 was £451, which was significantly below the all-Wales average of £4,239. Lengths of stay will influence the cost of a hospital episode, but other costs associated with staff and equipment will also be important factors. The average cost in the Health Board is the lowest in Wales and reflects the level and type of activity undertaken in the Health Board. One factor that influences the cost of treatment is the cost associated with prostheses. We identified no prosthetic costs associated with orthopaedic activity undertaken in Powys.
- 3.14 The costs of both an elective inpatient bed day and an orthopaedic day case for 2012-13 were £451 and £681 respectively. These figures are significantly below the all-Wales averages and the lowest in Wales (Exhibit 26). During the period, one patient was recorded as having an overnight hospital stay.

Exhibit 26: Average cost per elective orthopaedic day case and inpatient bed day 2012-13



Source: Welsh costing returns

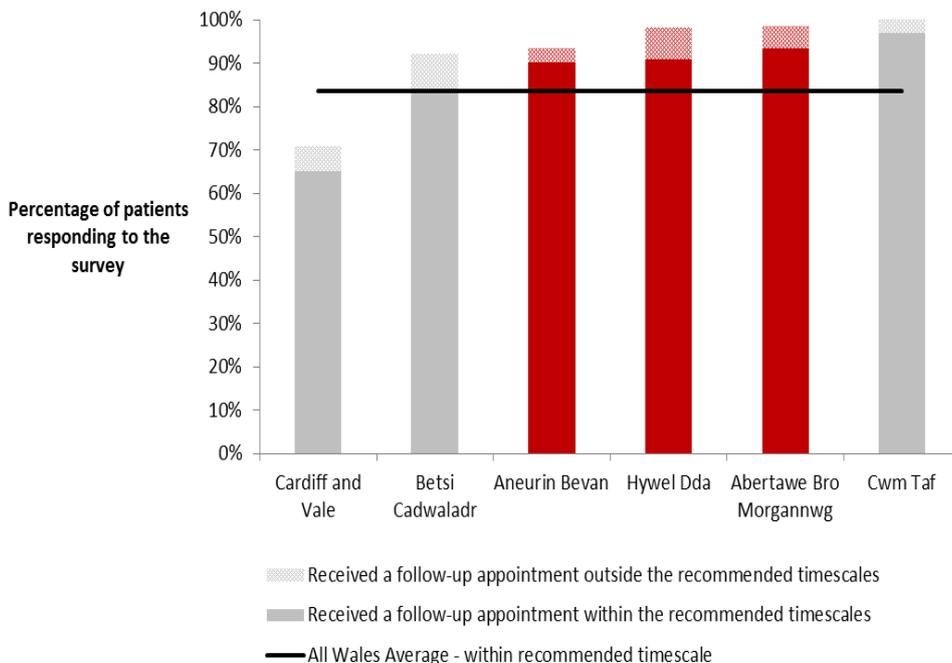
Part 4

4 Follow-up and outcomes

Follow-up arrangements

- 4.1 Following discharge, patients undergoing a hip or knee replacement should receive a follow-up appointment between six weeks and three months of discharge. As these procedures are not undertaken in Powys, the Health Board is reliant on the neighbouring secondary care providers to ensure that Powys patients, who undergo these procedures, are appropriately followed up. Our patient survey identified that all Powys residents who underwent knee replacement surgery received a follow-up appointment post-discharge, compared to an average across Wales of 89 per cent. Our survey also identified that all patients received their follow-up appointment within the specified timescales, compared with 93 per cent across Wales.
- 4.2 Of the main Welsh health board providers of orthopaedic services to Powys residents, the percentage of all patients who received a follow-up appointment post-discharge was lower in Aneurin Bevan University Health Board ([Exhibit 27](#)).

Exhibit 27: Percentage of patients responding to the knee replacement survey who received a follow-up appointment post-discharge



Source: Wales Audit Office Survey of Patients Undergoing Knee Replacement Surgery

Patient outcomes and experience

- 4.3 For many patients, surgery can be a positive life-changing experience, which can significantly improve their quality of life, but occasionally things can go wrong. As part of our work, we reviewed a range of indicators to understand the extent to which there are adverse experiences for patients both short and long term.
- 4.4 Acquiring an SSI during admission can extend the length of time a patient stays in hospital. For the period 2012-13, we reviewed the rate of SSI for hip and knee replacements ([Exhibit 28](#)). The rate of SSI for both hips and knees varies across Wales. Of the main Welsh health board providers, the Welsh Government target of zero per cent is only achieved at Bronglais hospital for knee replacement surgery ([Exhibit 28](#)).

Exhibit 28: SSI rates for hip and knee arthroscopy

	SSI rate (hips)	SSI rate (knees)
Bronglais Hospital	1.3	0
Morrison Hospital	2.5	2.3
Nevill Hall	0.4	3.2
All-Wales average	1.5	1.8

Source: Public Health Wales Observatory

- 4.5 For the same period, we identified that readmission rates following elective hip and knee replacements also varied across Wales, with readmission rates for the main Welsh health board providers higher in Abertawe Bro Morgannwg and Aneurin Bevan university health boards. Mortality rates for orthopaedic patients within hospital and up to 30 days after discharge are also higher in these two health boards ([Exhibit 29](#)). No patients died following elective orthopaedic procedures undertaken in the Powys hospitals.

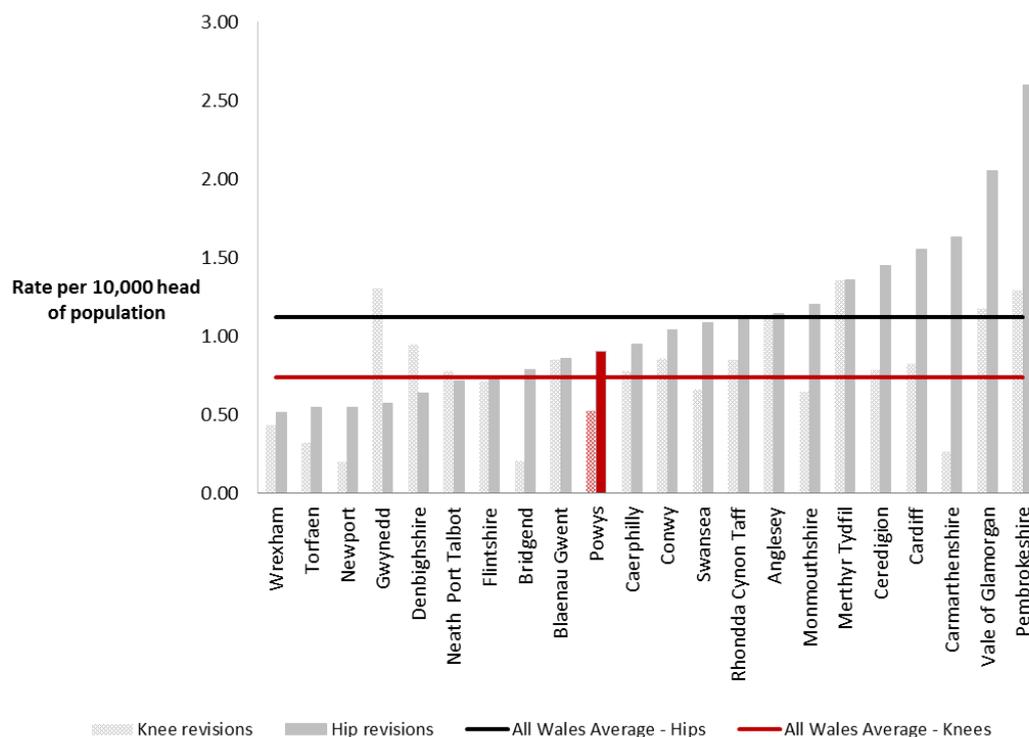
Exhibit 29: Readmission and mortality rates for elective orthopaedics

Indicator	Abertawe Bro Morgannwg	Aneurin Bevan	Hywel Dda	All-Wales average
Percentage of patients readmitted within 28 days following a hip replacement	1.2	1.8	0.7	0.9
Percentage of patients readmitted within 28 days following a knee replacement	0.1	0.1	0.2	0.1
Death in hospital per 100 elective orthopaedic admissions	0.09	0.10	0.02	0.06
Death within 30 days of discharge following an elective orthopaedic admission, per 100 elective orthopaedic admissions	0.17	0.14	0.03	0.10

Source: Patient Episode Database Wales

- 4.6 The lifespan of an artificial hip or knee varies based on a number of factors, but on average can last for more than 20 years. However, as the average age of the population increases, the likelihood of patients having to undergo a secondary joint replacement (or 'revision') also increases. Revisions, however, can be an indication of where the original joint replacement may not have been effective. The rates of revision for hips and knees across Powys are lower than the all-Wales average ([Exhibit 30](#)).

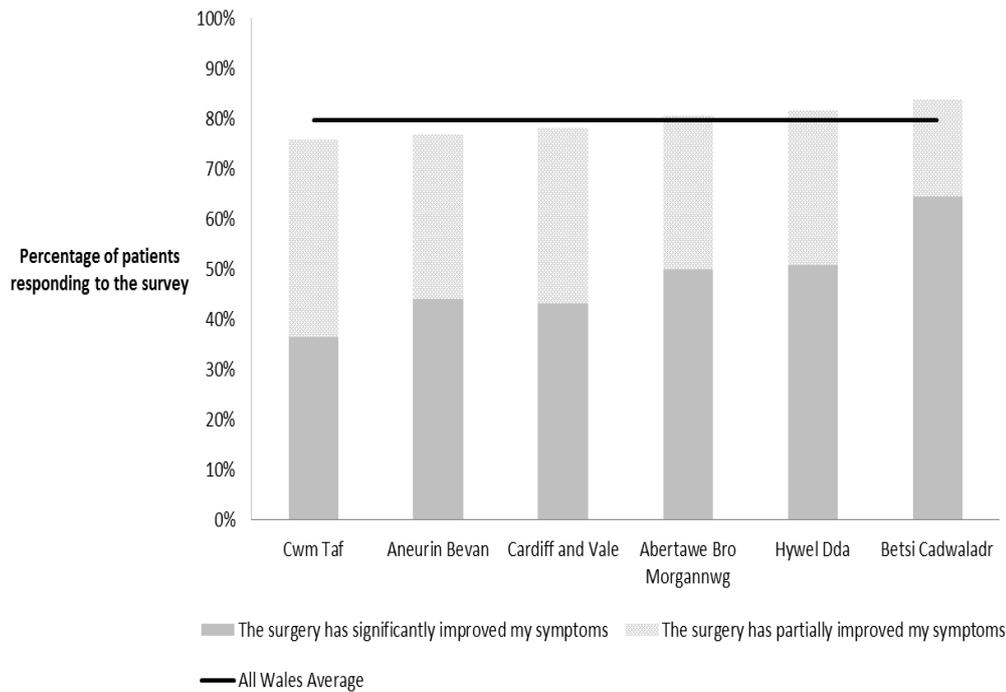
Exhibit 30: Rate of revision per 10,000 head of population 2012-13



Source: Patient Episode Database Wales

4.7 In our survey of patients who underwent knee replacement surgery, we asked patients whether their surgery had improved their symptoms. Across Wales, nearly 80 per cent of patients reported that surgery had improved their symptoms. Of those, 61 per cent noted a significant improvement (Exhibit 31). Of the main Welsh health board providers, a greater proportion of patients identified partial or significant improvement in Hywel Dda University Health Board, compared with Aneurin Bevan University Health Board.

Exhibit 31: Percentage of patients who identified that their knee replacement surgery partially or significantly improved their symptoms (by provider site)



Source: Wales Audit Office Survey of Patients Undergoing Knee Replacement Surgery

4.8 The Powys patients who responded to our survey had their knee replacement surgery in a number of provider sites. The number of patients who identified that their knee replacement surgery partially or significantly improved their symptoms varied with more positive views experienced by those receiving surgery in Gobowen Hospital (Exhibit 32).

Exhibit 32: Number of patients who identified their knee replacement surgery partially or significantly improved their symptoms

	Partially improved my symptoms	Significantly improved my symptoms	Total number of patients
Gobowen Hospital	1	4	6
Hereford Hospital	3	2	6
Nevill Hall Hospital	-	-	1
Telford Hospital	-	-	1
Not recorded	1	-	1

Source: Wales Audit Office Survey of Patients Undergoing Knee Replacement Surgery

4.9 Patient satisfaction surveys and reviews of complaints can provide health boards with an assurance of the quality of their service from the patient's perspective. The Health Board has undertaken patient satisfaction surveys for those undergoing orthopaedic surgery in its two main surgical sites; however, it is reliant on its main provider NHS bodies to undertake surveys for patients receiving more complex orthopaedic treatment. The Health Board is unable to provide information about the number of complaints received in relation to its orthopaedics service, or those provided by its main provider NHS bodies. Many other health boards are also unable to report the number of complaints specifically relating to orthopaedic services.

Appendix 1

Sources of data

The sources of data used to inform the mandated review of orthopaedic services include:

- Wales Audit Office Health Board Survey which requested a range of data relating:
 - GP referrals
 - CMATS
 - Orthopaedic outpatients
 - Therapy services
 - Radiology services
 - Pre-operative assessment
 - Orthopaedic beds
 - Operating theatres
 - Medical staffing
 - Patient experience
 - Financial information
- Patient Episode Database for Wales
- Stats Wales (www.statswales.wales.gov.uk)
- Public Health Observatory
- Wales Audit Office Survey of Patients Undergoing Knee Replacement Surgery
- Welsh costing returns

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