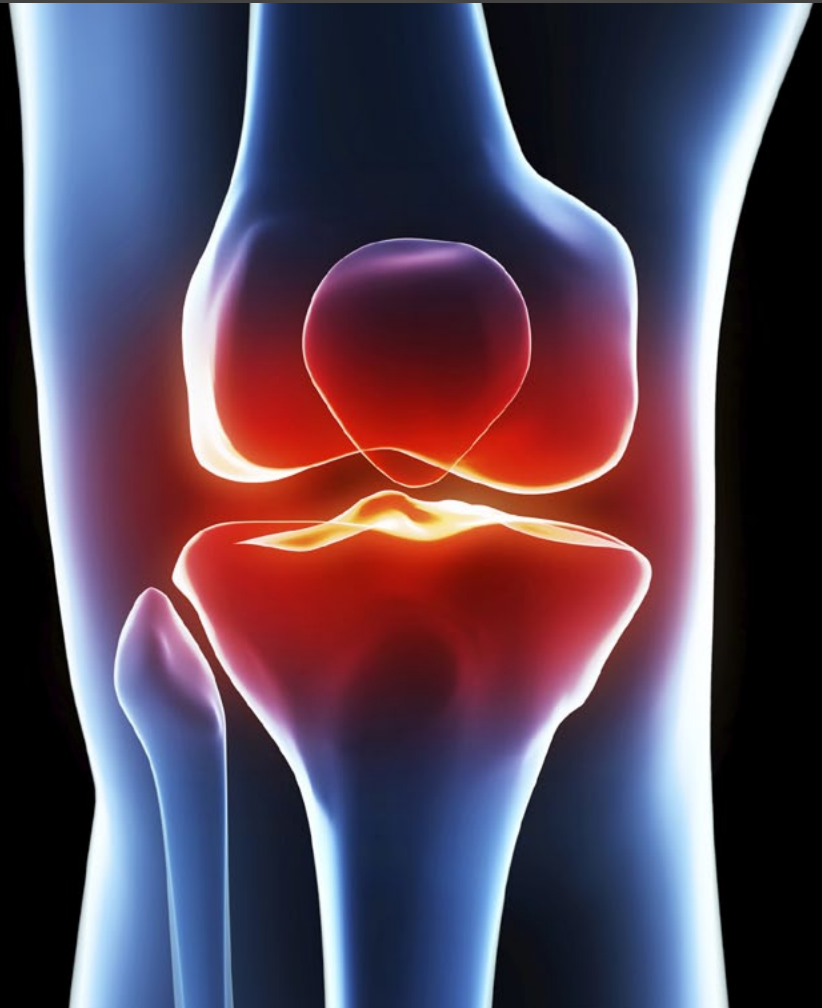
25 June 2015

Archwilydd Cyffredinol Cymru
Auditor General for Wales

A Review of Orthopaedic Services

WALES AUDIT OFFICE
SWYDDFA ARCHWILIO CYMRU



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

The Wales Audit Office study team comprised Anne Beegan, Sian Davies, Andrew Doughton, Kate Febry and Stephen Lisle under the direction of David Thomas.

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

The Auditor General is independent of the National Assembly and government. He examines and certifies the accounts of the Welsh Government and its sponsored and related public bodies, including NHS bodies. He also has the power to report to the National Assembly on the economy, efficiency and effectiveness with which those organisations have used, and may improve the use of, their resources in discharging their functions.

The Auditor General, together with appointed auditors, also audits local government bodies in Wales, conducts local government value for money studies and inspects for compliance with the requirements of the Local Government (Wales) Measure 2009.

The Auditor General undertakes his work using staff and other resources provided by the Wales Audit Office, which is a statutory board established for that purpose and to monitor and advise the Auditor General.

For further information please write to the Auditor General at the address above, telephone 029 2032 0500, email: info@audit.wales, or see website www.audit.wales.

© Auditor General for Wales 2015

You may re-use this publication (not including logos) free of charge in any format or medium. You must re-use it accurately and not in a misleading context. The material must be acknowledged as Auditor General for Wales copyright and you must give the title of this publication. Where we have identified any third party copyright material you will need to obtain permission from the copyright holders concerned before re-use.

If you require any of our publications in an alternative format and/or language please contact us using the following details: Telephone 029 2032 0500, or email info@audit.wales

Contents

Summary 7

Recommendations 13

1 Orthopaedic services are more efficient and waits are shorter than a decade ago but performance against waiting time targets has deteriorated recently and demand is continuing to rise 14

Waiting times for orthopaedic treatment have reduced over the past decade but are longer than in England and Scotland, and increasing, with diagnostic waits an important factor 15

The NHS in Wales is using its orthopaedic resources more efficiently than in the past but is not doing enough to address increasing demand 24

2 At a national level, there has been a clear commitment to improving musculoskeletal services with matching investment but the approach has had less impact than expected 33

The Welsh Government took the positive step of forming the National Orthopaedic Innovation and Delivery Board, whose work was supported by clear objectives and additional ring-fenced investment 34

The Delivery Board was set up to drive change but it did not achieve some objectives and its impact on waiting times was short-lived 35

The Delivery Board ceased to meet with nearly a year of the Welsh Government funding remaining, central monitoring was insufficient and there were weaknesses in the way it influenced and evaluated efforts to improve orthopaedic services 42

3 Health boards have started implementing the national vision but not on the required scale and there is not yet enough information on outcomes to say whether change is benefiting patients 44

A range of planning and funding barriers has slowed the pace of change at a local level and health boards did not take full advantage of the opportunities provided by the central funding for orthopaedics 45

All health boards have made some progress in putting in place sustainable alternatives to orthopaedic surgery but the change has been small scale and funding pressures place these new services at risk 47

Health boards need to strengthen their monitoring of services and our own analysis suggests there remains scope to improve patient outcomes 51

Appendices

Appendix 1 – NHS Wales National Orthopaedic Programme Delivery Framework 59

Appendix 2 – Details of the timeline shown in Figure 2 60

Appendix 3 – Methodology 61

Appendix 4 – Potential to free up capacity by improving performance against Welsh Government targets (by health board) 63

Appendix 5 – Allocation of central funding 66

Appendix 6 – Allocation of funds for sustainability projects 68

Summary report

Summary

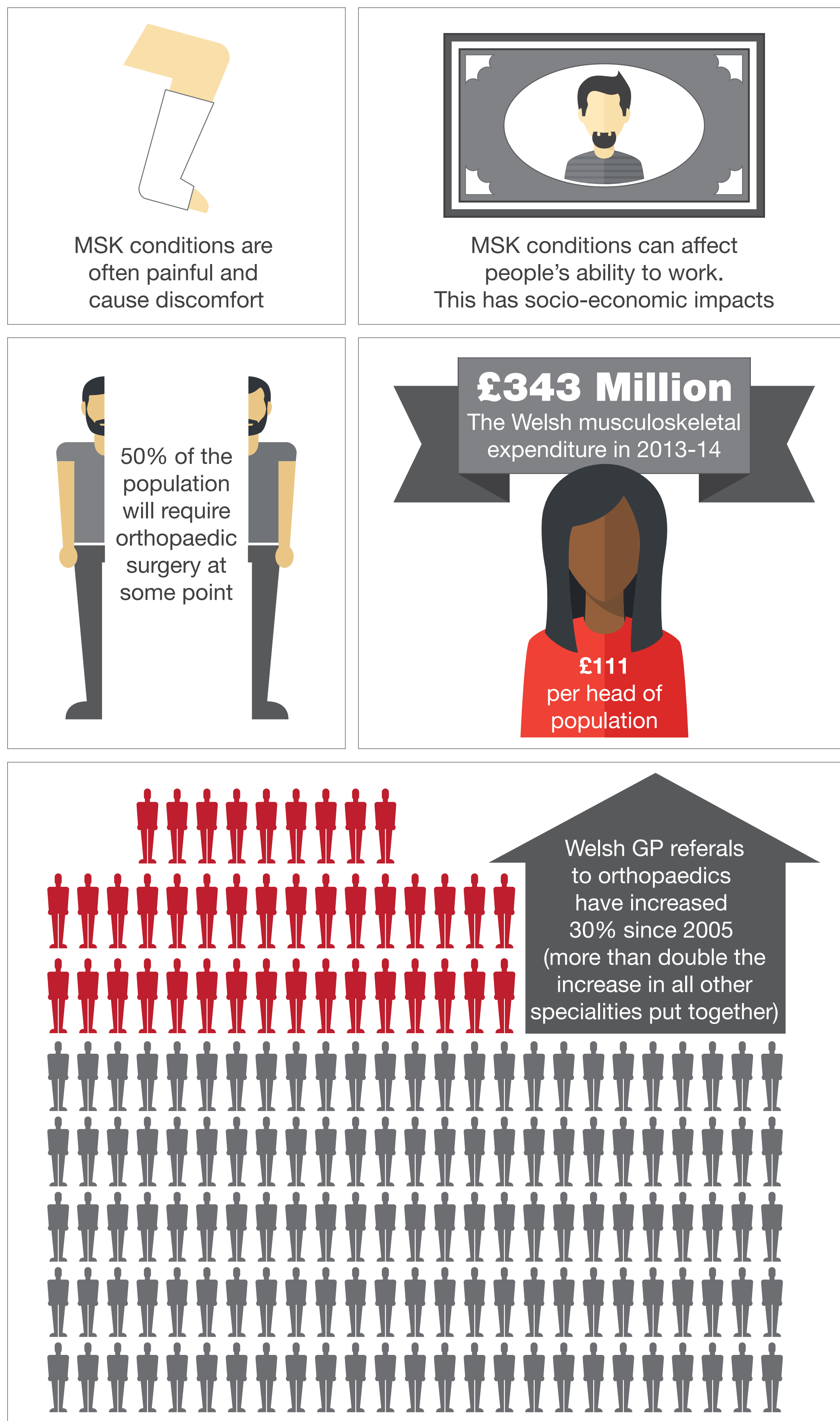
1. Orthopaedics is the branch of medicine that deals with the injuries and disorders of the musculoskeletal system, which includes the skeleton, muscles, joints and ligaments. Musculoskeletal services is a broader term that refers to all services involved in the care of patients with musculoskeletal conditions, including primary care services, physiotherapy, podiatry and rheumatology as well as traditional orthopaedic services. Figure 1 highlights some key statistics about the cost and demand arising from musculoskeletal conditions in Wales.

2. Orthopaedic surgery is costly for reasons including the use of expensive prostheses, advances in surgical technology that have considerable benefits for patients, and because of the general running costs of operating theatres. However, surgery is just one of many treatment options for patients with musculoskeletal complaints. Other options can include physiotherapy, pain relief and rehabilitation as well as improvements to lifestyle and exercise programmes to support patients to lose weight and reduce the pressure on their joints.

3. Demand for orthopaedic treatment has increased significantly over the last decade for reasons including the ageing population, growing levels of obesity and advancements in clinical practice as well as increased patient expectations.

4. Issues related to cost and demands on services leading to unacceptably long waits have prompted considerable national work on orthopaedic and musculoskeletal services in Wales since 2004. In 2011, a ministerial letter announced an investment of £65 million to improve orthopaedic service delivery. The funding was to be provided in tranches over three years. Central to the direction given by the letter was the need to develop sustainable orthopaedic services, rather than just investing in additional acute capacity. Figure 2 summarises these key national initiatives and actions, which are described in more detail in Appendices 1 and 2.

Figure 1 – Musculoskeletal programme budget expenditure and demand



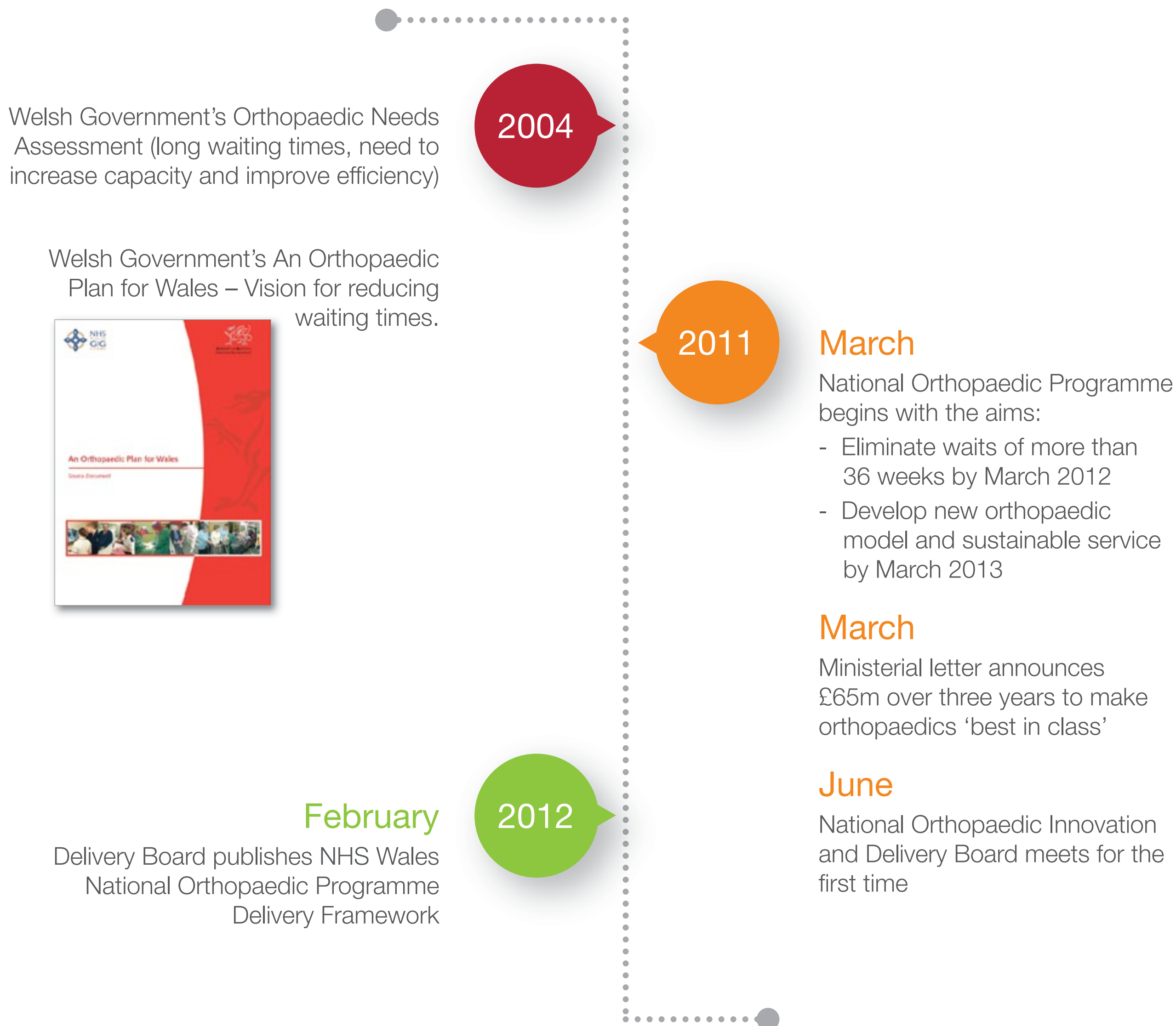
Source: Wales Audit Office use of figures from National Public Health Service[1], Stats Wales[2] and a Welsh ministerial letter[3].

1 National Public Health Service for Wales, **Access Project 2009, Predicted Future Changes in Orthopaedics in Wales: A Horizon Scanning Exercise**, October 2006. The National Public Health Service for Wales was one of the predecessor organisations that formed Public Health Wales.

2 Stats Wales, NHS Programme Budget – www.statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/Health-Finance/NHS-Programme-Budget. These data exclude the cost of care for people who suffer trauma and other musculoskeletal injuries.

3 Ministerial letter, **Waiting Times and Orthopaedic Services Update**, 10 March 2011

Figure 2 – Timeline of key national musculoskeletal initiatives



Source: Wales Audit Office

5 Given the considerable focus and investment in orthopaedics and musculoskeletal services in Wales in recent years, the Auditor General has undertaken an examination of the national and local approaches adopted to manage demand for these services and to secure a good return on the investment made. The review has also assessed the extent to which sustainable models of service delivery have been developed to help meet future demand.

6 Our approach has involved analysis of a wide range of data and information on orthopaedic services in Wales, together with fieldwork visits to a number of health boards and a survey of patients who have received an elective knee replacement. Each health board in Wales has received a bespoke local analysis of our data to help them understand how their musculoskeletal services are performing and identify where specific action needs to be taken. This report provides an all-Wales analysis of our findings and sets out a number of recommendations for the Welsh Government and health boards. Further details of our audit approach are provided in Appendix 3.

7 Our overall conclusion is that **orthopaedic services have become more efficient in the past decade but NHS Wales is not well placed to meet future demand because whilst there has been a focus on securing immediate reductions in waiting times, less attention has been paid to developing more sustainable, long-term solutions to meet demand.**

8 Waiting times for orthopaedic treatment have reduced over the last 10 years, helped by a drive from the Welsh Government to reduce the time which patients should be expected to wait. However, more recently, waiting times are increasing and people in Wales typically wait longer than those in some other parts of the UK. Increasing waits for diagnostic tests are an important factor in overall waiting times, and the way in which the newly implemented Clinical Musculoskeletal Assessment and Treatment Services (CMATS) are recorded means that overall waits for orthopaedic treatment may be underreported.

9 Orthopaedic resources are being used more efficiently than in the past. Whilst the number of orthopaedic beds is decreasing, health boards are using the remaining beds more efficiently, largely due to shorter lengths of stay and increased day-case rates. More patients are admitted on the day of surgery, minimising unnecessary overnight stays and the percentage of patients now treated as a day case has improved to 57 per cent. The average length of stay for elective orthopaedic treatment is now at 3.4 days and the length of time patients stay in hospital after joint replacement has reduced by a quarter.

10 Despite improvements in efficiency, NHS Wales is struggling to meet the demand placed on it from an increasing rate of GP referrals. The growth in GP referrals is accelerating at a faster pace than the growth in overall population, although variation across health boards would suggest that not all referrals are appropriate. Outpatient capacity, and in particular consultant staffing levels, have increased to meet demand but there is a growing number of patients waiting more than 26 weeks for their first outpatient appointment, and more recently, both outpatient and inpatient activity levels have reduced. By the time a decision to admit a patient for orthopaedic surgery is made, currently between 10 and 12 per cent of patients will have waited more than 26 weeks.

11 In 2011, the Welsh Government took the positive step of forming a national Innovation and Delivery Board (the Delivery Board) for orthopaedic services. The formation of the Delivery Board, with clearly defined objectives, generated an enthusiasm and impetus for change. This was supported by the £65 million of additional funding, that the minister made available, to reduce waiting times and develop sustainable solutions to managing orthopaedic demand.

12 The establishment of a Delivery Board was a positive move, but weaknesses in the way it was established prevented it from achieving some key objectives and its impact on waiting times was short-lived. The Delivery Board produced a clear and compelling vision for the improvement of orthopaedic services and established an appropriate infrastructure of task and finish subgroups to help achieve the vision, but the absence of senior health board executives on the board significantly weakened its ability to drive change at the local level.

13 The Delivery Board and its subgroups did achieve a short-lived improvement in waiting times, with nearly all health boards in Wales achieving the waiting times target in March 2012. However, there was limited success in driving through other priorities, particularly in relation to sustainable solutions to reducing demand and no health board in Wales has achieved the waiting times target since 2012. Despite the initial intention that just under half of the £65 million would be focused through the Delivery Board on sustainable solutions, the Welsh Government largely allocated the funds to support short-term improvements in waiting time performance and the funds ultimately available to support sustainable solutions were minimal.

14 The Delivery Board's impact waned during 2012-13. It last met in May 2013 with almost a year of the central funding remaining. The Delivery Board had a responsibility to monitor progress towards the implementation of its vision across Wales but while there is some evidence that it monitored its own progress, there is less evidence of a rigorous approach to monitoring progress by health boards. The recent establishment of the National Orthopaedics Board, a subgroup of the Planned Care Programme Board, provides a real opportunity to reinvigorate the work initiated by the Delivery Board and to work with health boards to progress with the implementation of the national vision for orthopaedics.

15 Our work has found that health boards have started implementing the national vision and all have made some progress in putting in place sustainable alternatives to orthopaedic surgery. There has been some good progress in developing lifestyle and exercise programmes that have the potential to reduce demand for orthopaedics, and all health boards have implemented CMATS. CMATS are a key part of the national vision for improving orthopaedic services but differences in clinical opinion on the effectiveness of this service model have hindered the pace of change. However, not all health boards are fully considering the whole system of musculoskeletal services when planning local change, and there is insufficient integration between these services and others involved in the totality of musculoskeletal care. These services also tend to be small, and funding pressures place them at risk. Health boards have largely spent the central funding on short-term solutions to tackle waiting lists rather than sustainable solutions.

16 There is a lack of information to understand whether patients are truly benefiting from musculoskeletal services in Wales. Health boards have data about lots of the individual elements of the musculoskeletal pathway but they collect little information on patient outcomes and experience. Monitoring of CMATS in some health boards is also made more difficult by information technology problems.

17 The results of our patient survey and other data reviewed as part of our work, suggests there is further scope to improve outcomes from musculoskeletal services. Our survey of patients undergoing knee replacement surgery reported that 79 per cent of the patients we surveyed said their orthopaedic surgery had improved their quality of life but a significant minority said it had made their symptoms worse or no better, and that their pain had also got worse or not improved. Although some caution needs to be applied to the accuracy of the data, surgical site infection rates are above the Welsh Government target and the rate of emergency readmission following elective orthopaedic surgery are high in some areas.

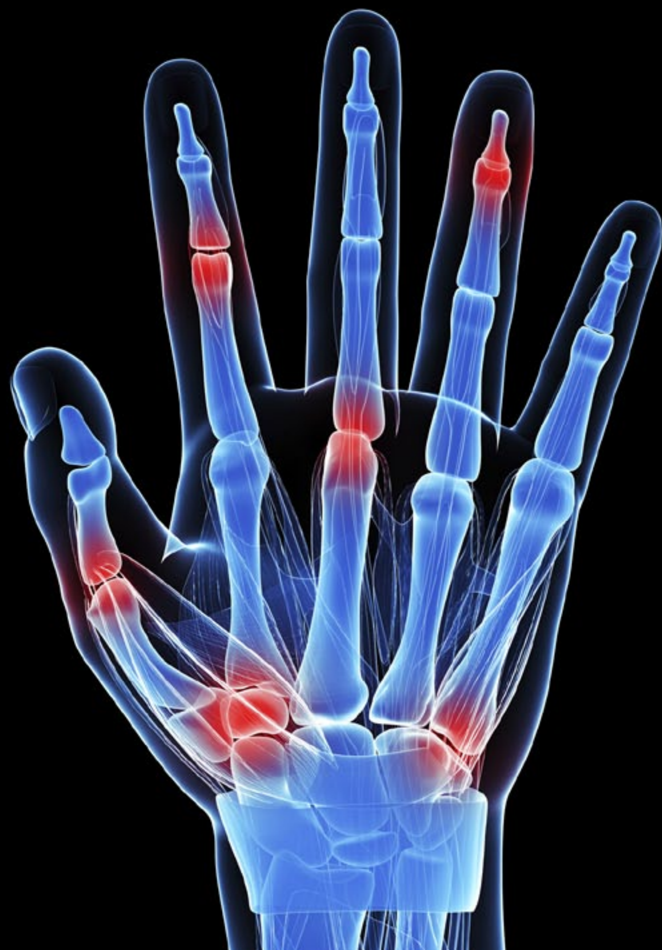
18 In 2014, the Minister for Health and Social Services introduced the concept of prudent healthcare into NHS Wales as a way of ensuring that services are delivered in a sustainable way. The principles are minimising avoidable harm, carrying out the minimum appropriate intervention and promoting equity between the people who provide and use services. Prudent healthcare is in its early stages of being embedded across Wales but the findings presented in this report would indicate that prudent healthcare principles offer a good model of improving the efficiency and effectiveness of orthopaedic services in Wales. Success will be dependent on the ability to work closely with patients to better manage demand and to fully understand where patient experience and outcomes can be improved. In order to drive maximum value out of investment in orthopaedic services, there will need to be a clearer focus on the entire musculoskeletal pathway, and better information on service delivery and patient outcomes.

Recommendations

Recommendations	
R1	The wait associated with the CMATS is currently excluded from the 26-week target, although some services are based in secondary care and there are variations in the way in which CMATS are operating. As part of the response to recommendation 3 in the Auditor General's report **NHS Waiting Times for Elective Care in Wales**, the Welsh Government should seek to provide clarity on how CMATS should be measured, in line with referral to treatment time rules, to ensure that the waiting time accurately reflects the totality of the patient pathway.
R2	Our work has identified that the rate of GP referrals across health board areas varies significantly per 100,000 head of population. The variations are not immediately explained by demographics suggesting differences in referral practices and potential scope to secure better use of existing resources by reducing inappropriate referrals. Health boards should ensure that clear referral guidelines are implemented and adhered to, and that appropriate alternative services are available and accessible which best meet the needs of the patient.
R3	Despite improvements in efficiencies, NHS Wales is still not meeting all of its efficiency measures related to orthopaedic services. Our fieldwork showed that there is scope for even better use of orthopaedic resources, particularly in relation to outpatient performance. As part of the response to recommendation 2 in the Auditor General's report **NHS Waiting Times for Elective Care in Wales**, the Welsh Government and health boards should work together to reshape the orthopaedic outpatient system and improve performance to a level which, at a minimum, complies with Welsh Government targets and releases the potential capacity set out in Appendix 4 of this report.
R4	Our work has identified that, at a national level, there were weaknesses in the ability to influence the delivery of the National Orthopaedic Innovation and Delivery Board's objectives within health boards and to monitor and evaluate efforts to improve orthopaedic services. When establishing similar national arrangements in the future, including the National Orthopaedics Board, the Welsh Government should ensure that the factors that led to the weaknesses in the Delivery Board are considered and actions are put in place to mitigate those weaknesses being repeated.
R5	All health boards have made some progress in putting in place alternatives to orthopaedic surgery, specifically CMATS, but our work found that these are often small scale, at risk of funding pressures and lack any evaluation. The Welsh Government and health boards should work together to undertake an evaluation of CMATS to provide robust evidence as to whether they are providing sustainable solutions to managing orthopaedic demand.
R6	NHS Wales collects and produces a great deal of information about the performance and activity of musculoskeletal services; however, data relating to patient outcomes and patient experience is much sparser. The Welsh Government and health boards should work together to develop a suite of outcome measures as part of the Outcomes Framework, supported by robust information systems, which provide comprehensive management information as to whether orthopaedic services are demonstrating benefits to patients and minimising avoidable harm.

Part 1

Orthopaedic services are more efficient and waits are shorter than a decade ago but performance against waiting time targets has deteriorated recently and demand is continuing to rise



Waiting times for orthopaedic treatment have reduced over the past decade but are longer than in England and Scotland, and increasing, with diagnostic waits an important factor

Waiting times for orthopaedic surgery have decreased in the long term but there has been a more recent deterioration in performance

1.1 Over the past 10 years, there has been an increased focus by the Welsh Government to reduce the maximum time patients should be expected to wait for orthopaedic treatment. Figure 3 shows that the maximum time orthopaedic patients should have expected to wait has reduced from a combined total of 32 months in 2004-05[4] for both GP referral to outpatient visit, and from outpatient to inpatient treatment, down to six months (26 weeks) in 2015-16 from GP referral to receipt of treatment.

Figure 3 – Trend in maximum expected wait set by the Welsh Government for orthopaedic treatment

Period	Maximum time patients should be expected to wait from referral to treatment (months)
2004-05	32
2005-06	24
2006-07	16
2007-08	10
2008-09	7.5
2009 to date	6

Source: Wales Audit Office

4 Target waits only relate to the outpatient and inpatient parts of the orthopaedic pathway. Many patients are likely to have also required diagnostics as part of the decision-making process. These waits were captured separately, with the target wait for diagnostics in 2004-05 at eight weeks.

1.2 The introduction of referral to treatment times[5] by the Welsh Government in 2009 shifted the focus to the total wait from the point of referral through to the end of treatment. This meant that diagnostic waits and the need for follow-up appointments as part of the consultation process were now included within the 26-week target[6]. Prior to 2009, diagnostic waits as part of the consultation process were captured separately; however waits for follow-up appointments were exempt from waiting times measures. In December 2009, performance against the referral to treatment times target peaked with 98.9 per cent of patients treated within 26 weeks.

1.3 Undertaking a longer-term trend analysis of waiting times for orthopaedic treatment is made difficult by differences in the way waiting time data was collected prior to the introduction of referral to treatment time targets in 2009. Figure 4, however, shows a steady improvement in the length of time patients were waiting for both outpatient and inpatient treatment between 2004 and the introduction of referral to treatment times in 2009. In 2004, many patients faced waits of up to 12 and 18 months for their first outpatient appointment, with a similar wait for inpatient treatment. By September 2009, a large majority of patients (89 per cent) were receiving their first outpatient appointment within 10 weeks of referral and 96 per cent of patients were receiving their inpatient treatment within 22 weeks.

Figure 4 – Trend in orthopaedic waiting times for outpatient and inpatient treatment between 2004 and 2009

	Cumulative percentage of patients attending a new outpatient appointment within…					Cumulative percentage of patients receiving inpatient treatment within…				
	10 weeks	22 weeks	6 months	12 months	18 months	10 weeks	22 weeks	6 months	12 months	18 months
September 2004	34	-	56	81	92	27	-	50	84	100
September 2005	39		65	91	100	36		65	97	100
September 2006	48	72	79	100		39	62	70	100	
September 2007	50	85	92	100		40	82	90	100	
September 2008	68	86	100			58	76	96	100	
September 2009	89	99	100			62	96	100		

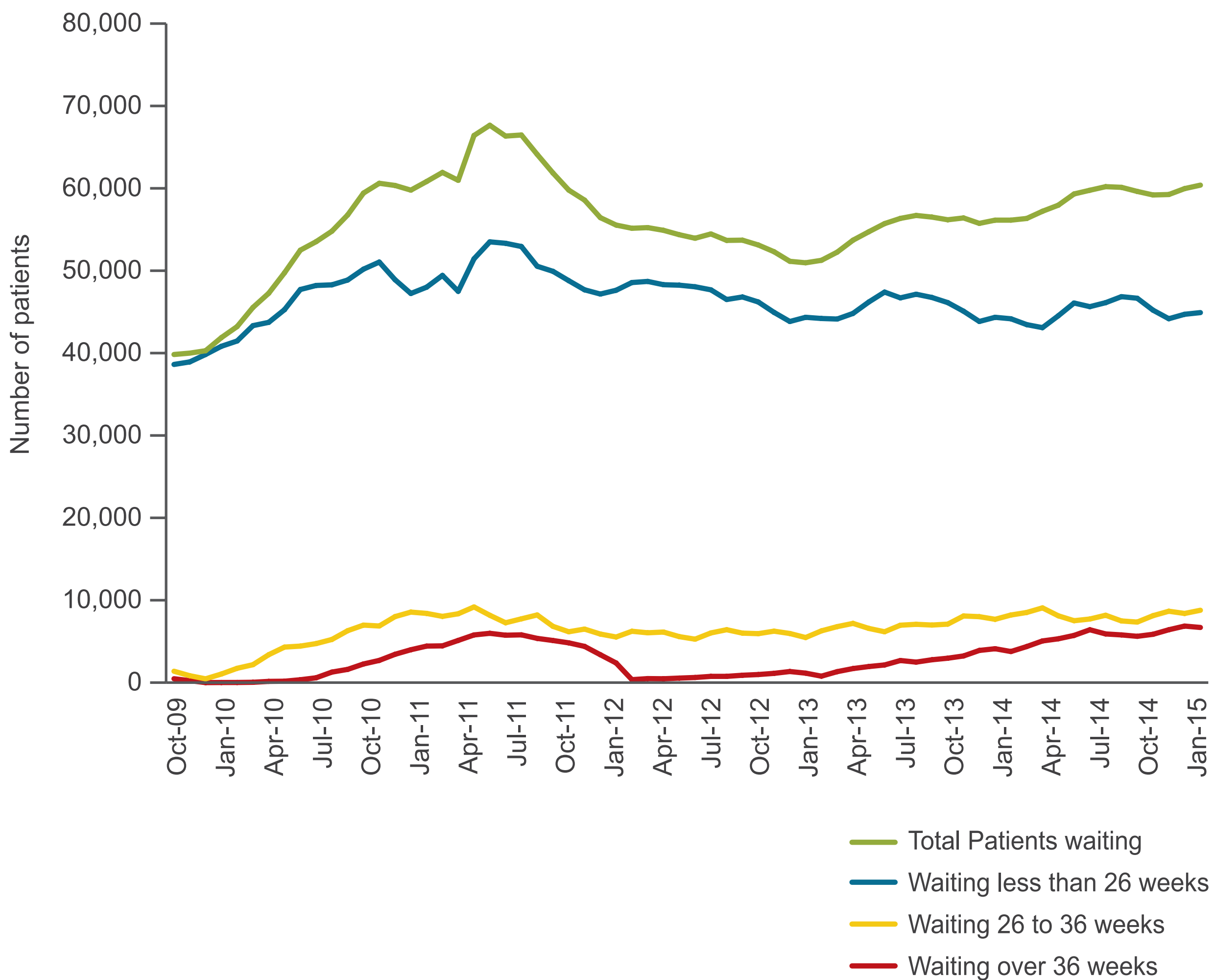
Source: Stats Wales

5 Welsh Health Circular (2007) 014 – **Access 2009 – Referral to Treatment Time Measurement**, Welsh Health Circular (2007) 051 – **2009 Access – Delivering a 26 Week Patient Pathway – Integrated Delivery and Implementation Plan** and Welsh Health Circular (2007) 075 – **2009 Access Project – Supplementary Guidance for Implementing 26-Week Patient Pathways**

6 Prior to 2009, waits for orthopaedic treatment stopped at the point of first new outpatient appointment as part of the outpatient wait measure. Only when surgery was considered as appropriate treatment were waits for inpatient treatment started. Any waits associated with diagnostic tests were considered separately as part of the diagnostic waits measure. Waits associated with follow-up outpatient appointments needed to inform the surgical decision-making process were not measured.

1.4 Despite the overall improvements in waits for orthopaedic treatment up to September 2009, performance against the 26-week-wait target across Wales has not been maintained. Figure 5 shows that since 2010, there has been a growing percentage of patients waiting longer than 26 weeks for treatment. The percentage of patients waiting longer than 36 weeks peaked in 2011 but subsequently improved to less than one per cent by March 2012. Since April 2012, there has been a constant increase in the proportion of patients waiting longer than 36 weeks for treatment.

Figure 5 – Trend in orthopaedic waiting times since the introduction of referral to treatment times in 2009



Source: Stats Wales

1.5 All health boards met the waiting times target in March 2012 with the exception of Cardiff and Vale University Health Board where particular problems in relation to dealing with demand for spinal surgery had been identified. Since the financial year 2011-12, none of the health boards have met the 95 per cent target for trauma and orthopaedic patients waiting less than 26 weeks. Similarly, none of the health boards have met the target for treating all patients within 36 weeks.

1.6 NHS Wales has taken several actions in an attempt to address the deterioration in performance since early 2010, including placing two health boards under 'special measures'[7] and allocating monies to all health boards to specifically focus on reducing waiting times. The 'special measures' arrangements were lifted as a result of the improvements in the percentage of patients waiting more than 36 weeks during 2012. More latterly, health boards have been facing additional difficulties in meeting waiting times targets, particularly in relation to unscheduled care pressures. Some health boards formally announced the decision to postpone elective orthopaedic surgery for reasons including high levels of unscheduled care demand[8]. All health boards have dedicated elective orthopaedic beds. The ability to ring fence these beds, however, is reduced when there are increased pressures from unscheduled care, as these beds are then used to manage demand from trauma and non-orthopaedic emergencies, resulting in increased waits for an elective orthopaedic admission.

People in Wales wait longer for orthopaedic treatment than in England and Scotland but waiting times in Northern Ireland are similar to Wales

1.7 The Auditor General for Wales report on **NHS Waiting Times for Elective Care in Wales** has already shown that Scotland and England are performing better against more stringent referral to treatment time targets for elective care. We have observed similar patterns for orthopaedics. As referred to in the report on NHS Waiting Times, there is some inconsistency within the United Kingdom in the way that waiting times are measured. Using the same approach as that set out in the Auditor General report, Figure 6 gives as accurate a comparison as possible in relation to the percentage of patients waiting less than 26 weeks. We have also provided the average (median) waiting times for orthopaedics across England and Wales[9], which gives an indication of the relative lengths of wait for patients. Figure 6 indicates that waiting times for orthopaedic treatment in Wales are longer than in England and Scotland, but similar to Northern Ireland.

7 In 2010, Aneurin Bevan University Health Board and Cardiff and Vale University Health Board were both placed under 'special measures' in relation to the provision of trauma and orthopaedic services. As set out in the NHS (Wales) Act 2006, Welsh ministers may take intervention following the breaching of waiting list targets when arrangements for the provision of services are deemed to require significant change. The subsequent introduction of a new escalation and intervention framework in March 2014 has introduced further definitions of when special measures should be utilised.

8 Betsi Cadwaladr University Health Board announced it was postponing elective surgery in January 2014. This involved a planned reduction in elective activity in line with expected increases in unscheduled care demand and a temporary suspension of some elective admissions at times when trauma patients were occupying beds on elective orthopaedic wards to prevent the risk of MRSA infection. Hywel Dda University Health Board had made a similar announcement in October 2013.

9 Currently, England is the only part of the UK that reports median waiting times for the full patient pathway based on the open measure. While there are some differences in how the data is measured – figures for Wales include adjustments while those in England do not – and which patients are included, it is possible to make a broad comparison between Wales and England.

Figure 6 – Comparison of orthopaedic waiting times in the United Kingdom

	Average (median) waiting times (weeks)	Percentage of patients waiting less than 26 weeks
England (February 2015)	6.4	97
Northern Ireland (December 2014)	-	72
Scotland (December 2014)	-	95
Wales (February 2015)	15.9	76

Source: Stats Wales, NHS England, the Department of Health, Social Services and Public Safety in Northern Ireland and NHS National Services Scotland

The way in which data for musculoskeletal assessment and treatment services are recorded can mean that orthopaedic waiting times for many patients across Wales are underreported

1.8 Over the last 10 years, all health boards have implemented a CMATS. CMATS are multidisciplinary teams aimed at offering a first point of contact for GP and emergency unit referrals for assessment and treatment of musculoskeletal-related pain and musculoskeletal conditions. CMATS will accept referrals, organise diagnostic investigation and initial management, and refer onward where appropriate. The emphasis is on therapeutic management and supported self-care with referral to secondary care only when there is a need for hospital-based specialist services.

1.9 National guidance states that CMATS should be treated as a diagnostic service with a target wait of eight weeks[10], although waiting times for CMATS are currently not formally monitored and reported. Consequently, when patients are referred by their GP to orthopaedic services, the wait associated with the CMATS is excluded from the 26-week target. Where the quality of a GP referral is of a high standard and it is clear to the CMATS that the patient's condition can only be met by specialist secondary care services, these referrals will be referred onwards within five working days and the impact on overall waiting times for orthopaedic care will be minimal. However, many patients will be required to attend a face-to-face assessment with the CMATS before an onward referral can be made.

1.10 Our fieldwork identified that for some health boards, waits for face-to-face assessment by CMATS during 2013-14 were reportedly as long as 14 weeks (Figure 7). Only Aneurin Bevan University Health Board and Powys Teaching Health Board were meeting the target wait of eight weeks. At the time of our work, the CMATS in Hywel Dda University Health Board was not acting as a single point of contact but instead was reviewing referrals for patients already on the orthopaedic waiting list. No data was available for Cardiff and Vale University Health Board.

10 Welsh Government Orthopaedic Innovation and Delivery Board – Clinical Musculoskeletal Assessment and Treatment Service – Guidelines and framework to underpin implementation by local health board.

Figure 7 – Waits for a face-to-face assessment by CMATS during 2013-14

Health board	Wait (weeks)
Powys Teaching Health Board	4
Aneurin Bevan University Health Board	6
Abertawe Bro Morgannwg University Health Board	10
Cwm Taf University Health Board	13
Betsi Cadwaladr University Health Board	14

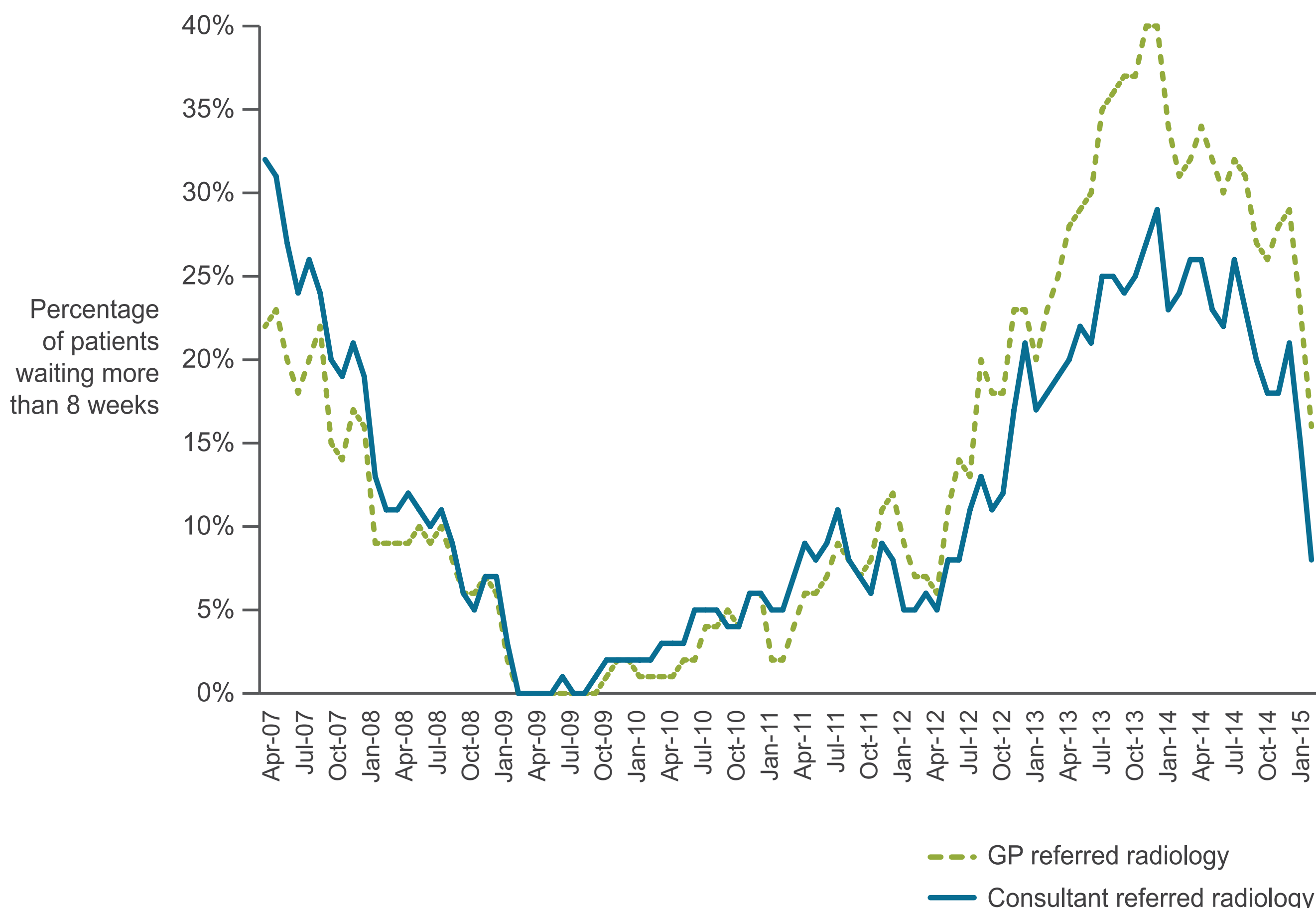
Source: Wales Audit Office fieldwork

There has been a sharp rise in the number of patients waiting more than eight weeks for diagnostic tests and more than 14 weeks for physiotherapy, which impacts on overall orthopaedic waiting times, although performance in these areas is starting to improve

1.11 People with musculoskeletal conditions often need diagnostic tests to provide clarity on the cause and extent of their problems. The Welsh Government's targets say that patients should wait no longer than eight weeks for diagnostic tests. Figure 8 shows significant improvement in waiting times for radiology tests up to early 2009. However, since the introduction of referral to treatment times in December 2009, there has been a sharp rise in patients waiting longer than eight weeks for radiology[11] tests, with performance starting to improve from early 2014.

11 Data taken from www.statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/NHS-Hospital-Waiting-Times/Diagnostic-and-Therapy-Services/waitingtimes-by-month and includes all referrals for radiology tests, and not just those for orthopaedic patients. Tests include barium enema, Computerised Tomography (CT) scans, Magnetic Resonance Imaging (MRI), non-obstetric ultrasound and nuclear medicine.

Figure 8 – Percentage of consultant and GP-referred radiology referrals where patients are waiting over eight weeks



Source: Stats Wales

1.12 Common tests for patients with musculoskeletal conditions include ultrasound and Magnetic Resonance Imaging (MRI) scans. These account for approximately 70 per cent of all direct radiology referrals measured within the Welsh Government diagnostic waits indicator[12]. Figure 9 shows that despite significant improvements in waiting times up to December 2009, the number of patients waiting longer than eight weeks for an MRI scan has grown with the number waiting in April 2014 at 4,040 compared with 191 in April 2010[13]. This has subsequently reduced to 513 in March 2015.

1.13 There has been a similar increase in the number of patients waiting longer than eight weeks for ultrasound[14] scans. In April 2014, there were 2,778 patients waiting longer than eight weeks, up from 128 in April 2010. This has subsequently reduced to 1,431 in March 2015, although the national shortage of ultrasonographers being experienced across the UK continues to present challenges.

12 Routine diagnostic tests such as plain x-rays are considered as part of the referral to treatment times indicator and are expected to be achieved within the shortest possible wait, in order for NHS bodies to be able to maintain waiting times below 26 weeks.

13 Data taken from www.statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/NHS-Hospital-Waiting-Times/Diagnostic-and-Therapy-Services/waitingtimes-by-month – Radiology Consultant Referral – MR.

14 Data taken from www.statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/NHS-Hospital-Waiting-Times/Diagnostic-and-Therapy-Services/waitingtimes-by-month – Radiology Consultant Referral – Non Obstetric Ultrasound.

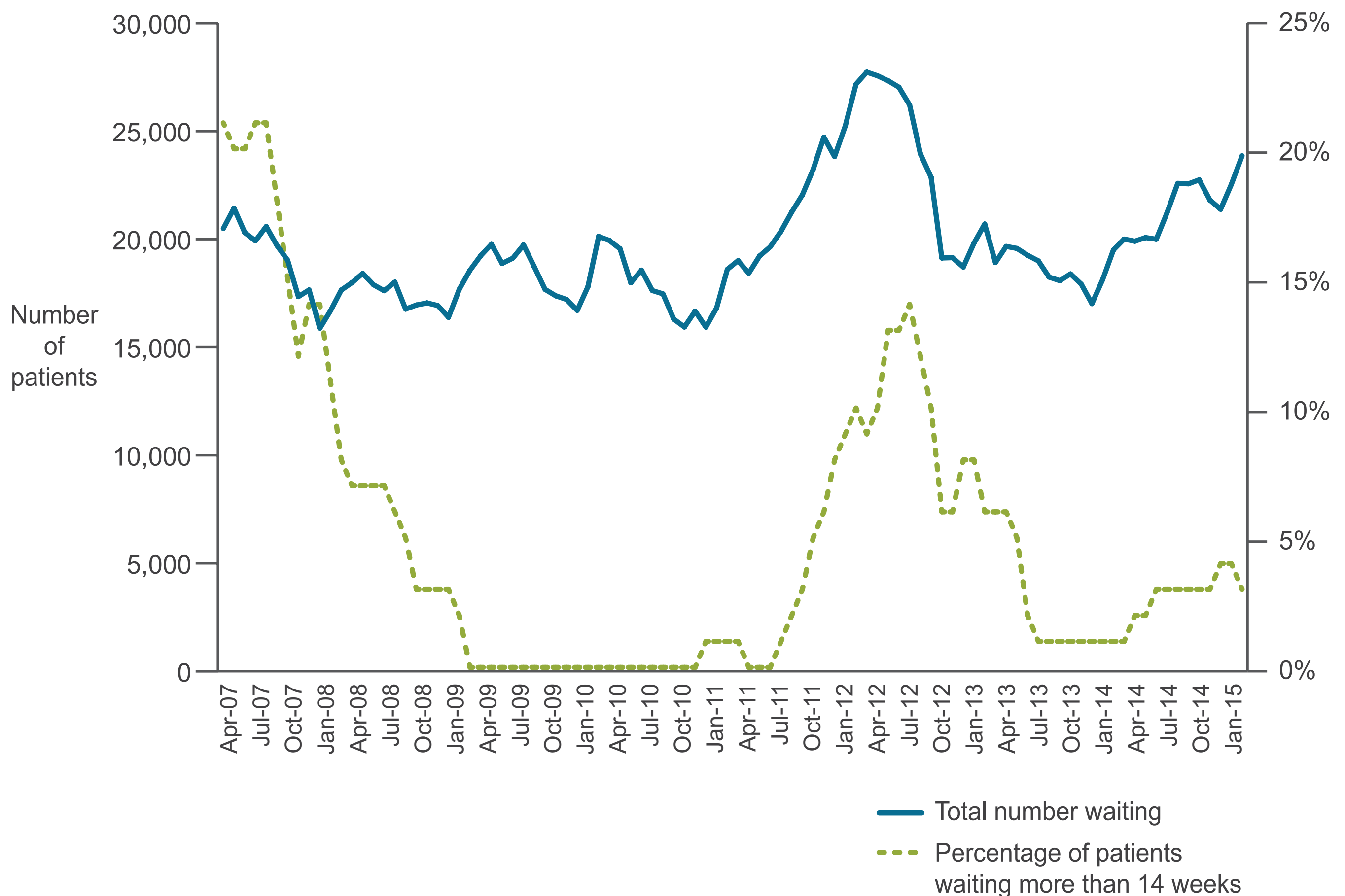
Figure 9 – Number of consultant MRI and ultrasound referrals where patients are waiting over eight weeks

Source: Stats Wales

1.14 People with musculoskeletal conditions also often require physiotherapy. The Welsh Government's targets say that patients should wait no longer than 14 weeks for therapy intervention. Figure 10 shows that the number of patients waiting more than 14 weeks for a physiotherapy appointment reduced considerably in 2007 and 2008, remaining low until mid-2011 but then rising to a peak in August 2012 before reducing again during 2013[15]. More recently, there has been a gradual increase in the number of patients waiting more than 14 weeks with four health boards (Abertawe Bro Morgannwg, Aneurin Bevan, Cardiff and Vale, and Hywel Dda University Health Boards) not meeting the Welsh Government target in March 2015.

15 Data taken from www.statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/NHS-Hospital-Waiting-Times/Diagnostic-and-Therapy-Services/waitingtimes-by-month - Physiotherapy Adult Services.

Figure 10 – Percentage of patients waiting more than 14 weeks for physiotherapy



Source: Stats Wales

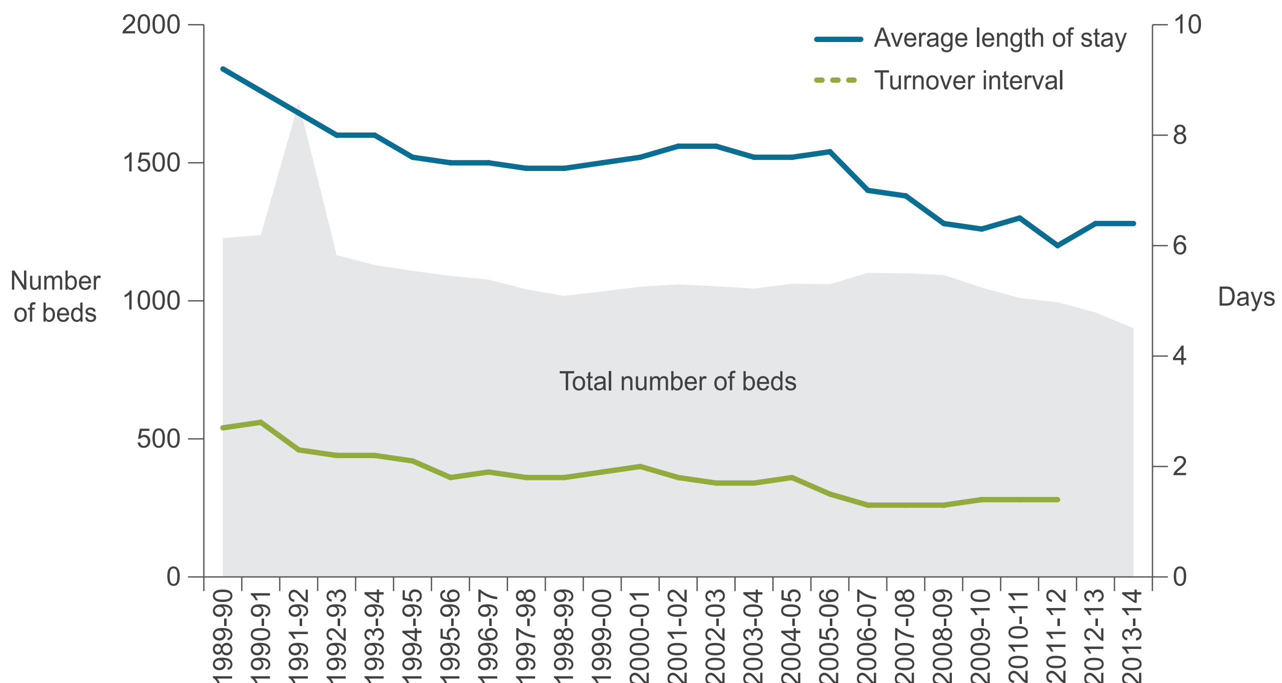
1.15 Demand on physiotherapy services, however, is partly determined by the level of throughput through the system. As outpatient departments or community based teams refer and assess more patients, more demand is placed on the physiotherapy teams. In contrast, as throughput slows down due to blockages in the pathway or a reduction in demand, the demand on physiotherapy services reduces. The reported improvements in compliance with the 14-week target during the period July 2012 to January 2014 reflect a period when the number of patients referred to physiotherapy services decreased.

The NHS in Wales is using its orthopaedic resources more efficiently than in the past but is not doing enough to address increasing demand

Whilst the number of orthopaedic beds is decreasing, health boards are using the remaining beds more efficiently, largely due to shorter lengths of stay and increased day-case rates

1.16 Whilst the number of orthopaedic beds in Wales has decreased from 1,227 in 1989-90 to 900 in 2013-14[16], Figure 11 shows that NHS Wales is using its remaining orthopaedic beds more efficiently. The average length of stay for orthopaedic patients (both elective and emergency) has decreased constantly over the past 24 years from 9.2 days to 6.4 days in 2013-14. The figure also shows a consistent decrease in the turnover interval[17] for orthopaedic beds, meaning that health boards are managing to reduce the gaps between one patient being discharged from an orthopaedic bed and the next patient being admitted. This is one way of measuring efficiency although caution needs to be given to ensure that a shorter turnover interval does not affect cleaning regimes to minimise hospital-acquired infection.

Figure 11 – Length of stay and bed turnover intervals for orthopaedic patients in Wales



Source: Stats Wales

16 Data taken from www.statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/NHS-Hospital-Activity/NHS-Beds/NHSBeds-by-Specialty - Trauma and Orthopaedic.
17 The average length of time (in days) that elapses between the discharge of one patient and the admission of the next patient to the same bed over any period of time. Turnover intervals were no longer published from 2012 onwards.

1.17 These improvements have been helped by changes in clinical practices. Efficiencies have been secured by ensuring more patients have their orthopaedic surgery as day cases, meaning patients are admitted, treated and discharged on the same day. In 2009-10, on average, 49 per cent of elective orthopaedic patients were treated as a day case. In 2013-14, that position had improved to 57 per cent. In addition to securing more efficient use of hospital beds, increasing day case rates means patients are at less risk of suffering complications arising from hospital-acquired infections.

1.18 There has also been a greater focus on bringing patients into hospital on the day of surgery. In 2009-10, on average, 49 per cent of elective patients were admitted on the day of surgery. In 2013-14, that position had improved to 65 per cent. Previously, concerns raised over the ability to guarantee the availability of a hospital bed resulted in clinical practice to admit patients the night before surgery, resulting in an unnecessary overnight stay for many patients. The introduction of admission lounges in a number of hospitals across Wales has allowed patients the ability to come into a non-ward environment on the morning of surgery to wait in before their operation. This allows other patients to be discharged from the ward, freeing up the bed for the patient following surgery and reducing the turnover interval between patients.

1.19 More recent improvements have also been made in relation to the introduction of new initiatives such as 'joint schools'. 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. The joint school is held prior to hospital admission and research indicates that the approach results in quicker recovery post-surgery and a reduced hospital stay. Figure 12 shows the recent improvements in the average length of stay for elective hip and knee replacements, both of which comply with the Welsh Government targets for these procedures.

Figure 12 – Average length of stay (days) for elective hip and knee replacement patients

Procedure	Target	2009-10	2013-14
Elective hip replacement	6.1	8.2	6.1
Elective knee replacement	6.5	7.3	5.5

Source: NHS Wales Informatics Service

1.20 All of these improvements have helped secure continued improvements in the overall length of stay for elective orthopaedic patients. In 2009-10, the average length of stay was 3.9 days. In 2013-14, that position had improved to 3.6 days, which is below the Welsh Government target of four days. There is, however, variation across health boards (Figure 13).

Figure 13 – Average length of stay (days) for elective orthopaedic, hip and knee replacement patients in 2013-14

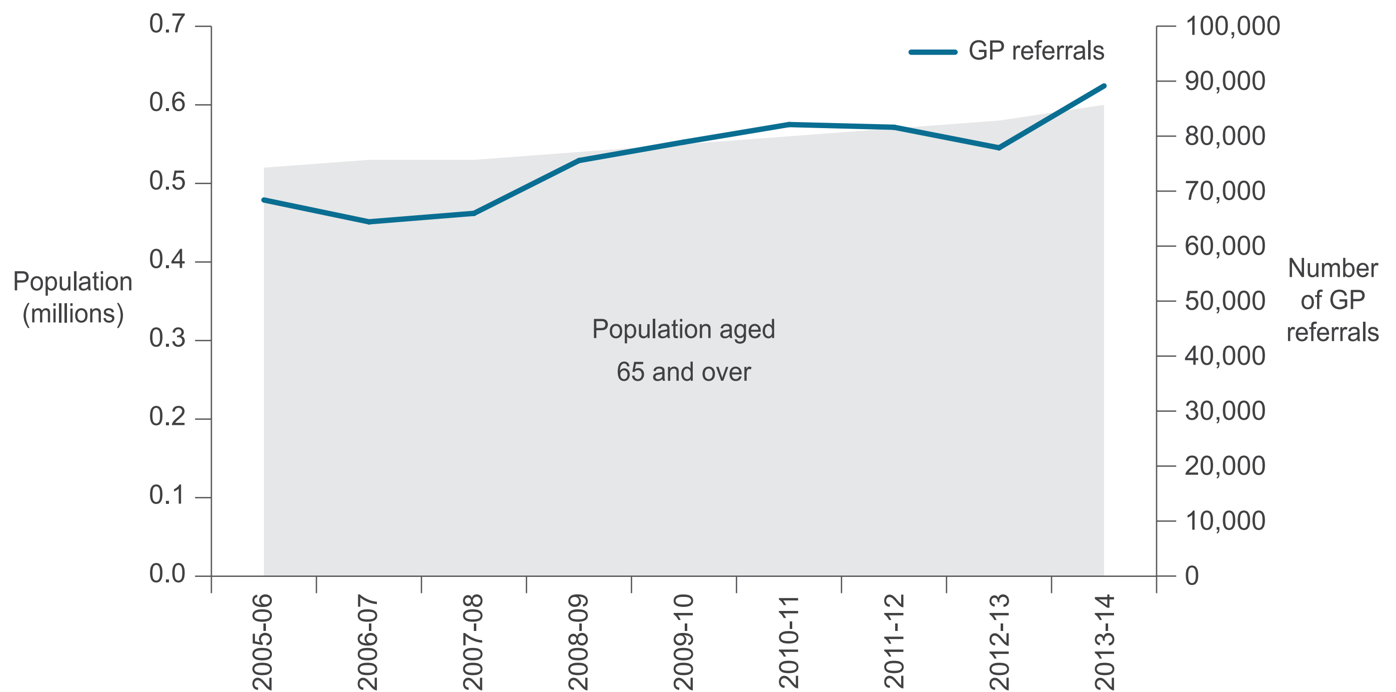
Health board	Elective orthopaedic patients	Elective hip replacements	Elective knee replacements
Abertawe Bro Morgannwg	3.9	6.5	5.4
Aneurin Bevan	4.1	6.6	5.5
Betsi Cadwaladr	3.4	4.7	4.5
Cardiff and Vale	4.1	5.9	6.5
Cwm Taf	4.6	7.2	5.9
Hywel Dda	3.1	5.5	5.4

Source: NHS Wales Informatics Service

Despite increased capacity and improved efficiency, NHS Wales is struggling to meet the demand placed on it from an increasing rate of GP referrals and activity levels are reducing

1.21 As shown in Figure 1 on page 8, the number of GP referrals to orthopaedic services has increased by 30 per cent since 2005. Over the same period, the overall population in Wales has increased by 3.8 per cent. An ageing population has the greatest impact on orthopaedic services and Figure 14 shows that the growth in GP referrals for orthopaedics is accelerating at a much faster rate than the growth in overall population aged 65 and over, which has increased since 2005 by 15.6 per cent.

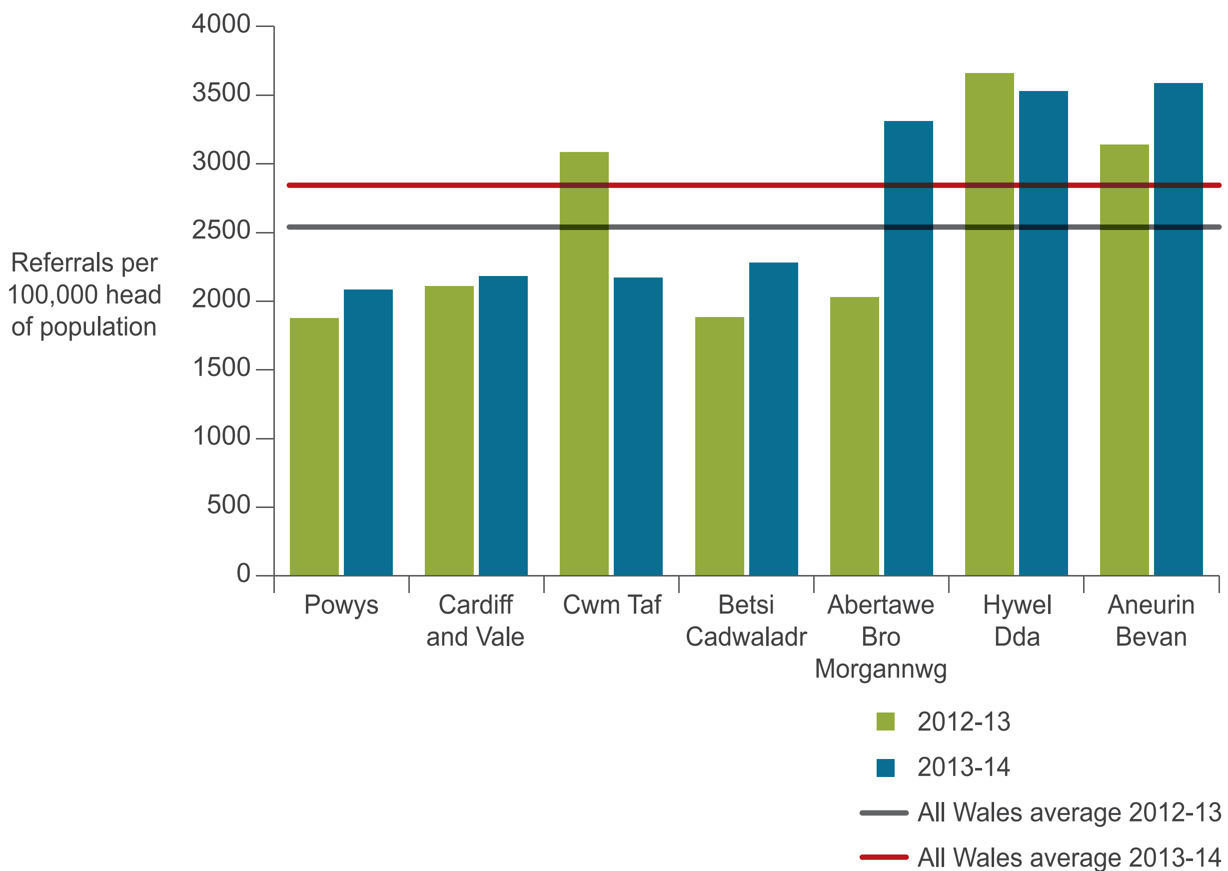
Figure 14 – Trend in GP orthopaedic referrals compared with trend in population



Source: Stats Wales and NHS Wales Informatics Service

1.22 Our analysis of the information that is available has identified that the rate of GP referrals across commissioning health board areas varies significantly per 100,000 head of population (Figure 15). The variations are not immediately explained by demographics, suggesting differences in referral practices and potential scope to secure better use of existing resources by reducing inappropriate referrals to outpatient departments. The reasons for higher referral rates can include a lack of referral guidelines, GP behaviours, patient expectations and a lack of services that offer alternatives to surgery. In addition, GP referrals across Wales only account for approximately 53 per cent of all referrals to orthopaedics. The way in which the local CMATS operates can influence the GP referral rate as referrals from some CMATS can be classed as GP referrals whilst others may be classed as referrals from other healthcare professionals.

Figure 15 – Rate of GP referrals per 100,000 head of population by commissioning health board

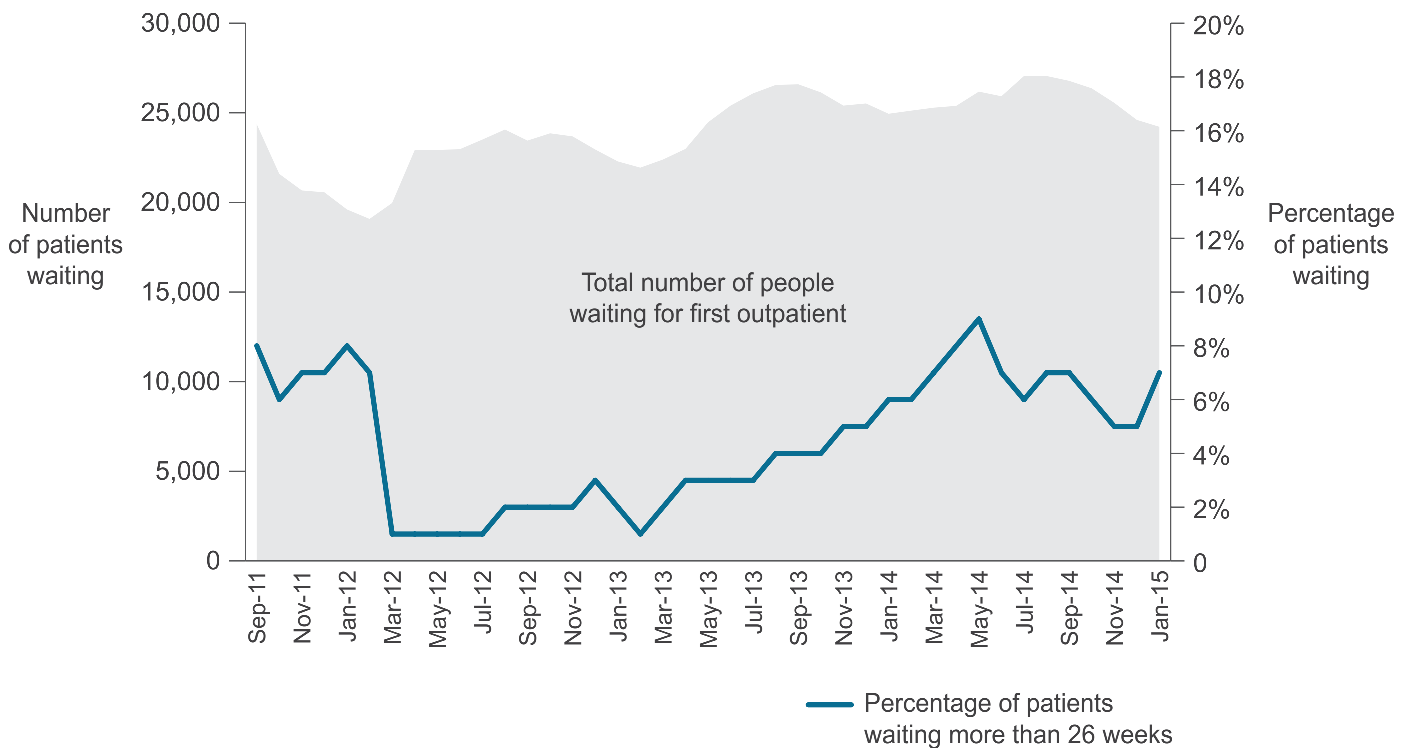


Source: Stats Wales

1.23 The increase in GP referrals has contributed to a sharp growth in new outpatient attendances. Between 2005 and 2012, there was a 32 per cent increase in new outpatient attendances, although the level since 2012 has started to decline. Whilst some of the increase will be as a direct result of the increased demand from GP referrals, it is also a product of more capacity within the system to see more patients. The number of trauma and orthopaedic consultants has increased almost two-fold from 86 Whole-Time Equivalents (WTEs) in 2005-06 to 143.2 WTEs in 2013-14.

1.24 Despite the increased level of consultant staff, NHS Wales is struggling to meet demand. Figure 16 shows an increasing trend in the number of patients waiting more than 26 weeks for their first outpatient appointment since April 2012. A review of activity levels has also identified that since 2012, there has been a reduction of 9.4 per cent in outpatient activity, which will contribute to an increase in waiting times.

Figure 16 – Number of patients waiting for a first outpatient appointment compared with the percentage of those waiting more than 26 weeks



Source: Delivery Unit, Welsh Government

1.25 Once patients are seen in the outpatient department, the pressure from demand on diagnostic and therapy services referred to in paragraphs 1.11 to 1.15 impacts further on the ability to see and treat orthopaedic patients within 26 weeks. Patients who are waiting for admission account for between 15 and 19 per cent of all patients on the orthopaedic waiting list at any one time. Our analysis of waiting times data has shown that by the time a decision to admit a patient for orthopaedic surgery is made, between 10 to 12 per cent of patients will have already been waiting more than 26 weeks and a further five to seven per cent of patients will breach the 26-week target while waiting for admission. Activity data also shows that there has been a 20 per cent reduction in elective activity since 2012. Unscheduled care pressures within orthopaedics do not explain this with a 7.5 per cent reduction in trauma activity during the same period; however, wider unscheduled care pressures are likely to have had an impact on the level of elective throughput.

There is still scope to make more efficient use of existing resources, although these would not be sufficient to meet the current demand and more fundamental approaches to demand management are going to be needed

1.26 Despite the positive improvements in efficiencies, NHS Wales is still not meeting all of its efficiency measures related to orthopaedic services. Our fieldwork showed that there is scope for even better use of orthopaedic resources, particularly in relation to outpatient performance. Figure 17 sets out performance across Wales against Welsh Government targets during 2013-14 and the potential impact improvements in the respective areas could have.

Figure 17 – Performance against Welsh Government targets in 2013-14 and impact on use of resources

Efficiency measure	Welsh Government target	2013-14 NHS Wales performance	Potential impact[18]
Reduced 'did not attend' rates for new outpatient appointments	Five per cent	7.8 per cent	Achievement of the Welsh Government target could free up an additional 4,079 new outpatient slots.
Reduced 'did not attend' rates for follow-up outpatient appointments	Seven per cent	8.9 per cent	Achievement of the Welsh Government target could free up an additional 5,748 follow-up outpatient slots.
Reduced number of follow-up appointments	1.9 follow-up appointments to every one new appointment	1.98 follow-up appointments to every one new appointment	Achievement of the Welsh Government target could free up an additional 11,184 follow-up outpatient slots.
Increased number of elective cases treated as a day case	75 per cent	57 per cent	Achievement of the Welsh Government target could free up a minimum of 6,949 bed days.
Increased number of elective patients admitted on the day of surgery	64 per cent	65 per cent	None as Welsh Government target being achieved by NHS Wales as a whole.
Reduced elective length of stay	Four days	3.6 days	None as Welsh Government target being achieved by NHS Wales as a whole.

Source: Wales Audit Office

1.27 In total, the potential impacts described in Figure 17 could create an extra 339 new outpatient slots, 1,411 follow-up outpatient slots and 579 bed days per month. However, Figure 18 shows that even if these improvements are secured, there would not be enough capacity to bring waiting times for orthopaedic treatment in line with the Welsh Government target based on the waiting times position at the end of January 2015.

18 Based on activity undertaken during the financial year 2013-14.

Figure 18 – Potential freed-up capacity compared with number of patients waiting more than 26 weeks

Freed-up capacity per month	Number of patients waiting more than 26 weeks at 31 January 2015	Shortfall
339 new outpatient appointment slots	1,756 patients waiting for first outpatient appointment	1,417
1,411 follow-up outpatient appointment slots	3,942 patients waiting for post-diagnostic follow-up appointment	2,531
579 bed days	2,795 patients[18] waiting for an elective inpatient admission with a target length of stay of four days	10,601

Source: Wales Audit Office

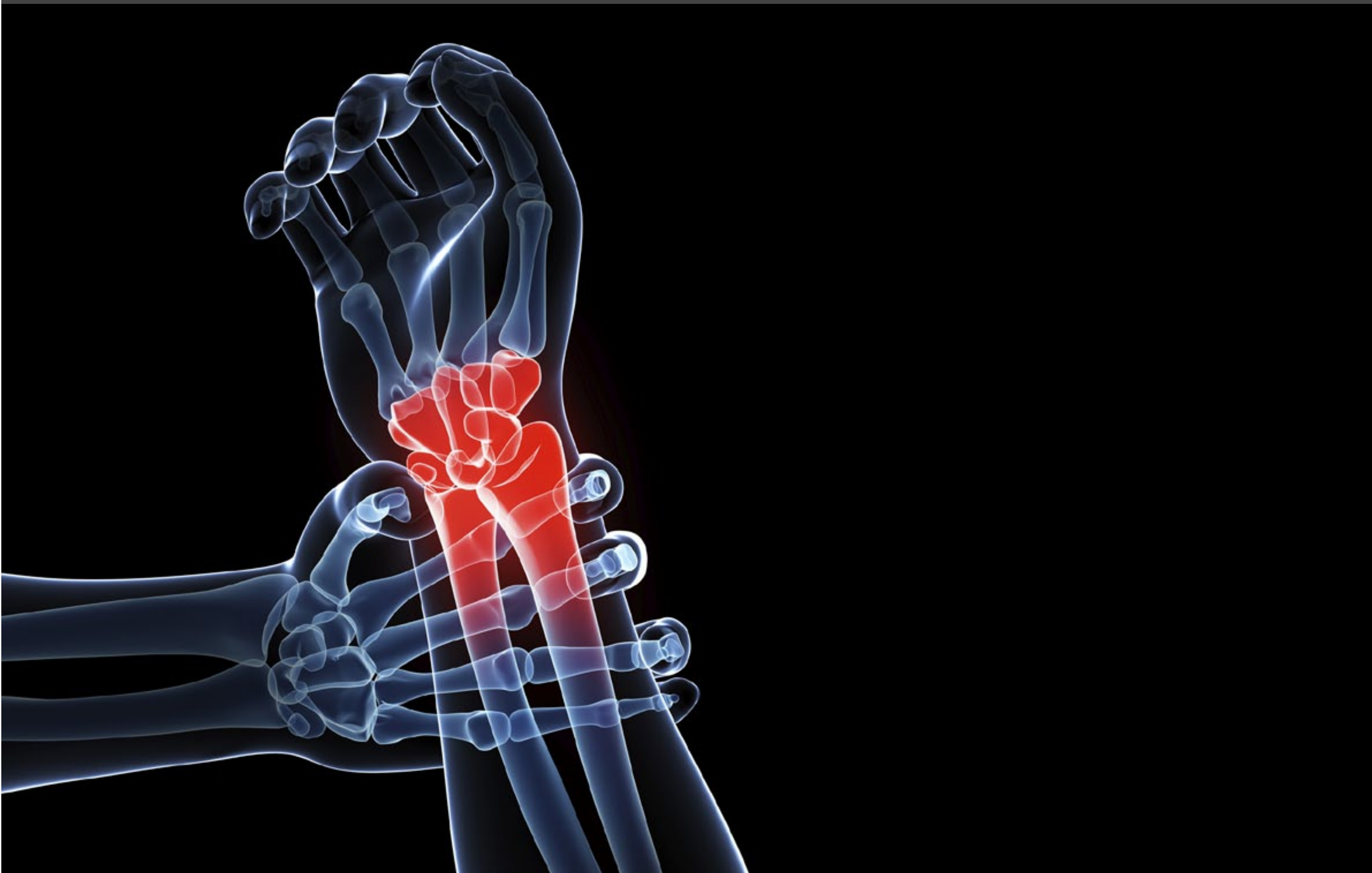
1.28 Figure 18 describes the all-Wales position and it should be noted that scope for improvements in the use of existing resources varies across the health boards in Wales. Appendix 5 shows how the parameters presented in Figures 17 and 18 vary by health board. We have prepared individual reports for each health board in Wales, highlighting where scope exists for improvements in use of existing resources based on an analysis of a range of performance data relating to musculoskeletal services. Individual health board reports can be accessed at www.audit.wales.

1.29 Whilst there remains further scope to improve efficiency, it is unlikely that improvements in these areas alone will secure the extent of improvement needed to offset the increasing demand across NHS Wales This suggests that health boards, in parallel with their continued efforts to improve efficiency, need to take more radical alternative approaches to meet orthopaedic demand in future. This would include such approaches as the further development of services to provide alternatives to surgery, implementation of more stringent thresholds for surgery to maximise the value added to patients' lives, and the stopping of interventions that have been clinically proven to provide limited benefit such as lumbar spine procedures.

19 Total number of patients waiting more than 26 weeks for an inpatient or day-case admission at the end of January 2015 was 11,179. Assumption that if Welsh Government targets were achieved 75 per cent of these patients would be treated as a day case.

Part 2

At a national level, there has been a clear commitment to improving musculoskeletal services with matching investment but the approach has had less impact than expected



The Welsh Government took the positive step of forming the National Orthopaedic Innovation and Delivery Board, whose work was supported by clear objectives and additional ring-fenced investment

2.1 The formation of the National Orthopaedic Innovation and Delivery Board (the Delivery Board) in June 2011 represented a positive step to drive improvement in orthopaedic services. Initially chaired by the then Chief Executive of NHS Wales, the Delivery Board had a high profile. During our fieldwork, we were told about a definite sense of enthusiasm and expectation from staff around the formation of the Delivery Board.

2.2 The Delivery Board's purpose was clear. It was designed to oversee progress towards the objectives of the National Orthopaedic Programme and provide leadership and guidance in the delivery of a new service model for orthopaedics. The objectives of the National Orthopaedic Programme were clear and had definite timescales. The objectives were:

a the elimination of waiting times for orthopaedic treatments in excess of 36 weeks by March 2012;

b the establishment of a modern, efficient service model for orthopaedics, based on best practice, across Wales by March 2013, including the full delivery of the three national 'Focus On' pathways[20]; and

c the establishment of a fully sustainable orthopaedic service across Wales, meeting all Annual Quality Framework requirements including national targets for waiting times, quality, safety and patient outcomes by March 2013.

2.3 The Delivery Board was supported by three task and finish subgroups that carried out considerable work on Public Health and Primary Care; Intermediate Care, and In-Hospital Care.

2.4 Central funding from the Welsh Government supported the work of the Delivery Board. In March 2011, the then Minister for Health and Social Services announced the availability of £65 million to NHS Wales over three years for improving orthopaedic services. In her statement, the minister said orthopaedic services in Wales would become 'best in class' in relation to efficiency, productivity and clinical outcomes. As well as using existing hospital capacity optimally, the minister stated an intention to 'maximise the range of alternative treatments to surgery'. The statement also said that additional orthopaedic capacity would be needed in the immediate term.

20 Focus On' pathways were developed to cover the management of knee replacements, hip replacements and emergency admission for fractured neck of femur, with the overall aim to set out evidence-based pathways of care that could be consistently applied across Wales.

2.5 The £65 million in additional funding is equivalent to approximately six per cent of the total expenditure for musculoskeletal services between 2011-12 and 2013-14[21]. Over the three years, it was proposed that £43 million was available on a recurrent basis, with a further £22 million available on a non-recurrent basis subject to meeting selection criteria set out by the Delivery Board.

The Delivery Board was set up to drive change but it did not achieve some objectives and its impact on waiting times was short-lived

The Delivery Board produced a clear and compelling vision for the improvement of orthopaedic services and established an appropriate infrastructure of task and finish groups to help achieve the vision

2.6 The Delivery Board succeeded in producing a vision for the future of orthopaedic services. The NHS Wales Orthopaedic Delivery Framework was presented to the Delivery Board in July 2011. It set out a vision for a new orthopaedics service model, a one-page strategy for transforming musculoskeletal services and details of how the implementation of the framework would be driven by the three task and finish subgroups set out in paragraph 2.3. The vision focused on the whole system starting from the prevention of musculoskeletal conditions, through to primary care and community interface services to hospital-based care. The one-page strategy (shown in Figure 19) was designed to be a starting point for establishing the detail within the framework and was supposed to be used by the Delivery Board and by each health board to ensure a whole-systems approach.

2.7 The document presented to the Delivery Board in July 2011 set out specific milestones for delivering the framework. The Delivery Board described the timescales as 'realistic but challenging'. This included the setting out of:

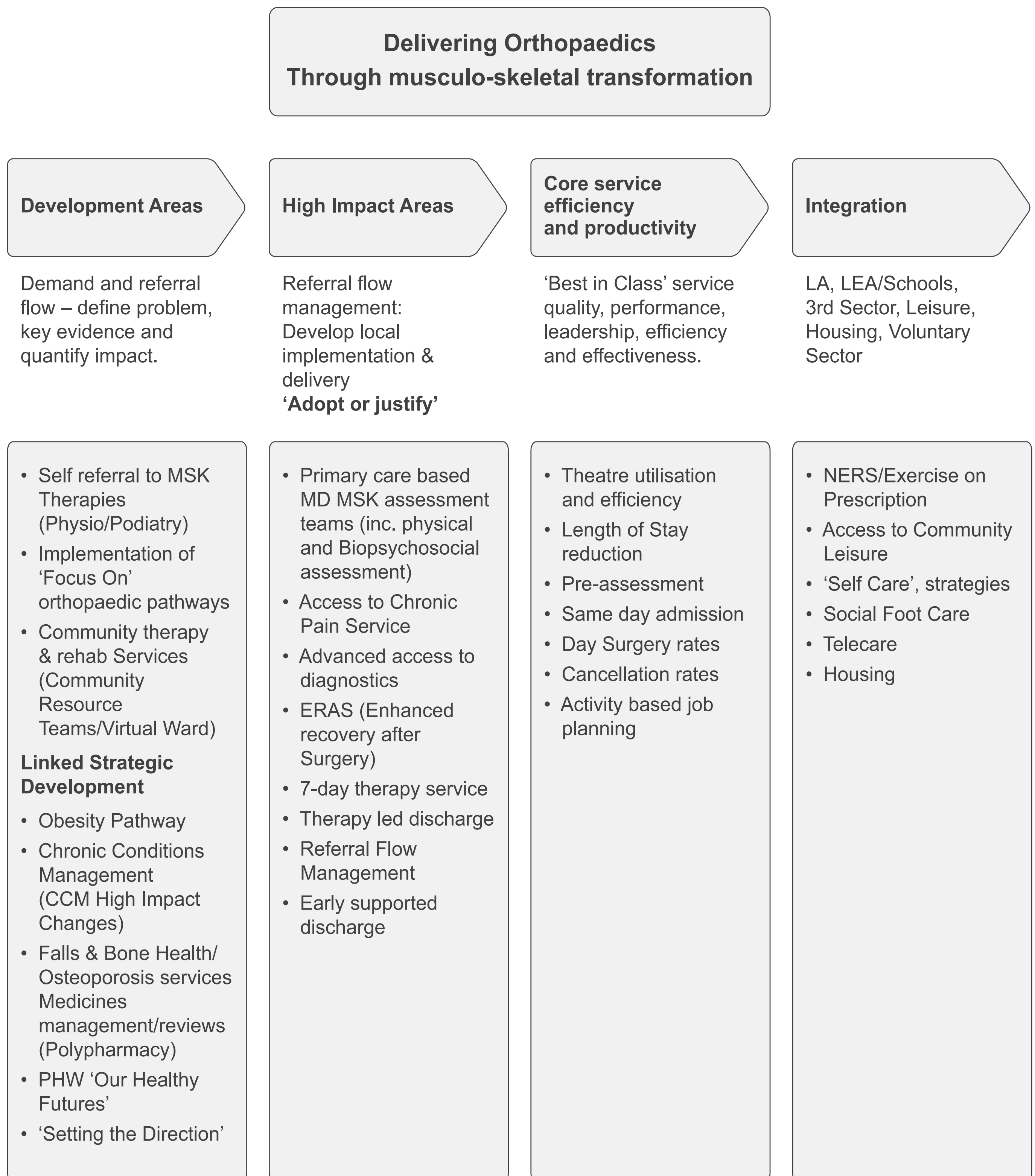
a recommendations for immediate implementation by September 2011 for health boards to implement by March 2012; and

b lower-priority recommendations (defined by the task and finish groups) in January 2012 for implementation by health boards in 2012-13.

2.8 Each of the subgroups set out development and implementation areas and how these were to be taken forward through a number of work streams within each of the task and finish groups. The chairs of the subgroups were held to account for progress against the development and implementation areas at Delivery Board. For the remainder of the Delivery Board's existence, the subgroups provided each meeting with an update on progress. These updates clearly show that each subgroup carried out considerable work.

21 Stats Wales, Programme budgets – www.statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/Health-Finance/NHS-Programme-Budget/NHSExpenditure-by-BudgetCategory-Year

Figure 19 – The one-page strategy for transforming musculoskeletal services



Source: National Orthopaedic Innovation and Delivery Board, July 2011

Despite initial intentions for the Delivery Board to drive sustainable development, the process for allocating funding was ultimately driven by the Welsh Government and the bulk of the funds available were targeted at securing immediate improvements in waiting time performance

2.9 The Welsh Government allocated the three-year recurrent element of the funding to health boards in 2011-12 and presented the allocation to the Delivery Board for information. This allocation was based on the level of activity required to reduce the imbalance in the waiting list position for orthopaedic services across Wales and provided the basis for future allocation of recurrent funding in 2012-13 and 2013-14.

2.10 The Welsh Government also allocated the non-recurrent funding in 2011-12 to eradicate backlog waiting lists that had built up since 2009, and specifically the waiting lists for foot, ankle and major spine treatment that had built up in Cardiff and Vale University Health Board. No recurrent funding was allocated to Powys Teaching Health Board given that orthopaedic waiting times at that time were being achieved.

2.11 The Delivery Board was responsible for considering the basis for distributing any unallocated portion of recurrent funding and the non-recurrent funding for 2012-13 onwards. At the February 2012 meeting of the Delivery Board, it was stated that health boards would be invited to bid against the non-recurrent funding, based on selection criteria established by a subgroup of the Delivery Board. This subgroup consisted of the NHS Wales Director of Operations, the NHS Wales Director of Finance, a consultant orthopaedic surgeon, a director of planning and a representative from the Welsh Government's Delivery and Support Unit. However, by May, the Delivery Board received a finance paper setting out the allocations of a large proportion of the non-recurrent funds from the Welsh Government. Of the initial £15.3 million of non-recurrent funding for 2012-13, this left just £4.2 million to be made available for health boards to submit proposals for sustainable solutions. Health boards were given just three weeks to submit bids.

2.12 In 2013-14, the non-recurrent funding was removed as the original three-year plan for the funding recognised that all of the backlog within the system should have been eradicated by year 3. However, a residual balance of £4.9 million on the recurrent funding was made available. This was used to extend the bids approved in 2012-13 by a further six months. Appendix 3 sets out the details of the allocation of the recurrent and non-recurrent funding during these three years, noting that just under £3 million of the £65 million was never allocated.

The work of the Delivery Board and its subgroups did facilitate a short-lived improvement in waiting times but there was limited success in driving other priorities, particularly in relation to the longer-term solutions to managing musculoskeletal demand

2.13 A specific aim of the national programme was to eliminate orthopaedic waiting times in excess of 36 weeks by March 2012. As mentioned in paragraph 1.5, this target was achieved in all health boards with the exception of Cardiff and Vale University Health Board. The reduction, however, was short-lived and waiting times increased steadily from April 2012.

2.14 A further aim of the national programme was to establish a fully sustainable orthopaedic service across Wales, capable of meeting all the relevant Annual Quality Framework requirements that existed at the time, including national targets for waiting times, by March 2013. However, by the end of the financial year 2012-13, 14 per cent of patients were waiting more than 26 weeks compared with the target of five per cent, with 781 patients waiting more than 36 weeks. This has subsequently risen to 3,770 patients waiting more than 36 weeks by March 2014 and more recently 6,861 in February 2015.

2.15 The Delivery Board's task and finish groups set out 15 priorities that they wanted to focus on in the first six months of their work. Figure 20 demonstrates the work that was carried out to respond to those priorities and shows that success in delivering the change and promoting local implementation was mixed.

Figure 20 – Progress in delivering the priorities of the task and finish subgroups

Priority	Achieved	Progress
Establish effective, good-quality interface clinics	✓	The chair of the Intermediate Care subgroup provided a paper to the Delivery Board in February 2012 that set out core guidance about the structure and function of the CMATS. The guidance included objectives for the CMATS, core principles, types of staff that should be involved, a service description, inclusion and exclusion criteria, and details of how performance should be monitored and evaluated including key performance indicators. The paper was updated and brought back to the Delivery Board in May 2012. The detailed guidance was issued to health boards via the chief executives and CMATS have been implemented in all health boards.
Community pain services	✗/✓	A paper was brought to the May 2012 Delivery Board, which set out the proposed model for the provision of community based pain services. The availability of community pain services, however, remains variable with only four health boards providing these services.

Priority	Achieved	Progress
Develop referral thresholds and support the process by e-referral with mandatory fields	×	A paper was brought to the June 2012 Delivery Board including a proposal that guidance on thresholds would be required from the National Specialist Advisory Group (NSAG) and this would be required by 30 September 2012. In January 2013, the Delivery Board discussed the lack of progress in working with the NSAG. This guidance was never produced.
Increase direct engagement and co-ordinated involvement of social services with the orthopaedic service	×	A report to the October 2012 Delivery Board noted that further progress was required on this priority. No further updates were reported on this priority and our fieldwork identified no examples where direct engagement and co-ordinated involvement of social services was taking place.
Standardise (as much as is possible) pre-operative and pre-anaesthetic assessment across Wales	×	A report to the October 2012 Delivery Board noted that work had included the development of an outline of a desired process with the intention of developing standardised all-Wales pre-operative documentation. However, our health board surveys identified variation both in the operation of pre-operative assessment services, including documentation, within health boards and across Wales, and the time when pre-operative assessment is undertaken.
Introduce seven-day and extended-day working in therapies	×/✓	A paper provided to the January 2013 Delivery Board meeting noted that all health boards, except Powys, have therapy services for orthopaedic patients available on Saturday and Sunday. However, despite this, only one service involves staff working on a seven-day job plan. Our health board survey confirmed that whilst some physiotherapy provision is being offered at weekends and through extended working days, overall physiotherapy services remain a five-day service.
Theatre efficiency	×	The Welsh Government's Delivery and Support Unit (DSU) was involved in supporting health boards to deliver this priority by focusing on the time between one operation and the next. The approach included nominating a 'showcase' operating theatre in each health board with the DSU providing support and guidance on driving greater productivity. The final update from the subgroup to the Delivery Board in January 2013 showed that only Powys Teaching Health Board was typically achieving[22] the desired turnaround times of less than 20 minutes between patients.

22 The report presented data in the form of 80th percentile turnaround times.

Priority	Achieved	Progress
Standardisation of implant choice and improving the procurement process	✗/✓	A procurement group took this work forward on a national basis, with a member of that group reporting to the Delivery Board. In November 2012, the NHS Wales Shared Services Partnership introduced an all-Wales contract for procuring orthopaedic implants. The partnership estimated that the contract would result in savings of around £1 million. However, our fieldwork identified that not all health boards were using the all-Wales contract to procure orthopaedic implants and that there remained variation in implant choice within and between health boards.
Promote and implement best practice fractured neck of femur care across Wales	✓	A number of workshops were held to share good practice regarding the treatment of fractured neck of femur cases. The DSU has continued to work alongside health boards to implement the 'Focus On' pathway for these patients.
Review follow-up regimes	✗	Consideration was given to referral and follow-up criteria for arthroplasty and carpal tunnel syndrome in June 2012, with action to produce best practice guidelines. However, these have not yet been produced.
'Focus On' programmes	✗/✓	'Focus On' pathways for common conditions are an example of a positive impact. A report to the July 2012 Delivery Board meeting noted that the hip and knee pathways were well established. A further pathway for community pain services was being developed but the report noted that much work remained. The implementation of the 'Focus On' pathways have been included within the Annual Quality and Delivery frameworks, but the pathways were not sent out with any guidance from the Delivery Board and there are no mechanisms in place to ensure full compliance with them at a local level.
The development of an orthopaedic surveillance and outcome system	✗/✓	The Public Health and Primary Care Sub Group presented its final report on this priority to the Delivery Board in May 2012, which set out the development of the Secure Anonymised Information Linkage (SAIL) databank by Swansea University working with Cardiff and Vale University Health Board. The rollout across Wales, however, was reliant on implementation by the NHS Wales Informatics Service, which has not taken place.

Priority	Achieved	Progress
A shared decision-making model for clinical consultation	×	In May 2012, the Public Health and Primary Care Sub Group provided the Delivery Board with a proposal to consider the application of 'Ask 3 Questions' to orthopaedic services in Wales with the support of the MAGIC (Making Good Decisions in Collaboration) programme team working with Cardiff and Vale University Health Board. The proposal said funding would need to be identified for the production of the associated materials to support this approach. No further updates were received.
A lifestyle programme for overweight people with musculoskeletal complaints	×/✓	The Delivery Board was given details of several examples of lifestyle programmes in February 2012. The Delivery Board noted that detailed evaluation was required to ascertain the effectiveness of these schemes balanced against the indicative cost of fully delivering these services across Wales (in the region of £1.5 to £2 million). Our health board survey identified that lifestyle programmes were in place in all health boards except Abertawe Bro Morgannwg University Health Board and Hywel Dda University Health Board.
Communication of preventative and promotional interventions with the public and the clinical community – beginning with that to support the back pain pathway	×	Little progress was made in implementing this priority. The subgroup decided that £300,000 would be required for a publicity campaign and the funding requirement was a major barrier to making progress.

Source: Wales Audit Office analysis of papers from the Delivery Board and Wales Audit Office fieldwork

The Delivery Board ceased to meet with nearly a year of the Welsh Government funding remaining, central monitoring was insufficient and there were weaknesses in the way it influenced and evaluated efforts to improve orthopaedic services

There were some weaknesses in the Delivery Board's membership and the ability to influence the delivery of its objectives within health boards

2.16 The original 10 members of the Delivery Board were the NHS Wales Chief Executive, the Welsh Government's Directors of Operations and Finance, three consultant orthopaedic surgeons, a director of therapies and health science, a director of public health, a representative of the DSU and a GP.

2.17 Members of the Delivery Board clearly showed a commitment to driving improvements in musculoskeletal services but the membership and constitution of the Delivery Board contributed to difficulties in driving change at a local level. During our fieldwork, we heard criticism of the limited involvement in the Delivery Board of primary care, social services and Powys Teaching Health Board. In 2012, there was also some 'churn' in the group's membership when the Welsh Government's Director of Operations left to take up another job, and the NHS Wales Deputy Chief Executive replaced the Chief Executive as chair.

2.18 While each of the health boards was represented on the Delivery Board, with the exception of Powys Teaching Health Board, it was unclear if members were officially representing their health board or were simply members in a professional capacity. A key worker from the DSU was assigned to work with each health board on strategies for delivery. However, with limited representation of health board executives, there was an insufficiently strong connection between the work of the Delivery Board and local implementation of the national objectives. Minutes of the meetings of the Delivery Board were issued to chief executives along with any guidance that was developed through the task and finish groups, but a review of the arrangements within health boards would suggest that these were not always being passed to the relevant management teams within the health boards and considered at a service level.

The Delivery Board had a responsibility for monitoring progress towards the implementation of the national vision but there is little evidence of this happening at a local level with only minimal central monitoring on how the allocated monies were spent

2.19 Once the Delivery Board had set out its national vision, it had a responsibility for overseeing the implementation of the vision and monitoring progress across Wales. The terms of reference of the Delivery Board state: 'The Board will further be responsible for overseeing the implementation of the plans, and for providing assurance to the National Delivery Group that an appropriate direction is being taken in achieving the stated goals'.

2.20 There is some evidence that the Delivery Board monitored its own progress. For example, in October 2011, the Delivery Board considered a paper that reviewed the National Orthopaedic Programme and described progress to date.

2.21 There is less evidence of the Delivery Board taking a rigorous approach to monitoring progress at a local level. Although health boards were required to provide high-level reports on waiting times performance and visits to health boards were made, there was only minimal monitoring of the ways in which the health boards spent the central funding allocated to them. The September 2012 meeting of the Delivery Board noted confusion about how the funding was allocated and only then, 17 months after the funding was allocated, did the Delivery Board decide to request information from health boards on the extent of their progress in using the funding to implement sustainable solutions. The Delivery Board subsequently wrote to health boards in January 2013 to request the information and a summary paper was produced in June 2013. The paper was just three-pages long and there was very little detail about how the funding had been used.

2.22 In order to fully evaluate the efforts of improving orthopaedic services in Wales, it would be necessary to consider whether patients are now having better outcomes because of their treatment. Despite some efforts within the Delivery Board to focus on patient outcomes, information on outcomes remains sparse. As set out in Figure 20, the Public Health and Primary Care Sub Group did carry out work to develop an orthopaedic surveillance system, with one intention being to monitor patient outcomes. The Delivery Board had also discussed the possibility of procuring a new, all-Wales computer system for orthopaedics that would have many potential benefits, including improvement in the monitoring of patient outcomes. However, at the time of reporting, no system had been procured.

2.23 Our interviews with health board staff and our reviews of the Delivery Board's papers indicate that the initial enthusiasm and drive within the Delivery Board waned during 2012-13. In July 2012, the Delivery Board changed from monthly to bimonthly meetings and the Delivery Board met for the last time in May 2013, with almost a year of the central funding programme remaining.

2.24 The focus for orthopaedics is now considered as part of the National Planned Care Programme developed by the Welsh Government. A draft National Orthopaedic Implementation Plan has been developed and the National Orthopaedics Board, a subgroup of the Planned Care Programme Board, met for the first time in April 2015 to start to take this work forward. This mechanism provides a real opportunity to reinvigorate the work initiated by the Delivery Board and to work with health boards to implement the national vision for orthopaedics.

Part 3

Health boards have started implementing the national vision but not on the required scale and there is not yet enough information on outcomes to say whether change is benefiting patients

A range of planning and funding barriers has slowed the pace of change at a local level and health boards did not take full advantage of the opportunities provided by the central funding for orthopaedics

Clinical musculoskeletal assessment and treatment services are a key part of the national vision for improving orthopaedic services but differences in clinical opinion on the effectiveness of this service model has hindered the pace of change

3.1 The detailed guidance for the implementation of CMATS in Wales was issued to all health boards via the Chief Executives Group following the May 2012 Delivery Board. All health boards have implemented some form of the CMATS model. However, during our fieldwork, it became apparent that there are some fundamental differences of opinion between professional groups about the benefits of CMATS. There are clear tensions between some doctors and some therapists about the merits of the CMATS services. Some interviewees were confident that the CMATS model would be successful in diverting demand away from hospital-based orthopaedic services, while others felt that it would open the floodgates to create additional demand previously not referred into the system. Some interviewees also felt that CMATS would not divert demand but simply defer demand to a later date and felt that the funding used for CMATS would be better spent on increasing the number of consultant orthopaedic surgeons in Wales.

3.2 Where CMATS have been implemented, some of these services are not being used optimally because of problems with engaging doctors from primary and secondary care. Guidance indicates that the CMATS should include a GP with knowledge, skills and interest in musculoskeletal services but only four of the health boards have a CMATS model that has medical involvement. The CMATS model should also act as a single point of access to simplify the musculoskeletal referral pathways, but in some health boards across Wales, GPs are bypassing the CMATS and referring directly into secondary care. In Cardiff and Vale University Health Board, there is a 'GP champion' scheme which has been established as a local enhanced service within primary care to triage GP referrals for orthopaedics and identify patients who could be safely managed in primary care, reducing any unnecessary referrals onto secondary care services. These 'GP champions', however, appear to work in isolation from the therapeutic element of the CMATS model, with some suggestion that this was creating duplication of effort and tension between staff.

There are some examples of health boards not fully considering the whole system of musculoskeletal services when planning local change

3.3 If health boards are to drive improvement across musculoskeletal services, they need to take a holistic approach to change that considers the entire patient pathway. We found mixed effectiveness from health boards in this regard. For example, Hywel Dda University Health Board has a Musculoskeletal Forum that aims to improve whole-system engagement and the pathway for musculoskeletal patients, with a particular emphasis on prevention. In contrast, Cardiff and Vale University Health Board's Musculoskeletal Forum ceased following the change in the organisational structure in 2013, with the key specialities involved in the musculoskeletal pathway now represented through separate clinical boards. This was creating a barrier to taking an integrated approach to improvement.

3.4 During our interviews, we also heard views that the national vision of CMATS services is being implemented without fully considering the impacts on the rest of the musculoskeletal system. For example, some interviewees told us that a CMATS approach should not be rolled out without additional investment in core therapy services. This is because CMATS should lead to increased demand for core physiotherapy services as they divert more patients away from specialist orthopaedic services. Similarly, CMATS should be increasing the number of appropriate referrals to specialist secondary care services, and consequently, there should be increases in the number of patients who attend an orthopaedic outpatient appointment who go on to have surgical intervention. Without appropriate consideration of the impact on specialist secondary care resources, this increase will create additional pressure on the inpatient and theatre capacity.

Most of the additional £65 million of central funding was spent on tackling immediate waiting list pressures rather than sustainable solutions

3.5 The NHS in Wales has been trying to implement difficult changes to musculoskeletal services against a background of significant financial pressures. Our successive reports on NHS finances identified that NHS Wales has faced tougher financial settlements than its counterparts in other parts of the UK over recent years. The reports also say that NHS Wales is facing a growing challenge to deliver cost reductions without affecting patient experience, safety and quality. Additional funding has since been made available to NHS Wales in 2014-15 but these challenges will have doubtless complicated efforts to improve musculoskeletal services over the last three years.

3.6 Within this context, the provision of the additional £65 million of central funding over three years presented a considerable opportunity for NHS Wales. In addition to providing a means to tackle persistently long waits for orthopaedic treatment, a significant proportion of the central funding was also intended to be used to develop sustainable, long-term solutions to managing demand.

3.7 The additional funding was made available between 2011 and 2014, and was largely focused on tackling the orthopaedic waiting lists, with the majority of funding used to provide additional capacity to deal with the immediate demand on services. This included the introduction of additional theatre lists, the outsourcing of activity to third parties and the appointment of temporary staff. Much of this capacity was short-term, and once stopped, created the risk that waiting times would increase.

3.8 Non-recurrent funding allocated during 2012-13 to support the investment in longer-term sustainable solutions totalled just £4 million. Appendix 6 sets out how that money was allocated. A further £2.5 million was allocated in 2013-14 to continue the approved schemes for a further six months.

All health boards have made some progress in putting in place sustainable alternatives to orthopaedic surgery but the change has been small scale and funding pressures place these new services at risk

There has been some good progress in developing lifestyle and exercise programmes that have potential to reduce demand for orthopaedics

3.9 One of the priorities of the Public Health and Primary Care Sub Group was to develop and implement lifestyle programmes for overweight people with musculoskeletal complaints. The rationale for this priority is that overweight people can be more susceptible to musculoskeletal conditions because of the extra load being placed on their joints. The theory is that as an alternative to orthopaedic surgery, patients who receive conservative treatment through exercise programmes can have positive outcomes.

3.10 In 2011, Aneurin Bevan University Health Board developed and implemented a scheme called the Joint Treatment Programme for patients with hip or knee pain. The scheme focuses on education, exercise and weight loss. Patients were given information and conservative treatment at leisure centres, with the weight loss element run by a nutritionist. An evaluation of the scheme presented to the Delivery Board in February 2012 showed that 75 per cent of participants completed the eight-week programme and 83 per cent of those that completed the programme lost weight. Six months after the programme, 87 per cent of participants had sustained their weight loss. The financial evaluation of the scheme showed that for each patient completing the programme, it cost £239 compared with an average cost of £8,400 for total knee replacements.

3.11 In January 2012, Cardiff and Vale University Health Board launched a similar scheme called the Joint Care Pathway for knee pain patients. The scheme cost £123 per patient. Cwm Taf University Health Board has also developed the Orthopaedic Obesity Referral Pathway at an approximate cost of £445 per patient.

3.12 Our survey of health boards identified that weight loss schemes or community based lifestyle programmes are available in all of the health boards across Wales with the exception of Abertawe Bro Morgannwg University Health Board and Hywel Dda University Health Board. GPs have direct access to these services but the capacity of these teams is small and referral is often restricted to particular catchment areas.

3.13 During our fieldwork, we also heard positive views about the National Exercise Referral Scheme (NERS). The scheme, which is run in partnership between local authorities, health boards and the Welsh Government, began in 2007 with the aim of increasing the number of people sustaining long-term physical exercise. This intends to improve physical and mental health. Service users typically receive an assessment and personalised exercise programme from an exercise professional and the sessions are usually run over the course of 16 weeks in leisure centres at a small cost to the service user. The NERS has different names in different local authority areas including Positive Steps, Winners and Health for Life.

3.14 An evaluation[23] of NERS published by the Welsh Government in 2010 concluded that the average cost per participant was £385 and that the scheme is 89 per cent likely to be cost effective. The review stated that it provided robust evidence for the long-term effectiveness of NERS for certain groups of users. During our fieldwork, physiotherapists in particular spoke highly of the NERS programme although they had concerns about its future sustainability given the pressures on local authority funding and potential closures of leisure centres.

There are some good examples of CMATS but these tend to be small, do not involve sufficient integration with other musculoskeletal services and funding pressures place these at risk

3.15 All health boards have implemented some form of the CMATS model, with Hywel Dda University Health Board establishing the CMATS most recently in 2013. There are variations in the way the CMATS operate with compliance with the key principles set out in the detailed guidance mixed across Wales (Figure 21). The services in Betsi Cadwaladr University Health Board are more established and are the only services fully complying with the key principles.

23 Welsh Government, The evaluation of the National Exercise Referral Scheme in Wales, 2010

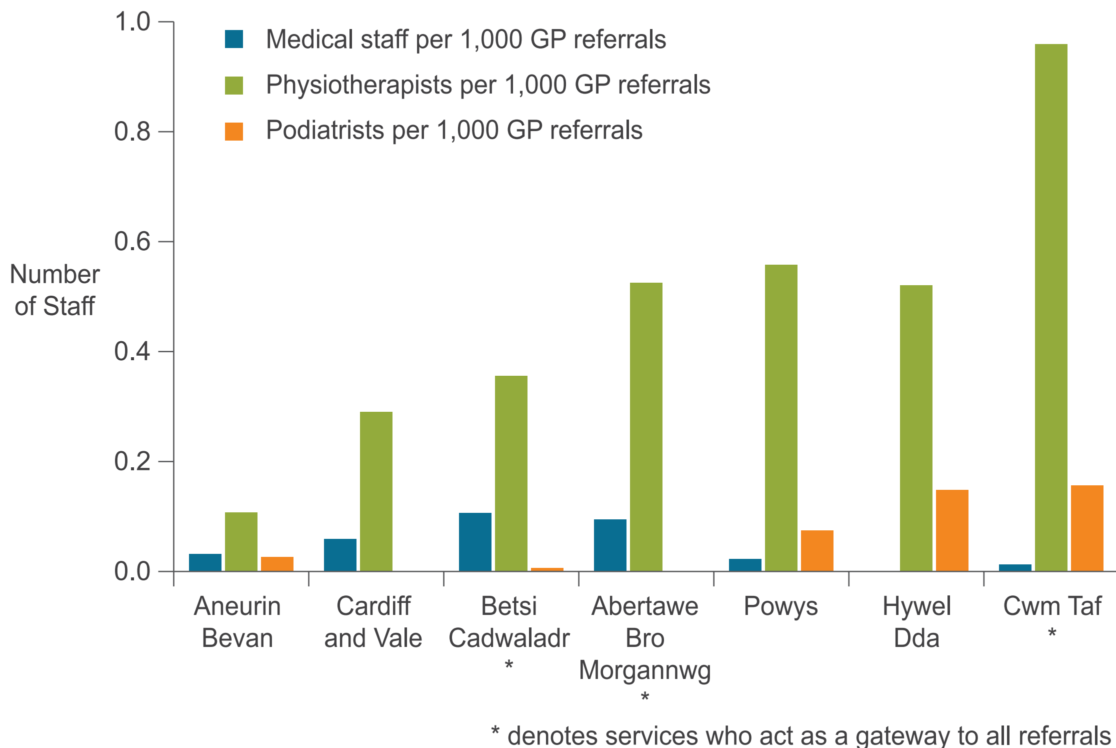
Figure 21 – Compliance with the key principles of the CMATS guidance

	Abertawe Bro Morgannwg	Aneurin Bevan	Betsi Cadwaladr	Cardiff and Vale	Cwm Taf	Hywel Dda	Powys
Clinics held in a combination of locality and secondary care centres	✓		✓	✓		✓	✓
All musculoskeletal referrals (with the exception of specific exclusions) will go to the CMATS	✓		✓		✓		
Staff have direct access to diagnostics	✓	✓	✓	✓	✓	✓	
The service consists of:							
Advanced practice physiotherapists	✓	✓	✓	✓	✓	✓	✓
Advanced practice podiatrists		✓	✓		✓	✓	✓
GPs with knowledge, skills and interest in musculoskeletal services	✓	✓	✓	✓			

Source: Wales Audit Office fieldwork – health board surveys

3.16 Although designed to be a multidisciplinary service, the CMATS model across Wales is predominantly led by the physiotherapy profession, with physiotherapists accounting for the largest majority of the staff. The level of resources available to CMATS, relative to workload, varies across health boards (Figure 22).

Figure 22 – CMATS staffing levels per 1,000 GP referrals for 2013-14



Source: Wales Audit Office fieldwork

3.17 Patients who are referred to the CMATS should be seen within an eight-week target. As identified in Figure 7, our fieldwork identified that only the CMATS in Aneurin Bevan University Health Board and Powys Teaching Health Board were meeting that target, to see patients in a timely manner, indicating possible capacity constraints within the teams. Indeed, our fieldwork found that the staffing levels in some CMATS are potentially problematic. Even though the CMATS in Powys Teaching Health Board is able to see patients within the eight-week target, the actual numbers of WTE staff within the service is extremely low with total staffing levels in the south locality area, for example, at just 0.1 WTE. This weakens the CMATS model as they are largely staffed by one or two members of staff in each locality as an additional responsibility to their main physiotherapy role. Should those staff be absent from work, the CMATS would not function.

3.18 There are also risks associated with the funding model of the CMATS in some parts of Wales. Some health boards used the non-recurrent monies allocated by the Delivery Board to fund their CMATS teams. The short-term nature of this funding creates risks for the sustainability of these services, although we are aware that at the time of reporting, all CMATS had been maintained during 2014-15 despite the non-recurrent monies coming to an end.

Health boards need to strengthen their monitoring of services and our own analysis suggests there remains scope to improve patient outcomes

Monitoring of CMATS has been complicated by IT problems

3.19 The core guidance for CMATS set out by the Delivery Board includes a mandatory set of key performance indicators. The results of our health board survey show that few health boards are collecting sufficient data to be able to monitor and report on these indicators. Our fieldwork found that CMATS have IT problems that make it difficult to monitor their own performance. For example, in some health boards, the CMATS staff need to input their activity and outcome information into standalone spread sheets rather than using the health boards' patient administration system. Other CMATS use the computer systems in the GP practices where they run their clinics but these are separate to the health board's central system, which makes central monitoring of performance difficult.

3.20 We were told that clinical staff in the CMATS do not have the capacity to undertake data entry as it would affect their ability to see patients. Some teams do include support staff within their staffing establishments to undertake administrative tasks. However, the hours allocated for such roles are generally minimal and not all of the teams actually had administrative staff in post.

3.21 Many of these services have not been in existence long enough for a comprehensive evaluation of the impact they are having. But, the difficulties in collecting performance, activity and outcome information from CMATS teams is a barrier that needs to be overcome in order to evaluate the long-term effectiveness of these services. Robust evaluations are going to be particularly important in ensuring clinical engagement and the cultural shift that is required if these services are to become mainstreamed longer term.

Health boards have data about lots of the individual elements of the musculoskeletal pathway but they collect little information about outcomes and experience

3.22 The data we have collated in this report and in our separate health board reports show that the NHS in Wales collects and produces a great deal of information about the performance and activity of musculoskeletal services. However, data relating to patient outcomes and patient experience is much sparser.

3.23 Our fieldwork did identify some actions that health boards are taking to measure patient experience (Figure 23); however, this is largely based around routine generic patient surveys and analysis of compliments and complaints.

3.24 In relation to outcomes, we found that where specific outcomes data are recorded, they predominantly relate to joint surgery. As mentioned in paragraph 2.23, the Delivery Board identified the need to procure an all-Wales computer system that would improve the measurement of outcomes. However, the system was not procured and only Cardiff and Vale University Health Board has taken this system forward as part of its wider focus on orthopaedic outcomes. Aneurin Bevan University Health Board has, however, developed a bespoke in-house database to monitor outcomes following shoulder surgery.

3.25 Patient Reported Outcome Measures (PROMS) and Patient Reported Experience Measures (PREMS) are tools used worldwide to provide a basis for measuring patient experiences and outcomes, including the impact of surgical interventions. The most common tool within orthopaedics is the Oxford Hip and Knee scores, which essentially are a scoring system designed to measure the impact that surgical intervention has on the level of pain and broader quality of life indicators experienced prior to surgery. In Wales, these tools were promoted through the Enhanced Recovery after Surgery (ERAS)[24] programme led by the NHS Wales 1,000 Lives Plus[25] team. PROMS also form part of the 'Focus On' pathways for hips and knees issued to all health boards for implementation through the Delivery Board. Although we found aspects of the principles of ERAS being applied across Wales, the most obvious being the introduction of 'joint schools' referred to previously in paragraph 1.20, we identified that not all health boards had adopted PROMS and PREMS for their orthopaedic patients.

Figure 23 – Tools for monitoring patient experience and outcomes

	Abertawe Bro Morgannwg	Aneurin Bevan	Betsi Cadwaladr	Cardiff and Vale	Cwm Taf	Hywel Dda	Powys
Patient surveys	✓	✓	✓	✓		✓	✓
Use of PROMS and PREMS (including the use of Oxford Hip and Knee scores)	✓		✓	✓		✓	
Participation in the National Joint Register	✓	✓	✓	✓	✓	✓	
Outcomes database		✓		✓			
Clinical audit reviews		✓		✓			
Compliments and complaints	✓	✓	✓	✓	✓	✓	

Source: Wales Audit Office fieldwork

24 Enhanced Recovery After Surgery (ERAS) is an evidenced-based, multi-modal, patient-centred method of optimising surgical outcome by improving both patient experience and clinical outcomes.

25 1,000 Lives Plus is the national improvement programme supporting organisations and individuals to deliver the highest quality and safest healthcare for the people of Wales.

Knee replacement surgery largely has a positive impact on patients but the results of our patient survey and other data suggest that there is further scope remaining to improve outcomes from musculoskeletal services

3.26 In order to gather our own data on patient experience and outcomes, we conducted a survey of patients who had undergone knee replacement surgery. We received responses from 481 patients living in Wales who had undergone surgery either in a Welsh health board or in an English NHS trust commissioned to provide elective orthopaedic treatment for Welsh residents. We chose this procedure because of a number of factors. Knee replacement surgery accounts for the largest proportion of inpatient admissions and hospital bed days for elective orthopaedic services. With an increase in the age of the population, along with a growing population who are actively involved in physical sports, effective knee replacement surgery can have a significant impact on the quality of life. The pathway for managing patients who require knee replacement surgery is clearly set out in the 'Focus On' pathway developed as part of the work undertaken by the Delivery Board. The pathway provided us with a sound baseline, on how services should be delivered for this cohort of orthopaedic patients, to measure against.

3.27 The results of the patient survey suggest that the majority of patients think their surgery improved their quality of life and reduced their pain. Figures 24 and 25 show patients' views on whether the surgery had improved their quality of life and their pain, showing the hospital where they received their care. However, a significant minority said the surgery had either made them worse or had no benefit. Across Wales:

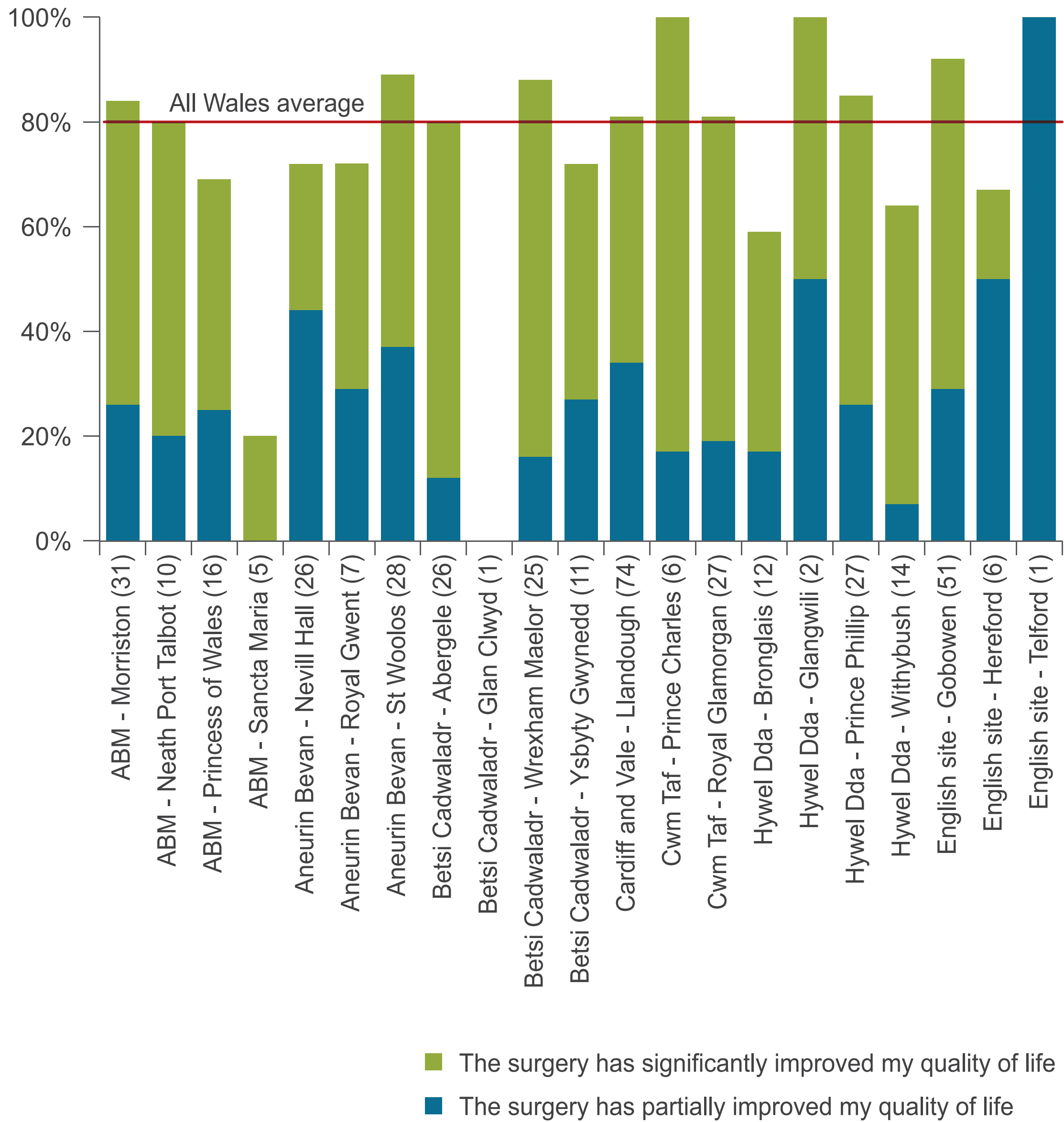
a 12 per cent of patients (56 out of 481) said that their quality of life had either got worse or had not improved;

b 10 per cent of patients said their surgery had either made their symptoms worse or had not improved their symptoms; and

c nine per cent said their surgery had either made their pain worse or had not improved their pain.

3.28 More detailed results from the survey are available here at www.audit.wales.

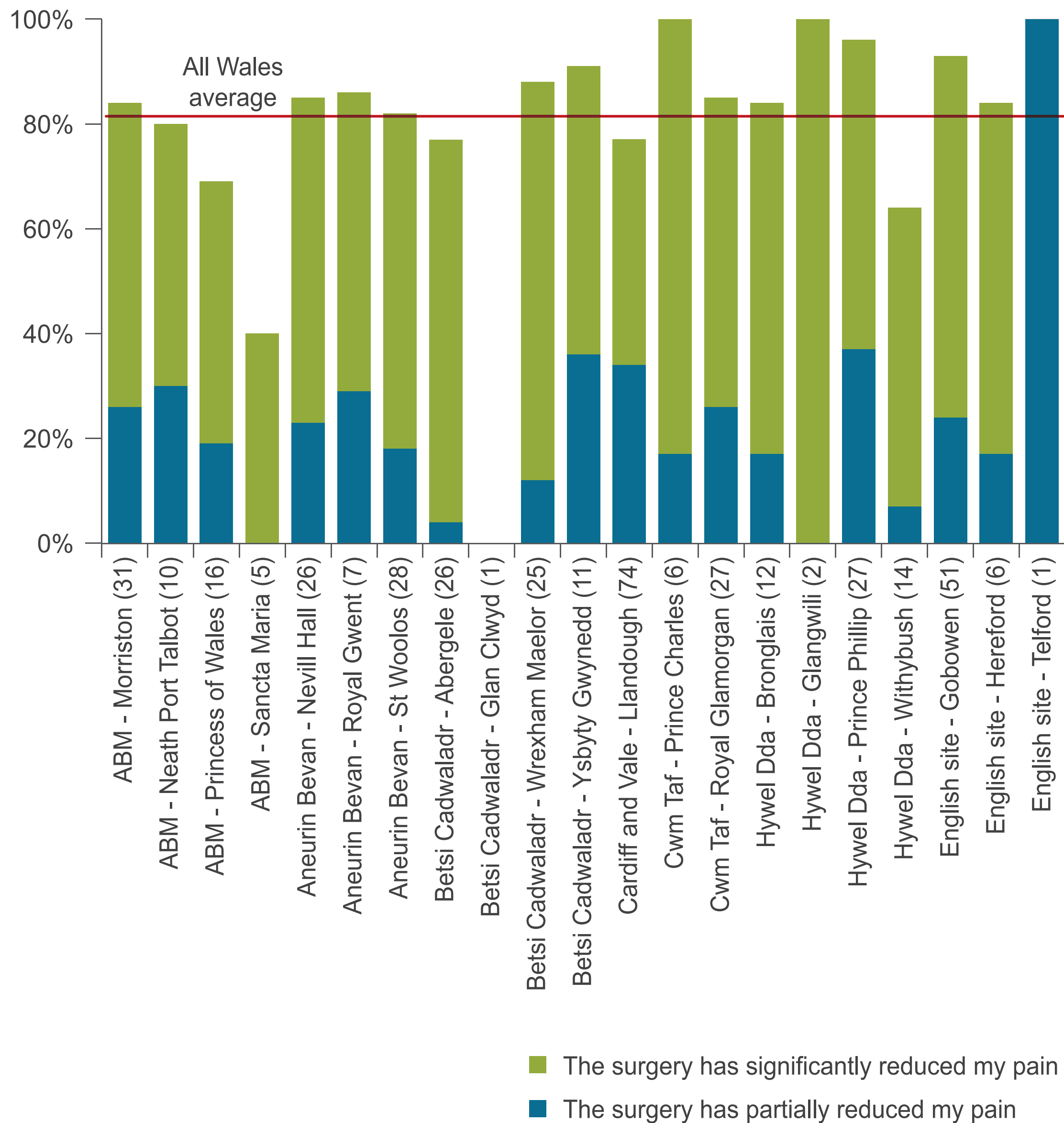
Figure 24 – Percentage of patients who reported that their knee replacement surgery had improved their quality of life (split by hospital provider)[26]



Source: Wales Audit Office

26 Some caution needs to be made in considering the results of the survey for individual hospitals where the number of responses for that hospital were small. Total sample sizes for each hospital site are included in brackets.

Figure 25 – Percentage of patients who responded that their knee replacement surgery had improved their pain levels (split by hospital provider)



Source: Wales Audit Office

3.29 In addition to surveying patients, we analysed other sources of information to assess whether orthopaedic surgery is resulting in positive outcomes for patients. The readmission rate for surgery can be an indicator of operations not going as planned or patients suffering unexpected complications. The rate of emergency readmission within 28 days of elective admission following a hip replacement ranges from 0.3 per cent in Cwm Taf University Health Board to 1.3 per cent in Betsi Cadwaladr University Health Board. The readmission rate for knee replacements is lower, ranging from zero per cent in both Cwm Taf University Health Board and Cardiff and Vale University Health Board to 0.2 per cent in Hywel Dda University Health Board.

3.30 The infection rate following surgery is another indicator of quality and outcome. The surgical site infection rates following hip and knee replacements vary significantly across Wales, although there are limitations to these data[27]. The average rate of infection across Wales is 1.5 per cent for hip replacements and 1.8 per cent for knee replacements. This compares against a Welsh government target of zero per cent. For the period 2013-14, the average rate of infection across England was 0.7 per cent for hip replacements and 0.5 per cent for knee replacements.

The lack of information and a whole-system approach to monitoring the delivery of musculoskeletal services within health boards is going to make the application of prudent healthcare principles difficult to implement

3.31 In 2014, the concept of prudent healthcare was introduced by the Bevan Commission[28] to reflect the underlying message that NHS Wales must change to better meet the needs of the people of Wales in a more sustainable way. It focuses on the key principles of:

a minimising avoidable harm;

b carrying out the minimum appropriate intervention; and

c promoting equity between the people who provide and use services.

3.32 Prudent healthcare is in its early stages of being embedded across Wales with the 1,000 Lives Plus improvement team tasked with supporting health boards as they seek to mainstream prudent healthcare into the way they deliver services. Nevertheless, to do this, health boards need to make sure that the arrangements are in place to ensure that the principles of prudent healthcare can be met.

27 We are unsure whether these data are collected consistently, there are time delays in clinical coding and there is variation in the return rate of valid infection reporting forms.

28 The Bevan Commission was originally established in 2008 to advise the Welsh Minister for Health and Social Services on promoting health and health services improvement in Wales. Since then, the commission's work has added significant value to the work of the Welsh Government and the NHS in Wales, including the development of the Bevan Commission principles and, more recently, the idea of prudent healthcare.

3.33 To fully implement the principles of prudent healthcare, management information needs to be able to reflect what happens on the ground. The focus needs to be on the totality of care and not the processes and procedures that are put in place to provide it. Information needs to demonstrate the benefits to patients as well as the harm, and best practice should become the norm. Staff need to work together to put the patient at the centre of care, with patients playing a key part in the decision-making process and only appropriate demand should drive capacity.

3.34 Our work, however, has identified that current systems do not provide the breadth of information needed to understand the entire musculoskeletal pathways. There is fragmentation of information systems between primary and secondary care, and community based services, such as the CMATS, are reliant on time-consuming manual processes to collect the necessary information.

3.35 Key measures for musculoskeletal services focus on processes and capacity constraints within health boards, with little information routinely available to boards to demonstrate the benefit or harm of the musculoskeletal services that they provide or commission from others. Key stakeholders within the pathways are managed in isolation and very few health boards have the mechanisms in place to bring these services together. This is particularly the case for Powys Teaching Health Board, which commissions its secondary care orthopaedics services from neighbouring NHS providers.

3.36 Despite the development of the 'Focus On' pathways, good practice is not being consistently applied across Wales. We have found no monitoring arrangements in place, which allows the totality of musculoskeletal services to be considered at a senior level. We found the same position at Board and subcommittee level, where the focus is predominantly on secondary care. Without the necessary information on how prudent healthcare is being applied within musculoskeletal services, NHS Wales cannot take the assurance that they are being delivered efficiently and effectively.

Appendices

Appendix 1 - NHS Wales National Orthopaedic Programme Delivery Framework

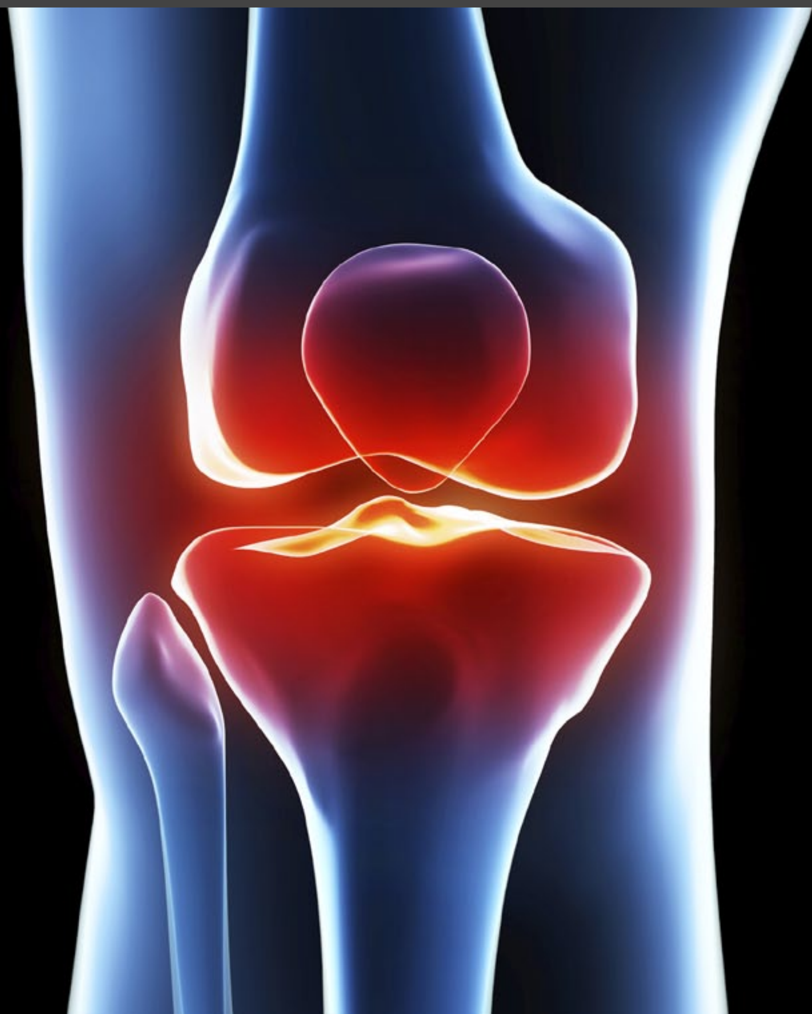
Appendix 2 - Details of the timeline shown in Figure 2

Appendix 3 - Methodology

Appendix 4 - Potential to free up capacity by improving performance against Welsh Government targets (by health board)

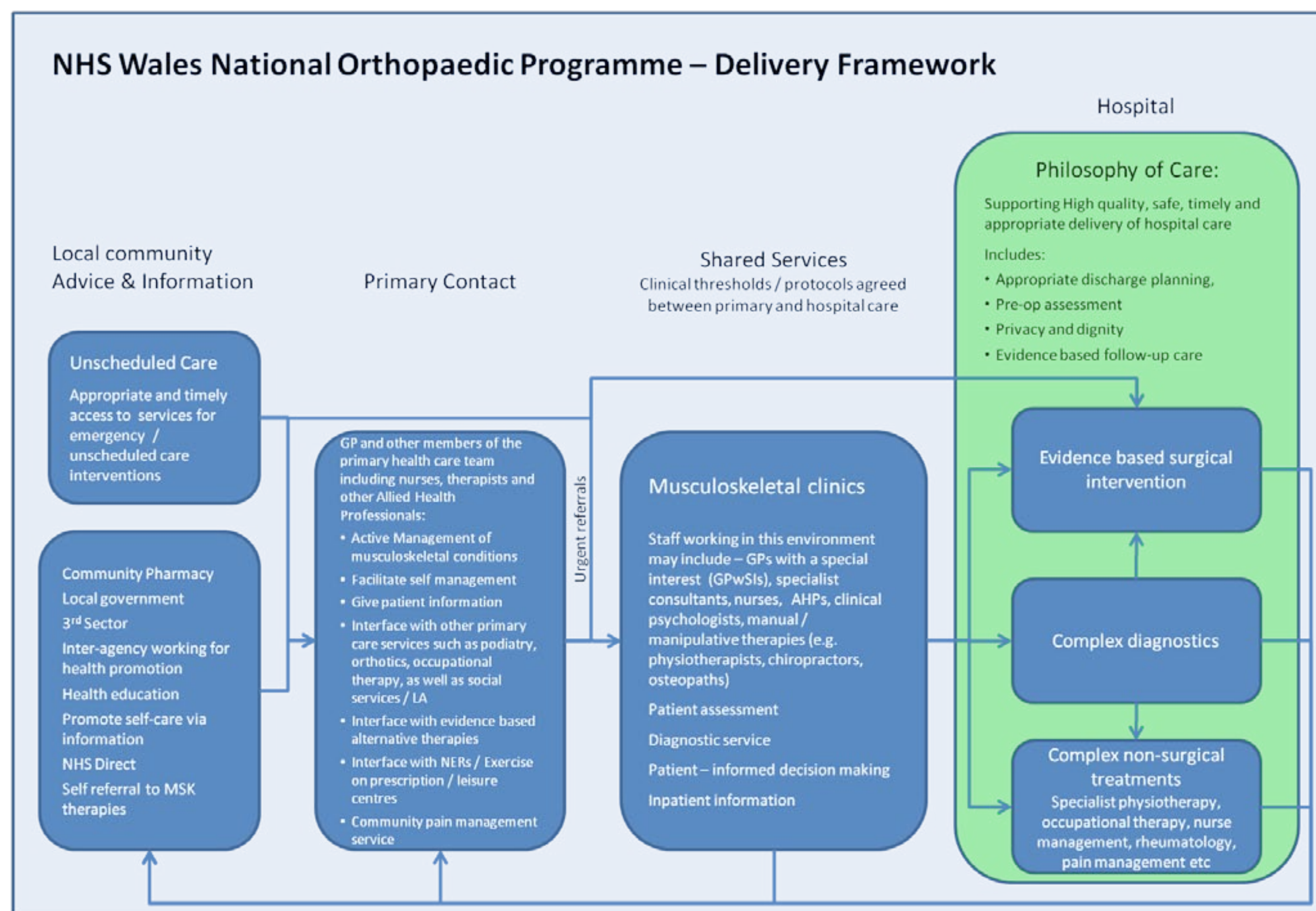
Appendix 5 - Allocation of central funding

Appendix 6 - Allocation of funds for sustainability projects



Appendix 1 - NHS Wales National Orthopaedic Programme Delivery Framework

The diagram below shows the delivery framework published in February 2012.



Appendix 2 - Details of the timeline shown in Figure 2

The information below provides detail to the timeline shown in the introduction to this report.

- The Welsh Government's National Orthopaedic Needs Assessment in 2004 highlighted unacceptably long waiting times and the need to increase capacity and improve efficiency through better management and innovation in service delivery. The Welsh Government then published **An Orthopaedic Plan for Wales**[29], which provided a vision for reducing orthopaedic waiting times and improving access to services.

- The Welsh Government created the National Orthopaedic Programme in March 2011 with the following objectives:

  – eliminating orthopaedic waiting times in excess of 36 weeks by March 2012;

  – establishing a new service model for orthopaedics by March 2013; and

  – establishing a fully sustainable orthopaedic service across Wales, meeting all national targets for waiting times, quality, safety and patient outcomes by March 2013.

- In March 2011, a ministerial letter announced an investment of £65 million to improve orthopaedic service delivery to ensure it becomes 'best in class'[30]. The funding is being provided in tranches over three years and is dependent on health boards delivering certain achievements. Central to the direction given by the letter was the need to develop sustainable orthopaedic services, rather than just investing in additional acute capacity. The letter stated that a public health campaign with a focus on obesity prevention, weight loss and increased fitness, would help secure a reduction in demand for orthopaedic surgery. However, the letter noted that this reduction in demand would take time and therefore additional capacity for orthopaedic surgery would be needed over the next five to 10 years.

- The Welsh Government's Orthopaedic Innovation and Delivery Board (the Delivery Board) first met in June 2011. Its purpose was to oversee the delivery of the National Orthopaedic Programme's objectives and 'to provide leadership and guidance in respect of the delivery of the new service model for Orthopaedics'. The Delivery Board has three subgroups that focus on Public Health and Primary Care, Intermediate Care and In-Hospital Care.

- In February 2012, the Delivery Board published the NHS Wales National Orthopaedic Programme Delivery Framework. The framework sets out a transformational approach to musculoskeletal service configuration and delivery. It also sets out arrangements for national monitoring and management of performance at a local level.

29 Welsh Government, **An Orthopaedic Plan for Wales**, July 2004
30 Ministerial letter, **Waiting Times and Orthopaedic Services Update**, 10 March 2011

Appendix 3 - Methodology

The review of orthopaedic services took place between June 2013 and January 2015. Details of the audit approach are set out below.

Document review

We requested and analysed a range of documents at both a national level and within each health board. This included:

- national documents relating to the National Orthopaedic Innovation and Delivery Board including the minutes of the board and its subgroups, the working papers to support the development of, and the monitoring against, the national orthopaedic framework, and the supporting papers associated with the allocation of the £65 million; and
- high-level health board documents relating to the strategic direction of local orthopaedic services and its supporting monitoring arrangements such as local needs assessments, operational plans, performance management reports, monthly financial returns, service evaluation reports and evidence of patient experience reports.

Centrally collected data

We analysed a range of readily accessible national data. A large proportion of this data is publicly available through the **Stats Wales** website with additional information available through other sources such as the **National Patient Safety Agency** and the **National Joint Registry**. A central data request was submitted to **NHS Wales Informatics Service** for data that can be obtained nationally by request. A more specific data request was built into a range of health board surveys for data only available through the health boards. Comparative information was obtained where appropriate from NHS Scotland, NHS England and NHS Northern Ireland. Financial information was made available through the Programme Management Unit in the Welsh Government to ascertain how much orthopaedic services cost across NHS Wales.

Health board survey

We asked health boards to complete a number of surveys, which were designed to capture both qualitative and quantitative information about musculoskeletal services. The surveys covered finance, primary care, community provision and rehabilitation, acute provision, workforce, and quality and safety.

Patient survey

We undertook a postal survey of all patients across Wales who had a full (or partial) knee replacement during January and February 2013. The aim of the survey was to understand the effectiveness of a specific aspect of orthopaedic services, understand the efficiency of services that patients have experienced and to understand the range of services that patients have accessed in comparison to the NHS Wales focus on knee pathway. We received a response from 481 patients (64 per cent) out of a total sample of 720 patients.

Interviews

We held a number of interviews at a national level, including interviews with representatives of professional bodies involved in the provision of musculoskeletal services.

Walkthrough of musculoskeletal services

We undertook a walkthrough in four hospital localities across Wales designed to see and understand key parts of the patient pathway. This included visiting the:

- CMATS
- Elective booking centre
- Outpatient department
- Radiology department
- Physiotherapy service
- Day surgery unit
- Operating theatres
- Orthopaedic wards

During the walkthrough, we undertook:

- a general observation around how the service operates;
- interviews with operational staff to understand the processes, issues and long-term sustainability; and
- a review of operational documentation including information provided to patients, policies and protocols, and referral guidelines.

We undertook the walkthrough in Betsi Cadwaladr University Health Board (Wrexham Maelor hospital), Cardiff and Vale University Health Board (Llandough hospital), Hywel Dda University Health Board (Prince Phillip hospital) and Powys Teaching Health Board (Llandrindod Wells hospital).

Appendix 4 - Potential to free up capacity by improving performance against Welsh Government targets (by health board)

Performance against Welsh Government targets in 2013-14 for orthopaedic outpatients and potential impact on use of resources per year if targets were achieved

Efficiency measures	Abertawe Bro Morgannwg	Aneurin Bevan	Betsi Cadwaladr	Cardiff and Vale	Cwm Taf	Hywel Dda	Powys
Reduced 'did not attend' rates for new outpatient appointments (five per cent target)							
2013-14 performance	7.2	7.6	7.2	12.2	8.7	7.5	2.0
Potential freed-up new outpatient slots if target achieved	728	757	620	847	588	584	-
Reduced 'did not attend' rates for follow-up outpatient appointments (seven per cent target)							
2013-14 performance	7.6	7.6	9.3	7.7	11.9	8.3	1.0
Potential freed-up follow-up outpatient slots if target achieved	611	1,045	1,348	43	2,209	528	-
Reduced number of follow-up appointments (1.9 follow-ups to one new)[31]							
2013-14 performance	1.7	2.2	1.9[32]	3.2	2.3	1.6	0.7
Potential freed-up follow-up outpatient slots if target achieved	-	8,032	1,083	15,433	6,871	-	-

Source: Wales Audit Office

31 We recognise that health boards are currently addressing the backlog of follow-up appointments which have built up over time which will have an impact on their ability to free up capacity in the short-term.

32 Actual performance in Betsi Cadwaladr University Health Board was just above the Welsh Government target at 1.94.

Performance against Welsh Government targets in 2013-14 for orthopaedic inpatients and potential impact on use of resources per year if targets were achieved

Efficiency measures	Abertawe Bro Morgannwg	Aneurin Bevan	Betsi Cadwaladr	Cardiff and Vale	Cwm Taf	Hywel Dda	Powys
Increased number of elective cases treated as a day case (75 per cent target)							
2013-14 performance	55.5	54.0	59.0	61.2	50.7	59.3	99.2
Potential freed-up bed days if target achieved	1,387	1,822	1,084	1,168	787	759	-
Increased number of elective patients admitted on the day of surgery (64% target)							
2013-14 performance	69.7	66.4	80.6	65.4	24.1	63.2	100
Potential freed-up follow-up outpatient slots if target achieved	-	-	-	-	613	19	-
Reduced elective length of stay (four days)							
2013-14 performance	3.6	3.7	3.4	3.9	4.0	2.9	1.5
Potential freed-up bed days if target achieved	-	-	-	-	-	-	-

Source: Wales Audit Office

Potential freed-up capacity per month compared with number of patients waiting more than 26 weeks

Efficiency measures	Abertawe Bro Morgannwg	Aneurin Bevan	Betsi Cadwaladr	Cardiff and Vale	Cwm Taf	Hywel Dda	Powys
New outpatient capacity							
Potential freed-up capacity per month	61	63	52	71	49	49	-
Number of patients waiting more than 26 weeks for first outpatient appointment at 31 January 2015	16	13	1,169	77	140	341	0
(Shortfall in new appointment slots)	45	50	(1,117)	(6)	(91)	(292)	-
Follow-up outpatient capacity							
Potential freed-up capacity per month	51	669	112	1,286	573	44	-
Number of patients waiting more than 26 weeks for follow-up outpatient appointment at 31 January 2015	116	60	153	429	45	215	0
(Shortfall in follow-up outpatient slots)	(65)	609	(41)	857	528	(171)	-
Inpatient capacity							
Potential freed-up capacity per month	116	152	90	97	66	63	-
Number of patients waiting more than 26 weeks for inpatient admission at 31 January 2015	2,590	3,137	2,190	1,088	465	1,704	0
(Shortfall in bed days)	(2,474)	(2,984)	(2,100)	(991)	(399)	(1,641)	-

Source: Wales Audit Office

Appendix 5 - Allocation of central funding

Recurrent allocation

Health board	2011-12 recurrent allocation	2012-13 recurrent allocation	2013-14 recurrent allocation
Abertawe Bro Morgannwg University Health Board	£1,973,700	£1,973,700	£1,973,700
Aneurin Bevan University Health Board	£2,194,290	£2,194,290	£2,194,290
Betsi Cadwaladr University Health Board	£2,670,300	£2,670,300	£2,670,300
Cardiff and Vale University Health Board	£1,613,790	£2,113,000	£1,613,790
Cwm Taf University Health Board	£1,195,830	£1,195,830	£1,195,830
Hywel Dda University Health Board	£1,462,860	£1,462,860	£1,462,860
Powys Teaching Health Board	£499,230	£499,230	£499,230
	£11,610,000	**£12,109,210**	**£11,610,000**

Non-recurrent allocation – centrally allocated

Health board	2011-12 non-recurrent allocation	2012-13 non-recurrent allocation	2013-14 non-recurrent allocation
Abertawe Bro Morgannwg University Health Board	£1,260,000	£1,700,000	-
Aneurin Bevan University Health Board	£1,700,000	£1,700,000	-
Betsi Cadwaladr University Health Board	£2,400,000	£2,400,000	-
Cardiff and Vale University Health Board	£2,280,000	£2,500,000	-
Cwm Taf University Health Board	£1,030,000	£1,100,000	-
Hywel Dda University Health Board	£1,050,000	£1,200,000	-
Powys Teaching Health Board	£0	£0	-
	£9,720,000	**£10,600,000**	

Non-recurrent allocation for sustainability projects – bid funded

Health board	2011-12 non-recurrent allocation	2012-13 non-recurrent allocation	2013-14 non-recurrent allocation
Abertawe Bro Morgannwg University Health Board	-	£650,000	£303,000
Aneurin Bevan University Health Board	-	£600,000	£308,000
Betsi Cadwaladr University Health Board	-	£800,000	£420,000
Cardiff and Vale University Health Board	-	£770,000	£579,000
Cwm Taf University Health Board	-	£510,000	£285,000
Hywel Dda University Health Board	-	£530,000	£396,000
Powys Teaching Health Board	-	£170,000	£128,000
	-	**£4,030,000**	**£2,419,000**

Appendix 6 - Allocation of funds for sustainability projects

Aneurin Bevan University Health Board	**£**
Community physiotherapy	£156,000
Therapy and GP-led referral management	£79,000
Joint Treatment programme	£176,000
Referral management model low back pain	£60,000
Service effectiveness and productivity	£81,000
Community based low back pain	£95,686
	£647,686
Abertawe Bro Morgannwg University Health Board	
Expansion intermediate care clinics	£189,000
Fracture liaison nurse	£44,000
Pain assessment/triage clinic	£38,300
Lifestyle programme	£59,500
Joint MCATS/F&A/podiatry clinics	£94,900
Psychology for chronic pain	£67,700
Locality schemes	£111,000
	£604,400
Betsi Cadwaladr University Health Board	
Lifestyle management	£351,366
CMATS	£138,181
OP Dupuytren service	£72,000
Fracture liaison	£87,000
Early supportive discharge service	£151,526
	£800,073

Cardiff and Vale University Health Board	£
GP orthopaedic referral management	£116,895
Musculoskeletal physiotherapy service self-referral model	£289,885
Lifestyle pathway development	£125,421
Back in action	£239,262
	£771,463
Cwm Taf University Health Board	
Extended scope physiotherapists	£127,073
Seven-day physiotherapy	£110,000
Musculoskeletal services	£30,000
Community chronic pain	£145,104
Community weight management	£101,466
	£513,643
Hywel Dda University Health Board	
CMATS	£528,494
	£528,494
Powys Teaching Health Board	
CMATS	£143,000
In-house podiatry	£28,000
	£171,000

Source: Analysis of Delivery Board papers

Wales Audit Office

24 Cathedral Road

Cardiff CF11 9LJ

Tel: 029 2032 0500

Fax: 029 2032 0600

Textphone: 029 2032 0660

E-mail: info@audit.wales

Website: www.audit.wales

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: post@archwilio.cymru

Gwefan: www.archwilio.cymru