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Primary Care Prescribing

Powys Teaching Health Board

Issued: August 2013

Document reference: 436A2013

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The team who delivered the work comprised Elaine Matthews, Sara Utley, Katrina Febry and Malcolm Latham.

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Powys Teaching Health Board needs to clarify the strategic direction and staffing structures for medicines management, in order to continue to deliver savings and address the opportunities that exist to improve the safety, quality and economy of local prescribing.

Summary report

Introduction

1. The prescribing of drugs is the most common form of treatment in primary care, and the NHS in Wales issues around 75 million primary care prescriptions each year amounting to around £600 million in medicine costs. The amount spent in primary care per head of population each year (£196) is higher than England (£169) and Scotland (£168). In addition the number of items prescribed in Wales for each person per year in 2012 was the highest in the UK at 24 items and this has increased from 15 in 2002.

2. This is set against a background of increasing demand and a high and increasing proportion of adults over 65 who generally receive more medicines. By 2020 the numbers are expected to increase by 24 per cent. In addition 82 per cent of this age group have a chronic condition which attracts higher prescribing rates.

3. The Health Board serves a rural population and has a higher proportion of people aged over 80 years than the average for Wales. The people of Powys generally enjoy better health and wellbeing indicators (for example, lower levels of obesity and limiting long-term illness), than Wales as a whole. Nevertheless, the average figures hide considerable inequalities with a few communities experiencing significantly higher avoidable death and ill health rates than others do. These factors affect the prescribing of many medications.[1,2]

4. The Health Board provides a range of services including unscheduled care services, minor injury units and out-of-hours services along with GP and community-based services. It does not however provide services traditionally provided by district general hospitals (DGHs) and, consequently, Powys residents will also access a range of secondary care services from neighbouring Welsh and English providers.

5. A team of pharmacists and technicians, based in the Health Board offices in Bronllys, provide leadership, education, audit and liaise with secondary care and other stakeholders to help ensure effective prescribing both within primary and secondary care. These staff are responsible for the annual visits to practices and implementing the GP incentive scheme. A local enhanced service (LES) has established a network of community pharmacists assigned to each GP practice to support effective and quality prescribing.

6. The last independent all-Wales audit of primary care prescribing was undertaken in 1998. The Auditor General has therefore included a review of primary care prescribing in his programme of local audit work at health boards in Wales.

[1] *Annual Report of the Director of Public Health,* Powys Teaching Health Board, 2010
[2] One Powys Needs Assessment, 2011

7. This audit examined the approach of Powys Teaching Health Board (the Health Board) to the management of primary care prescribing and sought to answer the question: 'Is the approach being taken by the Health Board supporting safe, effective and economical prescribing within primary care?' by examining whether:

- the primary care prescribing strategy and delivery plans ensure safe, effective and economical prescribing;
- the structures, management arrangements and resources are in place to support secure safe, effective and economical prescribing; and
- prescribing data and financial outturns indicates that the Health Board's approach is resulting in the delivery of safe, effective and economical prescribing within primary care.

Our main findings

8. Our overall conclusion is that the Health Board needs to clarify the strategic direction and staffing structures for medicines management, in order to continue to deliver savings and address the opportunities that exist to improve the safety, quality and economy of local prescribing.

9. The tables below summarise the findings that have led us to this conclusion.

Strategic planning arrangements
The Health Board needs to finalise its prescribing strategy, underpinned by robust evidence and appropriate objectives. We have come to this conclusion because: • **Setting the strategic direction**: the Health Board has a draft prescribing strategy and while its five core themes are appropriate the strategy needs to be finalised. • **Use of evidence supporting strategy development:** the draft strategy was not informed by robust or comprehensive analysis of the Health Board's specific demographic and public health needs or patient and stakeholder engagement. • **Financial analysis used to support strategy development:** the strategy refers to the risks and costs of the entry of new expensive drugs but contains no financial information or analysis on how these will affect existing care pathways. • **Monitoring outcomes delivery and performance**: the draft prescribing strategy does not contain SMART[3] objectives or targeting of resources to deliver the greatest impact, although the high level financial and performance targets are monitored by the Board.

[3] Specific, Measurable, Attainable, Relevant, Time-bound.

Structures, resources and managing the interface with secondary care

While executive responsibility for medicines management is clear, the staffing and prescribing committee structures need clarification, and significant challenges remain across the interface of primary and secondary care. We have come to this conclusion because:

- **Management arrangements:** executive responsibility for medicines management is appropriate with clear lines of accountability to executive Board level.
- **Prescribing support to primary care:** the Health Board's prescribing team delivers a range of innovative projects but these were reactive and not linked to a strategy risking duplication of effort and missing higher priority objectives. Support to primary care via the community pharmacists using the LES quality and effectiveness scheme are delivering tangible benefits although contracting arrangements and support to these pharmacists need to be strengthened.
- **Health Board formulary:** the Health Board has produced a partial formulary which is supplemented with other health boards' formularies and linked to ScriptSwitch[4].
- **Primary Care Prescribing and Therapeutics Committee (PCPTC):** the PCPTC is well attended although it needs to clarify its structure to improve decision making.
- **Interface working between primary and secondary care:** the Health Board has produced shared care agreements (SCAs) in key areas. Some SCAs were out of date and progress in developing SCAs for all necessary drugs has been slow, although in many instances this is dependent on responsiveness of the secondary care provider units. Significant challenges remain regarding physician compliance with the agreements, medicine reconciliation arrangements, and discharge information.

[4] ScriptSwtich is a UK wide tool supporting prescribing decisions, cost savings and patient safety.

Delivering safe, effective and economical prescribing

The Health Board is consistently achieving its savings targets for prescribing, but there is potential to improve efficacy of prescribing for patients and make further savings. We have come to this conclusion because:

- **Budget setting and financial performance:** the target set for savings from prescribing was £0.8 million in 2012-13 which was exceeded at year end by £1.0 million giving total savings of £1.8 million. At the local level the prescribing team monitors expenditure by GPs as part of the LES scheme; while at the Health Board level medicines management has a low profile at Board level as Powys is already achieving the lowest cost per prescribing unit and exceeds its savings targets. While this is positive, the Board needs to be sure that it is not missing further opportunities to improve the quality of prescribing.
- **Overall expenditure on primary care prescribing:** the Health Board spends £22 million on primary care drugs and the spending is below the average for Wales other than for gastro-intestinal products where it is higher.
- **Indicators of effective prescribing:** overall, the Health Board performs very well on some indicators (top nine antibacterials, dosulepin, hypnotics and anxiolytics) but less well on others (ACE inhibitors, proton pump inhibitors (PPIs), ibuprofen and naproxen non-steroidal anti-inflammatory drugs, opioids and low acquisition statin prescribing). We recognise that the indicators are reviewed regularly, and that changes to indicators also result in changes in performance. Nevertheless, the Health Board needs to move its focus towards the indicators where it has poorer rates of prescribing in order to improve the quality of care and generate savings.
- **Prescribing on wound management, food supplements and incontinence products**: while the Health Board has been successfully targeting wound management and work is starting on management of prescribed food supplements, there are still savings to be made by improving prescribing of these products and by changing the way incontinence and stoma care products are supplied.
- **Adverse drug reaction reporting (ADR):** the Health Board recognises it has low compliance with ADR reporting through both the Yellow Card system and the Health Board's Datix adverse event reporting system and work is ongoing to promote increased reporting by GPs.
- **Drug wastage:** the Health Board has initiated a number of activities to reduce waste by targeting care homes and community pharmacy activity, although it could strengthen this area of work by developing a strategic approach to wastage audits and campaigns. The Health Board recognises that its local work also needs to be undertaken alongside a national campaign, if it is to be effective.

Recommendations

Strategic planning arrangements

R1 The Health Board needs to complete a long-term pharmacy strategy with clear themes and aims that is shared and owned by the pharmacy team and using meaningful patient and stakeholder engagement. The strategy should contain SMART actions so that actions can be prioritised to the areas of highest impact and progress monitored effectively.

Structures, resources and managing the interface with secondary care

R2 The Health Board needs to complete its review of medicines management staffing structure including clear reporting lines.

R3 The Health Board has opportunities to improve the effectiveness of arrangements with LES pharmacists by introducing an induction process, increasing training, and strengthening contract and performance monitoring arrangements.

R4 The Health Board needs to complete its review of the arrangements for the prescribing committee and its sub-groups to ensure that decision making processes are clear.

R5 The Health Board needs to improve the arrangements for medicines reconciliation to reduce the risk of patients receiving the wrong medication.

R6 The Health Board needs to ensure that there is a full complement of SCAs and that there is a programme of monitoring physician compliance with the protocols in place.

R7 The Health Board needs to improve current discharge arrangements and develop standard discharge advice letters to ensure it has more effective care handover arrangements between consultants and GPs.

Delivering safe, effective and economical prescribing

R8 The Health Board needs to identify all the areas of primary care prescribing where potential savings can be delivered and through additional support deliver these savings.

Delivering safe, effective and economical prescribing

R9 The Health Board should develop a medium to long-term approach to delivering sustained improvements through education programmes and targeted prescribing advisor advice to GPs to improve:

- ACE inhibitor prescribing;
- PPI prescribing;
- prescribing of ibuprofen and naproxen non-steroidal anti-inflammatory drugs;
- prescribing of opioids for pain relief;
- low acquisition cost statin prescribing; and
- prescribing of the broad spectrum antibiotics.

Detailed report

Strategic planning arrangements

10. The Health Board needs to finalise its prescribing strategy, underpinned by robust evidence and appropriate objectives. We have come to this conclusion because:

- **Setting the strategic direction:** the Health Board has a draft prescribing strategy and while its five core themes are appropriate the strategy needs to be finalised.
- **Use of evidence supporting strategy development:** the draft strategy was not informed by robust or comprehensive analysis of the Health Board's specific demographic and public health needs or patient and stakeholder engagement.
- **Financial analysis used to support strategy development:** the strategy refers to the risks and costs of the entry of new expensive drugs but contains no financial information or analysis on how these will affect existing care pathways.
- **Monitoring outcomes delivery and performance**: the draft prescribing strategy does not contain SMART[5] objectives or targeting of resources to deliver the greatest impact although the high-level financial and performance targets are monitored by the Board.

11. The following tables summarise the findings supporting the conclusion.

Setting the strategic direction		
Expected practice	**In place?**	**Further information**
The Health Board has an up-to-date to prescribing strategy covering a defined period of time (for example, three to five years), and associated delivery plans to support achievement of its strategic aims with prioritised actions.	✓/✗	At the time of the audit, there was no overarching strategy in place for primary care prescribing in Powys. We were provided with some draft documents but these were not always aligned and did not provide clear strategic direction. The outcome of this was that the prescribing team was working towards a large number of objectives that were set out in the various documents and there was no single approach that all staff were following. The Health Board's draft Prescribing Strategy 2012 Working Document has the following aims: • improving safety in use of medicines; • maximising benefits for patients from medicines used; • streamlining medicine processes; • improving access, and equity of access, within a legal framework; and • optimising efficient use of resources.

[5] Specific, Measurable, Attainable, Relevant, Time-bound

Setting the strategic direction		
Expected practice	**In place?**	**Further information**
The Health Board has an up-to-date to prescribing strategy covering a defined period of time (for example, three to five years), and associated delivery plans to support achievement of its strategic aims with prioritised actions.	✓/✗	We were also provided with a draft pharmacy and medicines management 2012-2017 document which has five similar although different aims: • reduce avoidable harm; • improve quality of care through improved effectiveness; • reduce costs of effective interventions/treatment by rationalising choices, reducing unhelpful variation; • ensure limited NHS resources are focussed on evidence-based treatment of patient need; and • make the business case for investments in (pharmacy and medicines management) healthcare provision that produces reduction in health care costs over the medium and long term. Other documents, such as the medicines management workforce plan, set out elements of the direction of travel and work programme that the prescribing team are following. But a key focus of activity by the Health Board's pharmacists is the quality and effectiveness in the use of medicines LES prescribing efficiencies savings scheme. More recently, the Health Board has developed its three-year plan 2013-2016. This contains high-level 'major gains' for medicines use and prescribing. Beneath these high level aims, the medicines management team need to finalise its prescribing strategy and produce a measurable action plan with SMART objectives that the whole team has had input into and which forms the basis for their individual objectives.

Setting the strategic direction		
Expected practice	**In place?**	**Further information**
The Health Board's primary care prescribing strategic approach should be integrated with secondary care medicines management. In the absence of an integrated strategy the primary care strategy should deliver a consistent approach with its counterpart in secondary care.	✓/✗	Because the Health Board commissions healthcare services from many providers both in Wales and in England, secondary care engagement across Powys is complex. Consequently, the prescribing team engages with a large number of secondary care providers. The prescribing strategy 2012 working paper refers to the wide range of staff who can prescribe in Powys; the problem of information flows for patients on admission and discharge; and the need for more pharmaceutical support to community hospitals to help reduce errors. These are important points but they need to be further developed to set out what the pharmacy team will do to make improvements.
The strategic approach should link to the Health Board's other strategic aims, for example, its Public Health Strategy.	✓/✗	The prescribing strategy 2012 working paper makes no reference to public health strategies although the workforce plan and the draft pharmacy and medicines management 2012-2017 refer to Setting the Direction. However, there are no explicit links to the public health strategy. This needs to be addressed in the development of the strategy.
Planning arrangements address service redesign including workforce developments and training.	✓/✗	The Powys workforce plan for medicines management 2012-2017 sets out the following objectives: **1** Best value for Money for prescribing expenditure. **2** Support the Safe utilisation of Medicines. **3** Support Clinical Effectiveness, through implementation of national guidance. **4** Support the Planning/Commissioning of services where Medicines are used. **5** Leading the local NHS: Pharmaceutical services. **6** Develop the Medicines Management skills of healthcare professionals. **7** Maximise the effectiveness of Community Pharmaceutical Services.

Setting the strategic direction		
Expected practice	**In place?**	**Further information**
		It is not clear how these objectives link to those in the draft Prescribing Strategy 2012 and the draft Pharmacy and Medicines Management 2012-2017 documents.
Planning arrangements address service redesign including workforce developments and training.	✓/✗	The quality and effectiveness LES provides a major driver for the Health Board's prescribing activity and the majority of GP practices have signed up to this service.
Planning arrangements address service redesign including effective use of the community pharmacy contract to deliver national and local priorities, for example, LES.	✓/✗	The draft prescribing strategy recognises the contribution that the Pharmacy Services Contract (PhSC) could have on the safe and effective use of medicines in primary care through Medicine Usage Reviews (MURs) and Discharge Medicines Usage Reviews (DMRs). One member of staff has responsibility for the contract, but the focus is on compliance rather than service development.
The strategy addresses reducing wastage for example through promoting practice medicine reviews, repeat prescription management and working with community pharmacists.	✓/✗	The draft prescribing strategy recognises the problem of wastage. It sets out the problem of patients not taking medicines as prescribed and the contribution that community pharmacy can make in addressing wastage through increasing use of MURs. It also refers to problems with quantities of sip feeds and wound care products and the work ongoing by Health Board pharmacists to address these issues in care homes and in the community. The Health Board recognises that its local work also needs to be undertaken alongside a national campaign, if it is to be effective.The strategy needs to set clear, prioritised targets with plans to address them in the short and longer term. There is a risk that without a clear plan the Health Board will not achieve the maximum impact. A more detailed review of the Health Board's approach to waste reduction is set out in Section 3 of this report.

Use of evidence supporting strategy development		
Expected practice	**In place?**	**Further information**
The strategy is informed by a clear analysis of factors influencing prescribing behaviour like demographics, deprivation, needs assessment and public health issues.	✘	The draft prescribing strategy does not contain a clear analysis of factors influencing prescribing behaviour. The workforce plan refers to an increasingly aged population in Powys. The Health Board has recently produced a three-year plan for Powys with demographic information with can be used to support the development of the prescribing strategy.
The strategy aligns with and supports the delivery of national policies regarding medicine including NICE guidance and All Wales Medicines Strategy Group (AWMSG) guidance on the impact of new drugs and changing use for existing drugs.	✓	The Health Board undertakes detailed scenario planning to understand the impact of NICE and AWMSG decisions will have. The information is robust and demonstrates a constructive approach to financial impact analysis, which helps inform the budgets and savings plans of the Health Board.
The strategy aligns with 1,000 lives and national service frameworks.	✓/✘	The Health Board's pharmacists have developed and delivered a number of independent projects, which have had some successes, such as a joint project with 1000 Lives to improve the quality of life for residents in care homes by reducing the inappropriate prescribing of antipsychotics in dementia. While these actions are delivering notable successes, and the overall prescribing rates are good, there is potential to achieve more and use resources more effectively if activities were part of a longer-term strategy. The draft prescribing strategy refers to the care pathway approach using toolkits for disease areas which looks like a good approach to aligning with the areas covered by national service frameworks.
The strategy has been prepared with input from key stakeholders such as GPs, hospital consultants and patient representatives.	✘	Our audit work has found no evidence of the use of patient and stakeholder engagement in the development of a strategic direction for primary care prescribing. This is a weakness in the Health Board's approach and needs to be addressed and strengthened.

Financial analysis used to support strategy development		
Expected practice	**In place?**	**Further information**
The strategy includes a financial analysis based on: historic growth of the local drugs bill.	✓/✗	The draft prescribing strategy does not include any financial analysis. However, financial planning is undertaking through the budget setting process. The overall Powys prescribing budget is set in terms of the resources made available and the expected level of savings. The Chief Pharmacist works with the Health Board's Finance Officer to come up with a savings plan for the year ahead. Medicines management have consistently delivered on their savings target. Performance reports demonstrate their achievement of savings targets and the Chief Pharmacist works to ensure that savings targets are realistic and achievable including potential savings from the major elements of work. These savings are challenging for the Health Board and require detailed medium-term plans to support achievement; these however were not in place at the time of our review. The prescribing efficiencies 2012-13 document sets out how the medicines management team will achieve savings. It also sets out estimates of savings in years 1 and 2 although it does not state whether these savings are recurring or non-recurring. Agreement of savings target is undertaken each year, and the medicines management team have committed to savings through: • reducing waste; • optimising choice of medicine; • maximise benefit from medicines use; and • reduce inappropriate variation on prescribing costs between practice populations. However, saving plans lack detail, and without a link to a formal strategy for the prescribing team, achievement will be challenging.

Financial analysis used to support strategy development		
Expected practice	**In place?**	**Further information**
The strategy includes a financial analysis based on: generic prescribing and the use of branded drugs.	✓/✗	Positively the Health Board has the highest rates of generic prescribing in Wales. The strategy needs to set out that GPs need to continue to prescribe generics where possible.
The strategy includes a financial analysis based on the impact of new drugs and changing use for existing drugs including their impact on existing care pathways.	✓/✗	The prescribing strategy has a section on the entry of new (expensive) drugs and refers to the risks and costs although it does not set out how this will affect the impact on existing care pathways.
The strategy includes a financial analysis based on: contingency arrangements for unplanned developmentsfor example using high cost antibiotics if resistance strains emerge.	✗	The current financial planning arrangements have no provision for unexpected or unplanned developments.

Monitoring outcomes delivery and performance		
Expected practice	**In place?**	**Further information**
There are clear strategic aims, outcomes and SMART objectives.	✗	While the draft prescribing strategy does contain clear aims, these are not underpinned by clear outcomes or SMART objectives. It is important that outcomes and objectives are set and prioritised as part of the finalising of the prescribing strategy.
The framework for monitoring delivery includes reporting to the Board and appropriate Committees.	✓	The framework for monitoring delivery includes reporting to the Board and appropriate committees, such as the primary care development group. The Board reviews progress against the prescribing savings target and the cost per 1,000 PUs where Powys is the best performing Health Board. The Health Board would get further benefit from ensuring that the Board and appropriate committees monitor performance with a holistic approach, bringing all the strands together to form a comprehensive picture of performance across all areas, including the areas in the draft prescribing strategy.

Structures, resources and managing the interface with secondary care

12. While executive responsibility for medicines management is clear, the staffing and prescribing committee structures need clarification, and significant challenges remain across the interface of primary and secondary care. We have come to this conclusion because:

- **Management arrangements:** executive responsibility for medicines management is appropriate with clear lines of accountability to executive Board level.
- **Prescribing support to primary care:** the Health Board's prescribing team deliver a range of innovative projects but these were reactive and not linked to a strategy, risking duplication of effort and missing higher priority objectives. Support to primary care via the community pharmacists using the LES quality and effectiveness scheme is delivering tangible benefits although contracting arrangements and support to these pharmacists need to be strengthened.
- **Health Board formulary:** the Health Board has produced a partial formulary which is supplemented with other health boards' formularies and linked to ScriptSwitch.
- **Primary Care Prescribing and Therapeutics Committee (PCPTC):** the PCPTC is well attended although it needs to clarify its structure to improve decision making.
- **Interface working between primary and secondary care:** the Health Board has produced SCAs in key areas. Some SCAs were out of date and progress in developing SCAs for all necessary drugs has been slow, although in many instances this is dependent on responsiveness of the secondary care provider units. Significant challenges remain regarding physician compliance with the agreements, medicine reconciliation arrangements, and discharge information.

13. The following tables summarise the findings supporting the conclusion.

Management arrangements		
Expected practice	**In place?**	**Further information**
There is clear professional and managerial accountability for all medicines management and GP prescribing. This should include executive lead at Board level.	✓	The Health Board has clear executive leadership in place. The Medical Director is the responsible director for medicines management at Board level and the Chief Pharmacist reports directly to him. The Head of Primary Care also reports to the Medical Director. The Primary Care Development Advisory Group provides a good forum for pharmacy and primary care to support implementation of enhanced services and other areas of shared interest.

Prescribing support to primary care		
Expected practice	**In place?**	**Further information**
Primary care prescribing support and advice roles are clearly defined.	✓/✗	Dedicated primary care support resources (pharmacists and technicians) are employed directly by the Health Board and they also work with secondary care. At the time of the audit the team did not have an up-to-date organisation chart and team members lacked clarity on their own roles and those of others in the team. We found that staff wanted more focus, direction and feedback. The Chief Pharmacist directly managed all nine members of the prescribing team as there is no deputy in post. This risks limiting the time the Chief Pharmacist has to provide strategic leadership and to manage and support the team. The team work on a range of innovative projects that support improving the quality of medicines management. However, these projects appeared to be developed reactively on an ad hoc basis and were not linked to a strategy risking duplication of effort and missing higher priority objectives.

Prescribing support to primary care		
Expected practice	**In place?**	**Further information**
Primary care prescribing support and advice roles are clearly defined.	✓/✗	An innovative approach adopted in Powys has been to supplement support for primary care from its own pharmacy team with a cohort of pharmaceutical professionals. Implementation of this is through the quality and effectiveness LES and the majority of practices have signed up to this service. The LES pharmacists undertake a programme of audits at their related GP practice and support the identification of patients who could switch medications. Our diary exercise (see Appendix 6 for details) shows that that around 10 per cent of the Health Board's prescribing team members' time is spent working directly with GP practices, while two-thirds of pharmacist time was spent on Health Board activities. Travelling time accounted for the highest proportion (8.9 per cent) followed by attending meetings (8.5 per cent) which will be partly due to the rurality of the area. The work of LES pharmacists may be reducing the need for staff to spend as much time in primary care. Our exercise found that the Health Board had the highest staffing levels compared to other health boards in Wales and this does not include the resources provided by the LES pharmacists. Due to the different nature of service provision in Powys, the team are involved in more community initiatives and other projects. As part of workforce planning and strategy development the team needs to clarify roles and responsibilities and ensure that they have the right resources in place to deliver the strategy.

Prescribing support to primary care		
Expected practice	**In place?**	**Further information**
Primary care prescribing support and advice roles are clearly defined.	✓/✗	The LES pharmacists are well embedded within practices and have developed close working relationships. However, the Health Board pharmacists reported issues with the LES pharmacist contracts and they found it difficult to engage directly with the LES pharmacists on a regular basis. The result is that the LES pharmacists had little support and do not have a formal programme of training. This is an area that needs strengthening as the current arrangements appear lacking and risk not making the best use of a valuable resource. There are opportunities to improve the effectiveness of these arrangements by increasing training for LES pharmacists, introducing an induction process and strengthening contract and performance monitoring arrangements.
Performance and compliance is monitored and prescribing team resources are directed towards priority and high-impact areas.	✓	A pharmacist from the medicines management team visits each practice annually. The prescribing team undertakes detailed analysis of prescribing data and uses this to target interventions and to flag up to practices where they could improve or where they are outliers. Support is also provided through the LES pharmacist scheme to implement audits and undertake patient reviews, all aimed at improving the quality and effectiveness of prescribing. The team has targeted some practices with poorer performance, for example, those with high benzodiazepine prescribing.

Prescribing support to primary care		
Expected practice	**In place?**	**Further information**
There are easy accessible data analysis and management information systems and processes in place to support prescribing advice work.	✓	Information systems are supporting effective prescribing. CASPA[6] data is used effectively by the team to monitor practice performance on key aspects such as national prescribing indicators. Information on their performance is shared with GPs at the quarterly PCPTC and also forms the basis of the annual visits to practices. The Health Board uses ScriptSwitch and is monitoring its use. GPs understand the need for the system.
Primary care rational prescribing education programme in place.	✓/✗	There is no formal education programme in place, although the PCPTC provides effective dissemination of information from CASPA and there is a programme of presentations providing information on topical issues. GPs also value the professional support provided to them by the medicines management team. Meetings held as part of the annual prescribing visits are well used and seen as valuable by GPs. The medicines management team produce regular newsletters to disseminate key messages to GPs. They have also provided training to healthcare support workers on safe administration of medicines. The Health Board needs to address training and support for LES pharmacists in order to improve their effectiveness. This should be part of the development of a rational prescribing education programme for prescribers and pharmacists.

[6] Comparative Analysis System for Prescribing. Audit is an application for analysis of prescribing trends in primary care provided by the NHS Wales Shared Services Partnership.

Health Board formulary		
Expected practice	**In place?**	**Further information**
The establishment of a local formulary is an important tool to help provide information in support of safe and economic drug choices within a health board. In order to be effective, the formulary needs to be developed with the engagement of relevant clinicians. It also needs to be promoted as widely as possible across primary and secondary care, and should be made readily available, including electronically. The Health Board has established a local formulary which identifies through a RAG (red, amber, green) system or similar process: • Medicines suitable for primary care prescribing. • Medicines initiated within a hospital/specialist setting but suitable for shared care with primary care under a Health Board shared care agreement. • Prescribing responsibility lies with a hospital consultant or a specialist. • The Medicines and Therapeutic Committee does not recommend a medicines use except in exceptional circumstances. In these instances prescribing adviser advice is needed and the reasons for prescribing recorded.	✓/✗	Powys has a partial primary and secondary care formulary in place covering the six highest volume areas of the British National Formulary (BNF) based on Aneurin Bevan Health Board's formulary. The formulary uses a 'traffic light' system that identifies which drugs are appropriate for prescribing in which settings. The pharmacists thought that GPs like the traffic light element of the formulary, as it is clear who needs to prescribe particular drugs. As part of the national work by NHS Wales Informatics Service (NWIS), the Powys formulary is being migrated to the Inform system, which will eventually populate GP systems and electronic medicines systems in Powys hospitals. While GPs know about Inform, they do not all use it. The formulary is not part of the GP prescribing systems (EMIS and Vision), which means that it is not used as the default choice in prescribing. The formulary is linked to ScriptSwitch. While the development of a formulary is a considerable undertaking, local arrangements have been slow to progress. This is due to the challenge of engaging secondary care clinicians from a number of providers and a lack of capacity within the medicines management team. However, the Health Board is not planning to develop its own formulary beyond these six chapters.

Health Board formulary		
Expected practice	**In place?**	**Further information**
Formulary compliance is monitored and action taken when breaches are found.	✓/✗	The LES scheme requires practices to maintain a practice formulary. Ad hoc arrangements are in place to capture incidents of non-compliance with the formulary, for instance, contact from GPs notifying of issues where drugs have been prescribed that are not suitable for primary care. ScriptSwitch reports monitor where GPs have accepted or declined potential switches although the medicines management team makes little use of this data. Formulary compliance monitoring should form part of the development of the prescribing strategy and objectives.

Primary Care Prescribing and Therapeutics Committee (PCPTC)		
Expected practice	**In place?**	**Further information**
The work of local drugs and therapeutics groups is a key component in ensuring safe, effective and economical use of new drugs and types of treatment. The PCPTC membership effectively represents all the stakeholders including lay members.	✓	GP representation on the PCPTC is strong due to the quality and effectiveness LES scheme which requires GP prescribing leads to attend three of the four meetings every year. LES pharmacists also attend in partnership with their local GP practice. Secondary care is well represented through the vice chair who is a secondary care physician, as well as pharmacy representatives from other secondary care providers which service the population of Powys. A member of the Community Health Council is also represented on the group. There are no gaps in the membership. The group therefore has around 40 people attending on a regular basis.
The membership covers a wide range of specialities in terms of medical expertise. This is necessary to ensure that proper consideration is given to complex information in order that robust decision making can take place.	✓	The combination of GPs and Powys consultants means that all local specialties are represented. Additionally there is attendance from pharmacy representatives from other health boards.

Primary Care Prescribing and Therapeutics Committee (PCPTC)		
Expected practice	**In place?**	**Further information**
The forward plan sets out a work programme for the year.	✓	The 2013-14 annual plan is now in place. It is dependent on any changes in guidance from NICE and national programme guidance and so will change during the year, which is appropriate. Members expressed concern that agendas were issued late and this can leave little time for preparation so it is important that the committee issues papers in advance so that members have time to prepare fully.
The PCPTC utilises the full range of information sources available to inform decision-making.	✓	The PCPTC members use information well to support decision-making. The information used includes NICE and AWMSG guidance.
The PCPTC has a robust, systematic and transparent process for decision-making as part of its overall governance framework.	✘	While it is positive that attendance at the PCPTC is high, it is resulting in some difficulties. There is no formal decision making framework in place and only around half of attendees participate in discussions affecting decision making. The agendas are long, covering a wide range of topics. This is leading to frustration from some members of the group and means getting agreement with decisions is hard to obtain and people may not be fully engaged with decisions made. At the time of our audit the Health Board was considering the future format of this group. There seem to be two functions that the group is trying to cover; information sharing for all GPs, and decision making. There are a number of options, such as making more use of sub-groups, GP forums and locality groups that they need to consider and evaluate to improve the running of the PCPTC.

Primary Care Prescribing and Therapeutics Committee (PCPTC)		
Expected practice	**In place?**	**Further information**
The PCPTC has a robust, systematic and transparent process for decision-making as part of its overall governance framework.	✘	The PCPTC members agreed to merge with the Prescribing and Therapeutic Strategic Committee. This then merged the secondary and primary care elements from other committees. However, the name of the committee has not been changed to reflect the changes. The name of the group will need to be changed once the final structure is agreed.
All prescribing decisions take into account the impact of loss leaders in secondary care on primary care.	✓/✘	There is some evidence of work on the impact of prescribing decisions within secondary care. Nutritional feeds are one area where the Health Board is starting to address the impact of secondary care prescribing upon primary care. Costs of nutritional supplements in secondary care are minimal, whereas in primary care they are greater. These feeds can also be a source of wastage.
The PCPTC decisions are communicated in a timely way.	✓	High levels of engagement support effective dissemination of information within Powys. Practice leads are able to take information to their practices to share with other prescribers. Further support is in place with newsletters and adhoc communications from the medicines management team. Changes to the structure of PCPTC might affect communication as if there are fewer people at the meeting they will need to find other methods to disseminate committee decisions.

Interface working between primary and secondary care		
Expected practice	**In place?**	**Further information**
There is a policy or working protocols which ensures safe transfer of medicines and information across the primary care secondary care interface.	✓/✗	Existing Health Board SCAs, for example, for dementia drugs and lithium, are well written and contain an appropriate level of information in order to ensure safe management of patients. There is clear identification of, and differentiation between, the responsibilities of prescribers within primary and secondary care. However, some SCAs are out of date and progress in developing SCAs for all necessary drugs has been slow. This has mainly been due to the challenges arising from the need to obtain consultant engagement from a number of providers and the complexity of funding streams. Further work is needed to ensure that there are SCAs in place for all necessary medications. The Health Board also needs to test compliance with the SCAs by physicians.
The Health Board has medicines reconciliation arrangements in place on admission to hospital which identifies the most accurate list of a patient's medicines and will enable any discrepancies to be recognised and changes documented, thereby resulting in a complete list of medications that the patient is being prescribed.	✗	The current medicines reconciliation arrangements are adhoc and applied inconsistently. Issues have been raised where GPs are unsure of medication that has been prescribed following admission, or if the medication that patients were on before admission needs to be continued. This needs to be addressed. There is a lack of policies and working protocols to assure safe transfer of medicines and information across primary and secondary care. Although this is recognised the Health Board has not yet addressed this issue.

Interface working between primary and secondary care		
Expected practice	**In place?**	**Further information**
Timely discharge letters are sent to GPs, containing clear and relevant information to help support prescribing decisions in primary care. They should: • identify that the patient's condition is stable; • contain the reasons for any medication change; • identify recommended medicines by generic name and therapeutic class; • give the reason why any branded medicines are recommended; and • give the reason why unlicensed or off-label drugs are recommended.	✓/✗	The quality of discharge letters has been identified as an issue. A recent internal audit report found the quality of discharge letters varies depending on consultant or hospital from where the letter originates and that many letters arrive weeks late. Our interviews also found staff concerns with discharge arrangements. The Health Board is addressing this by engaging with the Medicines Transcribing and Discharge (MTED) project which is being rolled out by NWIS to some of the health boards in Wales. However, there are no other plans currently in place to address these issues. This is a risk for the Health Board.

Delivering safe, effective and economical prescribing

14. The Health Board is consistently achieving its savings targets for prescribing, but there is potential to improve efficacy of prescribing for patients and make further savings. We have come to this conclusion because:

- **Budget setting and financial performance:** the target set for savings from prescribing was £0.8 million in 2012-13 which was exceeded at the year-end by £1.0 million giving a total of £1.8 million in savings. At the local level the prescribing team monitors expenditure by GPs as part of the LES scheme; while at the Health Board level medicines management receives little scrutiny as Powys has the lowest cost per prescribing unit and meets its savings targets, risking missing opportunities for further financial savings and improving quality of prescribing.
- **Overall expenditure on primary care prescribing:** the Health Board spends £22 million on primary care drugs and the spend is below the average for Wales other than for gastro-intestinal products where it is higher.
- **Prescribing on wound management, food supplements and incontinence products**: while the Health Board has been successfully targeting wound management and work is starting on management of prescribed food supplements, there are still savings to be made by improving prescribing of these products and by changing the way incontinence and stoma care products are supplied.

- **Indicators of effective prescribing:** overall, the Health Board performs very well on some indicators (top nine antibacterials, dosulepin, hypnotics and anxiolytics) but less well on others (ACE inhibitors, PPIs, ibuprofen and naproxen non-steroidal anti-inflammatory drugs, opioids and low acquisition statin prescribing). We recognise that the indicators are reviewed regularly, and that changes to indicators also result in changes in performance. Nevertheless, the Health Board needs to move its focus towards the indicators where it has poorer rates of prescribing in order to improve the quality of care and generate savings.
- **Adverse drug reaction (ADR) reporting:** the Health Board recognises it has low compliance with ADR reporting through both the Yellow Card system and the Health Board's Datix adverse event reporting system and work is ongoing to promote increased reporting by GPs.
- **Drug wastage:** the Health Board has initiated a number of activities to reduce waste by targeting care homes and community pharmacy activity, although it could strengthen this area of work by developing a strategic approach to wastage audits and campaigns. The Health Board recognises that its local work also needs to be undertaken alongside a national campaign, if it is to be effective.

15. The following tables summarise the findings supporting the conclusion.

Budget setting and financial performance		
Expected practice	**In place?**	**Further information**
There needs to be a clear approach to primary care prescribing budget setting which: • is fair and adequate to meet the clinical needs of patients; • takes into account increases in prescribing that will be required for improvements in the clinical aspects of prescribing; • takes into account improvements in the cost-effectiveness of prescribing that need to be made; and • uses an open and transparent methodology.	✓	Considerable activity is carried out on an annual basis to produce an appropriate primary care prescribing budget and savings plan. Planning documents state that savings plans are ambitious and stretching but achievable. The methodology used is clear. They look at the impact of new drugs through their horizon scanning process which starts in October and then becomes final in January, ready for budget setting agreement.

Budget setting and financial performance		
Expected practice	**In place?**	**Further information**
Expenditure on primary care prescribing remains within budget and savings targets are attained.	✓	The Health Board is delivering its financial targets for savings on prescribing. They were given a savings plan for 2012-13 of £0.8 million and achieved £1.8 million. As reported to the Board, some of these savings will be a direct result of the LES incentive scheme. There were some issues with GP acceptance of savings targets as they were reported as wanting more of a share of the savings achieved. While it was explained that savings are needed for investment in other Health Board service areas, GP practices are getting benefits, such as new medical equipment or training for practice staff.
Financial monitoring takes place at team level and action is taken if targets are not being met.	✓	The Health Board produces reports monthly for localities focusing on activity and savings. Monitoring of the LES progress by practices is undertaken quarterly and the technicians use a monitoring spreadsheet.
Financial monitoring takes place at Board level.	✓	Medicines management has a low profile at Board level as Powys is already achieving the lowest cost per prescribing unit and exceeds its savings targets. While this is positive, the Board needs to be sure that it is not missing further opportunities to improve the quality of prescribing.

Overall expenditure on primary care prescribing		
Expected practice	**In place?**	**Further information**
The reasons for the current Health Board expenditure on primary care prescribing are known and understood.	✓/✗	The Health Board spent a total of £22 million on primary care drugs between June 2012 and May 2013. Appendix 2 sets out the expenditure by the 15 BNF chapter headings adjusted per population prescribing unit which takes into consideration the numbers of older people in the population. The adjusted spend in Powys was £109,588 per 1,000 prescribing units which is the lowest overall compared to other health boards in Wales. When the six highest spending areas are looked at, rates in Powys are lower for five areas but for gastrointestinal drugs it is high.

16. The tables below summarise how the Health Board is performing against a range of prescribing indicators reviewed as part of the audit. Additional graphical comparisons are provided in Appendix 3 of the report.

Indicators of effective prescribing	
Expected practice	**Health Board's performance**
The Health Board can generate further savings by matching overall prescribing to that achieved within the best quartile of GP practices.	We estimate that the Health Board could make additional annual savings of around £726,000 without affecting patient care (see Appendix 1 for details).
The Health Board has high levels of generic prescribing matching best GP quartile performance (85 per cent) which reflects high quality prescribing such as lower error rates and costs. To reduce the impact of variation a basket of commonly prescribed drugs with generic equivalents has been developed (Appendix 3: Exhibit 2) to identify realisable savings by improving generic prescribing.	Appendix 3: Exhibit 1 shows that the Health Board could potentially realise £151,000 by improving generic prescribing.
The BNF describes a number of drugs which are less suitable for prescribing because they have limited clinical value, they have been superseded by more effective drugs or they have significant side effects. If 50 per cent of prescriptions on these preparations were discontinued then the Health Board could realise savings.	The Health Board spent over £17,000 on drugs less suitable for prescribing between March and May 2013 (Appendix 3: Exhibit 3). This suggests the Health Board has both quality and savings opportunities of around £34,000 over 12 months.

Indicators of effective prescribing	
Expected practice	**Health Board's performance**
NICE has identified a number of drugs not recommended for routine use. Performance against a basket of drugs[7] in this category reflects effective and safe practice within primary care prescribing.	The Health Board spent £2,000 on drugs not recommended for routine use between March and May 2013 (Appendix 3: Exhibit 4). This suggests that focused prescribing advice could deliver more rational prescribing and provide £4,000 savings.

Prescribing on wound management, food supplements and incontinence products	
Expected practice	**Health Board's performance**
Antimicrobial dressings While antimicrobial dressings are widely used evidence for their use in primary care is limited and of poor quality. In view of the multitude of dressings available, the absence of specific advice in national guidelines, and recognising financial constraints, local formularies provide a means of rationalising choice of dressings. The Health Board could realise savings by moving all GPs towards the levels of antimicrobial wound dressings prescribed to the best performing Health Board.	Appendix 3: Exhibit 5 shows that between Sept 2011 and August 2012 the Health Board spent £272,000 on wound dressings and has a low percentage of prescribing on antimicrobial dressings. There is still the potential to realise savings of £5,000 if the Health Board matched the proportion of antimicrobial wound dressings prescribed to the best performing health board.
Food supplements The evidence base for oral nutritional supplements was assessed by NICE. This review concluded that until further evidence is available, people with weight loss secondary to illness should either be managed by referral to a dietician, or by staff using protocols drawn up by dieticians, with referral as necessary. Evidence gained during the Wales Audit Office hospital catering study suggested nutritional supplements are poorly managed in the community; costs are high as is wastage. If the item cost were reduced to the lowest average cost in Wales the Health Board could release savings. Further savings may be forthcoming if the quantity of items is reduced.	Appendix 3: Exhibit 6 shows that between March 2013 and May 2013 the Health Board spent over £125,000 on food supplements (sip feeds) at a low average cost of £39.48 per item which is amongst the lowest in Wales. However, the Health Board could still release savings of over £16,000 by continuing to reduce its cost per item.

[7] This basket comprised Aliskiren, Cilostazol, Roflumilast, Linagliptin, Paricalcitol, and Hyaluronic Acid (Sodium).

Prescribing on wound management, food supplements and incontinence products

Expected practice	Health Board's performance
Incontinence and stoma products A 2010 national audit of incontinence found the great majority of continence services are poorly integrated across acute, medical, surgical, primary, care home and community settings, resulting in disjointed care for patients and carers. In primary care incontinence and stoma appliances are usually provided to patients by a prescription written by their GP or a nurse prescriber. This prescription is then dispensed by one of the following: a dispensing appliance contractor, a pharmacy contractor or a dispensing doctor. A focused approach to improve quality and quantity of prescribing incontinence and stoma products can realise cost savings.	Appendix 3: Exhibit 7 shows that the Health Board spent over £770,000 on stoma appliances and around £162,000 on incontinence appliances. The level of prescribing per 1,000 prescribing units (PUs) for both types of product suggests that some quality and savings improvements could be found by targeting this area.

Performance against the national prescribing indicators 2011-12

Expected practice	Health Board's performance
ACE inhibitor ACE inhibitors (angiotensin-converting enzyme inhibitors) are medicines used commonly in the treatment of high blood pressure. NICE Clinical Guidelines (CG34) states that the benefit from ACE inhibitors and angiotensin-II receptor antagonists were closely correlated although due to cost differences, ACE inhibitors should be initiated first. Matching the best performing GP quartile (79.46 per cent) would potentially realise savings.	Appendix 3: Exhibit 8 shows that the Health Board prescribing of ACE inhibitors could be improved as it is the third lowest in Wales at 73.50 per cent. If the Health Board achieved the levels of the best performing GP quartile, savings would amount to over £27,000 (Appendix 3: Exhibit 9).

Performance against the national prescribing indicators 2011-12	
Expected practice	**Health Board's performance**
Proton pump inhibitors (PPIs) PPIs are used for the treatment of oesophageal reflux disease, dyspepsia, or gastric ulcers. Although concerns are now being expressed about the safety of long-term prescribing of PPIs, NICE recommendations state that the least expensive PPI should be used. Matching the best performing GP quartile (96.61 per cent) would potentially realise savings.	Appendix 3: Exhibit 10 shows that the Health Board's rate of prescribing the least expensive PPIs is the lowest in Wales at 92.01 per cent. Increasing the use of low-acquisition-cost PPIs provides the Health Board with potential savings, and if performance matched the best GP quartile, they would amount to £80,000 (Appendix 3: Exhibit 11).

Performance against the national prescribing indicators 2012-13	
Expected practice	**Health Board's performance**
Ibuprofen and naproxen non-steroidal anti-inflammatory drugs (NSAIDs) NSAIDs are medications widely used to relieve pain, reduce inflammation and reduce fever. There is overwhelming evidence for reducing prescribing of NSAIDs especially for the elderly. If NSAIDs have to be prescribed, to reduce risk, ibuprofen and naproxen are accepted as the first line choice. Matching the best performing GP quartile (79.63 per cent) would potentially realise savings.	Appendix 3: Exhibit 12 shows that the Health Board has proportionally the lowest level of prescribing of ibuprofen and naproxen at 73.46 per cent. This performance suggests more could be done to improve the quality of prescribing. Appendix 3: Exhibit 13 shows that increasing the use of ibuprofen and naproxen will also provide the Health Board with potential savings of £18,000 if they achieved the best GP quartile prescribing rate.
Low acquisition cost statins Current NICE guidelines promote the use of low acquisition statins as first-line treatment for most people with established atherosclerotic vascular disease, those with diabetes and others with a high risk of cardiovascular disease (CVD). This has been found to be the most cost-effective intervention. Matching the best performing GP quartile (96.26 per cent) would potentially realise savings.	Appendix 3: Exhibit 14 shows that the Health Board's rate of prescribing low acquisition statins is 90.61 per cent which is the lowest performance and well below the target of 95 per cent. If the Health Board achieved the best GP quartile performance this would not only deliver better outcomes it would also deliver an additional £267,000 saving (Appendix 3: Exhibit 15).

Performance against the national prescribing indicators 2012-13	
Expected practice	**Health Board's performance**
Long acting insulin for type 2 diabetes NICE guidance on the management of type 2 diabetes recommends that when insulin therapy is necessary, human isophane (NPH) insulin is the preferred option. Long-acting insulin analogues have a role in some patients, and can be considered for those who fall into specific categories. However, for most people with type 2 diabetes, long-acting insulin analogues offer no significant advantage over human NPH insulin, and are much more expensive. Matching the best performing GP quartile (87.88 per cent) would potentially realise savings.	Appendix 3: Exhibit 16 shows that the Health Board is above the target of 89.27 per cent with a prescribing rate for long acting insulin of 90.84 per cent. The Health Board will need to develop an approach to reduce prescribing in this area and is currently developing a diabetes pathway jointly with acute providers. Potential savings of £5,000 could be achieved if the Health Board achieved the best GP quartile (Appendix 3: Exhibit 17).
Opioids for pain relief Opioids have a well-established role in the management of acute pain following trauma (including surgery), and in the management of pain associated with terminal illness. Morphine remains the most valuable opioid analgesic for severe pain. Matching the best performing GP quartile (55.93 per cent) would potentially realise savings.	Appendix 3: Exhibit 18 shows that at 42.47 per cent the Health Board has a low level of morphine prescribing as a percentage of strong opioid items in Wales. It falls well below the target of 50.60 per cent. If the Health Board could match the best performing GP quartile, it has the potential to release over £119,000 in savings (Appendix 3: Exhibit 19).
Antibacterial prescribing – top nine items The Health Protection Agency guidance for primary care identifies the most appropriate treatment protocol and antibiotics for common infections experienced in primary care. The top nine antibacterials provide sufficient cover to treat upper and lower respiratory tract infections, urinary tract infections (UTIs) and common skin infections. The use of simple generic antibiotics and the avoidance of broad-spectrum reduce the risk resistant bacteria pose now and for the future. Target is 83.58 percentage for the top nine antibacterials as a percentage of antibacterial items.	Appendix 3: Exhibit 20 shows that the Health Board's prescribing of the top nine antibacterials is 82.86 per cent which, although below the target rate of 83.58 per cent, is the best performance in Wales.

Performance against the national prescribing indicators 2012-13	
Expected practice	**Health Board's performance**
Antibacterial prescribing – overall prescribing rate The Antimicrobial Resistance Programme in Wales supports and promotes the prudent use of antimicrobials. The development of a structured programme to reduce antibiotic prescribing by GPs could minimise the potential for antibiotic resistance developing locally. Target is 329 items per 1,000 STAR-PUs.	The overall prescribing rate for antibacterial items in the Health Board is low at 303.16 items per 1,000 STAR-PUs (Appendix 3: Exhibit 21). This performance is the best in Wales and demonstrates the benefits of the work that the prescribing team has put into this area.
Broad spectrum antibiotics There is an association between quinolone use and the incidence of C. difficile associated diarrhoea, therefore, use should be restricted to specific indications in order to reduce the risk of potential antimicrobial resistance. The average cost of a C. difficile infection has been estimated to be £4,007 which shows there are whole system and potential long-term consequences of not managing quinolone prescribing. The cephalosporins are broad-spectrum antibiotics which are used for the treatment of septicaemia, pneumonia, meningitis, biliary-tract infections, peritonitis, and UTIs. The use of broad spectrum antibiotics should be restricted to specific indications in order to reduce the risk of antimicrobial resistance. Targets have been set as a percentage of all antibacterials prescribed: • cephalosporins 3.14 per cent; • co-amoxiclav 2.99 per cent; and • quinolones 1.42 per cent.	Primary care prescribers in the Health Board are using high levels of the broad spectrum antibiotics. Appendix 3: Exhibits 22 to 24 shows that prescribing of quinolones is particularly high and the Health Board has the second highest rate of prescribing of these antibiotics in Wales. Reducing the rate of these three antibiotics is a feature of the 2013-14 NPIs because of the risk of antiobiotic resistance developing. Prescribing performance suggests there is some scope to improve the quality of prescribing in this area.

Performance against the national prescribing indicators 2012-13	
Expected practice	**Health Board's performance**
Dosulepin Dosulepin is an antidepressant, historically used where an anti-anxiety or sedative effect is required; however it does have a small margin of safety between the maximum therapeutic dose and a potentially fatal dose. Current NICE guidance is not to switch to, or start, dosulepin because evidence supporting its tolerability relative to other antidepressants is outweighed by the increased cardiac risk and toxicity in overdose. A focused approach to reduce prescribing of dosulepin should improve the quality of care and reduce the risk to patients. Target is 52.15 dosulepin daily defined dosage (DDD) per 1,000 PUs.	The Health Board's prescribing of dosulepin is lower than some other Health Boards at 40.45 DDD per 1,000 PUs (Appendix 3: Exhibit 25) and is the only Health Board to meet the target of 52.15. Many GPs are continuing to prescribe high levels of dosulepin and will need support to work with patients to reduce the use of this medication. To meet NICE guidance the medicines management team should target this area for reduction jointly with mental health staff.
Hypnotics and anxiolytics There has been concern over the high volume of anxiolytic and hypnotic prescribing within Wales. It is recognised that some prescribing may be inappropriate and contribute to the problem of addiction and masking underlying depression. There are also whole system consequences of the additional costs of providing addiction services to manage dependency. A focused approach to reduce prescribing of hypnotics and anxiolytics should improve the quality of care and reduce the risk to patients. Target 1,402 DDD per 1,000 PUs.	Appendix 3: Exhibit 26 shows that the Health Board is close to achieving the target rate of prescribing of hypnotics and anxiolytics (1388.47 DDD per 1,000 patients). Many GPs are prescribing above target, some significantly so. The medicines management team should target this area for reduction jointly with mental health staff.

Adverse drug reaction (ADR) monitoring		
Expected practice	**In place?**	**Further information**
The Yellow Card Scheme is run by the Medicines and Healthcare products Regulatory Agency (MHRA) and the Commission on Human Medicines (CHM), and is used to collect information from both healthcare professionals and the general public on suspected side effects or ADRs to a medicine. This scheme is vital in helping the MHRA monitor the safety of the medicines and vaccines that are on the market. The 1998 Audit Commission work highlighted low levels of reporting of ADRs in Wales and this trend has not improved AWMSG has agreed that Yellow Card reporting would be used as a local comparator across Wales. Alongside this the Yellow Card Centre Wales has developed an education programme which is available to GPs and health boards. Good practice for ADR prevention and reporting is set out in Appendix 4: Exhibit 30.	✓/✗	GPs are following their own internal procedures for reporting and investigating medication incidents and they share information on incidents with the Head of Primary Care. She liaises with the medicines management team over incidents related to medications. The medicines management team presents information on incidents to the PCPTC where they are discussed, but these incidents are only from secondary care. GP practices have been linked to the Health Board's Datix incident reporting system. However, we found that the majority of GP practices are not using the Datix to record incidents leading to a risk that incidents are not being captured and lessons will not be learned. GPs' concerns were that Datix was too complicated and they could not see a response to incidents that they had managed to report. While the pharmacists are trying to encourage GPs to use Datix by simplifying the front end and reducing the number of categories, feedback systems need to be developed to ensure that there is a point to GPs investing time in recording incidents on Datix. Appendix 4: Exhibits 27-29 show that reporting rates from GPs in the Health Board have fallen more than 50 per cent. We also found that prescribers viewed completion of yellow cards as time consuming and this is affecting completion rates. The Health Board has recognised the need to strengthen yellow card reporting and is planning to work with GPs to increase reporting. ADR reporting needs strengthening within the Health Board. Systems are unclear and time consuming for users. The Health Board recognises the need to improve incident reporting with senior managers engaging with key groups and GPs to raise awareness. But it needs to develop this area as part of its prescribing strategy.

Drug wastage		
Expected practice	**In place?**	**Further information**
The Welsh Government has estimated that the cost of wasted drugs amounts to £50 million each year. The Health Board could reduce wastage by up to 50 per cent.	✓/✗	Assuming the levels are consistent across Wales, we estimate that the cost of wasted drugs is £2.2 million. If the Health Board could reduce this by 50 per cent, up to £1.1 million could be saved (Appendix 5: Exhibit 31).
The Health Board has information on medicine wastage levels, for example, audits have been undertaken.	✗	Although the Health Board is targeting waste it has not carried out any audits to quantify the amount of waste.
The Health Board is using the community pharmacy contract to reduce wastage, for example, incentivising management of medicines at the start of dispensing.	✓/✗	Community pharmacies are engaged in the management of waste although the Health Board has not instigated a 'do not dispense' incentive scheme.
While one of the main reasons for returning medicines is the death of the patient, recent work has identified the following processes and systems cause medicines to be wasted: • complex treatment regimens leading to patients not following or completing the treatment; • changing treatments and unnecessary switching between treatments; • long prescription durations – limiting to 28 days is the most cost effective regimen reducing returns to pharmacies; • repeat prescribing and dispensing processes leading to over supply; • lack of appropriate medicine use support in the home; and • lifestyle and events which disrupt medicine-taking routines.	✓/✗	The Health Board has undertaken various activities to address wastage. These include encouraging practices to move to 28-day prescribing, and they encourage all practices to participate. However, in practice it is not well embedded and pharmacists are struggling to get compliance. There has been a focus within the team upon care homes where medication reconciliation and waste reduction exercises have been undertaken and are producing tangible benefits. At the time of our review, there was no specific medicine wastage campaign targeted at the public. Further activities could be developed to reduce waste as part of the prescribing strategy.

Appendix 1

Summary of potential savings

This appendix provides further information on the comparative performance of the Health Board against a range of prescribing indicators, and potential savings that have been identified from these comparisons. The table below summarises the basis of the savings calculations that have been used.

Indicator	Basis of savings calculation used in this report
Generic prescribing	The best quartile of GP practices in Wales realise 85 per cent levels of generic prescribing. Some branded drugs (such as Ventolin and Zapain) which are prescribed in large quantities and are currently cheaper than generic equivalents. Depending on the case mix, individual GP practices may have more or less potential to realise savings in this area. To reduce the impact of variation a basket of commonly prescribed drugs with generic equivalents has been developed to identify realisable savings by improving generic prescribing. Savings have been calculated for each of a basket of proprietary drugs by taking the actual expenditure on proprietary drugs (March 2013 to May 2013) minus the costs of the generic alternative (based on 21 August 2013 prices in the BNF) and then multiply the savings by 4 to get potential savings over 12 months, rounded to nearest 1,000.
Drugs identified as less suitable for prescribing excluding glucosamine	Actual expenditure (March 2013 to May 2013), has been multiplied by four to get 12 months' expenditure. Potential savings have been calculated by reducing the total expenditure by 50 per cent, recognising the sustained effort and education programme that may be required to change individual prescribers' habits.
NICE non-recommended drug basket	Actual expenditure (March 13 – May 13), has been multiplied by 4 to get 12 months expenditure. Potential savings have been calculated by reducing the total expenditure by 50 per cent, recognising the sustained effort and education programme that may be required to change individual prescribers' habits.
Antimicrobial wound dressing prescribing	The savings have been calculated on reducing the percentage prescribing of antimicrobial dressings used in primary care down to the best performing health board.
Food supplements (Sip Feeds)	The savings have been calculated based on reducing current expenditure down to the best health board average cost per item.
National prescribing indicators	The savings have been calculated on health boards achieving the best quartile GP practice performance.

Summary of potential savings

Area	Savings
Improved generic prescribing	£151,000
Drugs less suitable for prescribing	£34,000
NICE non-recommended drug basket	£4,000
Wound management and food supplements	**Savings**
Antimicrobial wound dressing	£5,000
Food supplements	£16,000
National prescribing indicators	**Savings**
Improved ACE inhibitor prescribing	£27,000
PPIs	£80,000
NSAIDs	£18,000
Low acquisition statins	£267,000
Long acting insulin	£5,000
Opioid prescribing	£119,000
Total	**£726,000**

Source: Wales Audit Office analysis of CASPA.Net data

Appendix 2

Comparative analysis of British National Formulary chapter prescribing by health board

Total expenditure by BNF chapter per 1,000 Prescribing Units[8] – June 2012 to May 2013

	Abertawe Bro Morgannwg Uni	Aneurin Bevan	Betsi Cadwaladr Uni	Cardiff and Vale Uni	Cwm Taf	Hywel Dda	Powys Teaching
Gastro-Intestinal System	£6,239	£6,712	£6,534	£6,211	£6,517	£6,137	£6,405
Cardio-vascular System	£14,683	£14,851	£13,940	£12,603	£15,876	£15,641	£14,674
Respiratory System	£20,428	£21,314	£18,857	£16,601	£25,799	£19,268	£16,820
Central Nervous System	£26,476	£28,293	£25,539	£26,420	£29,648	£26,171	£25,394
Infections	£3,269	£3,261	£3,147	£3,500	£2,945	£3,213	£2,887
Endocrine System	£16,448	£17,201	£15,029	£15,803	£17,032	£16,564	£14,811
Obstetrics, Gynae and Urinary Tract Disorders	£5,297	£5,561	£5,406	£6,644	£6,371	£5,379	£5,354
Malignant Disease & Immuno-suppression	£3,414	£2,798	£3,361	£2,809	£3,202	£4,451	£4,055
Nutrition and Blood	£7,757	£7,657	£7,887	£8,803	£9,049	£7,106	£7,565
Musculo-skeletal and	£2,938	£3,183	£2,637	£2,653	£2,875	£3,109	£2,938

[8] Prescribing Units (PUs) take account of the greater need of elderly patients for medication in reporting prescribing performance at both the practice and health board level. Rather than compare the cost of prescribing or the number of items prescribed by patient, comparisons by PU would weigh the result according to the number of elderly patients in either the practice or health board. Patients aged 65 and over are counted as three prescribing units and patients under 65 and temporary residents are counted as one.

	Abertawe Bro Morgannwg Uni	Aneurin Bevan	Betsi Cadwaladr Uni	Cardiff and Vale Uni	Cwm Taf	Hywel Dda	Powys Teaching
Joint Diseases							
Eye	£2,155	£1,783	£2,108	£2,004	£2,310	£2,385	£2,151
Ear, Nose and Oropharynx	£1,307	£1,225	£1,199	£1,433	£1,330	£986	£1,237
Skin	£4,117	£4,177	£4,109	£4,743	£4,230	£3,502	£3,630
Immuno-logical Products and Vaccines	£1,377	£1,416	£1,391	£1,545	£1,375	£1,421	£1,544
Anaesthesia	£117	£132	£117	£97	£91	£125	£127
Total spend primary care drugs per 1,000 PUs	**£116,021**	**£119,564**	**£111,262**	**£111,868**	**£128,649**	**£115,458**	**£109,588**
Other Drugs and Preparations	£331	£303	£333	£410	£418	£257	£343

Source: Wales Audit Office analysis of CASPA.net[9] data

[9] Comparative Analysis System for Prescribing Audit.

Appendix 3

Analysis of prescribing indicators

Exhibit 1: Potential savings from generics based on a basket of proprietary drugs March 2013 to May 2013

Health Board	Total expenditure (March 2013 to May 2013)	Potential savings pro-rated for 12 months
Abertawe Bro Morgannwg	£91,674	£367,000
Aneurin Bevan	£166,744	£667,000
Betsi Cadwaladr	£172,883	£692,000
Cardiff and Vale	£88,144	£353,000
Cwm Taf	£48,986	£196,000
Hywel Dda	£118,285	£473,000
Powys	£37,856	£151,000

Source: Wales Audit Office analysis of CASPA.net

Exhibit 2: Generic drug basket

Proprietary drug		
Actonel_Once A Week Tab 35mg	Imigran 50_Tab 50mg, 100mg	Proscar_Tab 5mg
Actos_Tab 15mg, 30mg, 45mg	Innovace_Tab 2.5mg, 5mg,10mg,20mg	Prozac_Cap 20mg
Alphagan_Eye Dps 0.2%	Istin_Tab 5mg, 10mg	Risperdal_Tab 1mg, 2mg, 3mg, 4mg
Aricept_Tab 10mg, 5mg	Lescol_Cap 20mg, 40mg	Risperdal_Tab 500mcg, 6mg
Arimidex_Tab 1mg	Lipantil Micro 200_Cap 200mg	Seroquel_Tab 25mg, 100mg, 150mg, 200mg, 300mg
Bonviva_Tab 150mg F/c	Lipantil Micro 267_Cap 267mg	Seroxat_Tab 20mg, 30mg
Cardura_Tab 1mg, 2mg	Lipitor_Tab 10mg, 20mg, 40mg, 80mg	Subutex_Tab Subling 2mg, 8mg
Casodex_Tab 50mg,150mg	Losec_Cap E/c 10mg, 20mg, 40mg	Telfast 120_Tab 120mg, 180mg
Cipramil_Tab 10mg, 20mg, 40mg	Lustral_Tab 50mg,100mg	Tritace_Tab 1.25mg, 2.5 mg, 5mg, 10mg

Proprietary drug		
Colofac_Tab 135mg	Lustral_Tab 50mg	Trusopt_Ocumeter Plus Ophth Soln 2%
Cosopt_Ocumeter Plus Eye Dps	Mirapexin_Tab 0.7mg	Tylex_Cap 30mg/500mg
Cozaar Half Strength_Tab 12.5mg, 25mg, 50mg, 100mg	Motilium_Tab 10mg	Xalacom_EyeDps 50mcg/5ml/ml
Desmotabs_Tab 0.2mg	Naramig_Tab 2.5mg	Xalatan_EyeDps 50mcg/ml
Detrusitol_Tab 2mg	Neoclarityn_Tab 5mg	Zestril_Tab5mg, 10mg, 20mg, 40mg, 80mg
Diovan_Tab 40mg	Neurontin_Cap 100mg, 300mg, 400mg, 600mg	Zovirax_Crm 5%
Femara_Tab 2.5mg	Nexium_Tab 20mg, 40mg	Zyprexa_Tab 2.5mg, 5mg, 7.5mg, 10mg, 20mg
Fosamax_Once Weekly Tab 70mg	Plavix_Tab 75mg	Zyprexa_Velotab 5mg,10mg, 15mg, 20mg

Source: Wales Audit Office analysis of CASPA.net

Exhibit 3: Basket of drugs identified as less suitable for prescribing (excluding glucosamine) March 2013 – May 2013 (pro-rated to 12 months)

Health Board	Total expenditure (Mar 13 – May 13)	Potential savings pro-rated for 12 months
Abertawe Bro Morgannwg	£101,000	£202,000
Aneurin Bevan	£82,000	£164,000
Betsi Cadwaladr	£128,000	£256,000
Cardiff and Vale	£64,000	£128,000
Cwm Taf	£40,000	£80,000
Hywel Dda	£56,000	£112,000
Powys	£17,000	£34,000
Total	**£487,000**	**£975,000**

Drugs and preparations included in analysis: Simeticone, Infacol, Dentinox Infant Colic Dps' Atropine Sulphate, Adsorbents And Bulk-Forming Drugs, Codeine Phosphate Compound Mixtures' Co-Phenotrope (DiphenoxHCl/Atrop Sulph), Opium and Morphine, Loperamide Hydrochloride and Dimeticone, Liquid Paraffin, Liq Paraf and Mag Hydrox_Oral Emuls, Rowachol, Co-Flumactone (Hydroflumeth/Spironol), Spironolactone With Thiazides, Diuretics With Potassium Clonidine Hydrochloride, GuanethidineMonosulphate, Trandolapril + Calcium Channel Blocker, Cinnarizine, Calcium Dobesilate, Nicotinic Acid Derivatives, Pentoxifylline, Rutosides, Moxisylyte Hydorchloride, Cerebral Vasodilators, Etamsylate, Ephedrine Hydrochloride, Cough Preparation, Systemic Nasal Decongestants, Cloral Betaine, Meprobamate, Promazine Hydrochloride, GppeTab_Triptafen, GppeTab_Triptafen-M, Triptafen, Clomipramine Hcl_Tab 75mg M/r, Anafranil, Dosulepin Hydrochloride, Isocarboxazid, Tranylcypromine Sulphate, Dexfenfluramine Hydrochloride, Diethylpropion Hydrochloride, Fenfluramine Hydrochloride, Mazindol, Phentermine, Rimonabant, Metoclopramide Hcl_Tab 15mg M/r, Metoclopramide Hcl_Cap 30mg M/r, Metoclopramide Hcl_Cap 15mg M/r, MaxolonSr_Cap 15mg, Co-Codaprin, Papaveretum, Pentazocine Hydrochloride, Pentazocine Lactate, Pamergan, Migraleve, Ergotamine Tartrate, Midrid, Clonidine Hydrochloride, Methysergide, Minocycline Hydrochloride, Methenamine Hippurate, Methenamine Hippurate, Inosine Pranobex, Stavudine, Indinavir, Pyrimethamine, Hydrocortisone Sodium Phosphate, Bethanechol Chloride, Rowatinex_Cap, Ferrograd, Feospan, Ferrograd, Slow-Fe, Ferrograd-Folic, Cyanocobalamin, Slow-K, Cyanocobalamin (b12), Vit B Co_Tab, Vit B, Co_Syr, Vit B Comp_Cap, Vit B Comp_Tab, Potaba_Cap 500mg, Potaba_Envules 3g, Potaba_Tab, Bitters And Tonics, Icaps_Tab, IcapsOad_Tab, IcapsPlus_Tab, Piroxicam, Methocarbamol, Kaolin Heavy, Freeze Sprays and Gels, Docusate Sodium, Cerumol, Isopropyl Alcohol, Urea Hydrogen Peroxide, Other Preparations, Ephedrine Hydrochloride, Borax, Glucose/Glycerol, Ipratropium Bromide, Phenylephrine Hydrochloride, Xylometazoline Hydrochloride, Fusafungine, Lozenges and Sprays, Tetracaine Hydrochloride, Benzocaine, Antazoline Hydrochloride, Calamine, Diphenhydramine Hydrochloride, Ethyl Chloride, Mepyramine Maleate, Lidocaine, Lidocaine Hydrochloride, Aluminium Oxide, Neomycin Sulph_Crm 0.5 per cent, Salicylic Acid, Idoxuridine In Dimethyl Sulfoxide, Benzyl Benzoate, Permethrin_Creme Rinse 1 per cent, Permethrin_Creme Rinse 1 per cent, Lyclear_Creme Rinse 1 per cent, Topical Circulatory Preparations

Source: Wales Audit Office Analysis of CASPA.net

Exhibit 4: NICE Basket of non-recommended drugs March 2013 to May 2013 (expenditure and savings pro-rated to 12 months)

Health Board	Total expenditure (Mar 2013 to May 2013)	Potentials savings pro-rated for 12 months
Abertawe Bro Morgannwg	£27,000	£54,000
Aneurin Bevan	£12,000	£25,000
Betsi Cadwaladr	£21,000	£41,000
Cardiff and Vale	£12,000	£24,000
Cwm Taf	£8,000	£16,000
Hywel Dda	£18,000	£36,000
Powys	£2,000	£4,000
Total	**£100,000**	**£201,000**

Drugs included in analysis: Aliskiren, Cilostazol, Roflumilast, Linagliptin, Paricalcitol, Hyaluronic Acid Sodium.

Source: Wales Audit Office analysis of CASPA.net

Prescribing on wound management, food supplements and incontinence products

Exhibit 5: Antimicrobial wound dressing prescribing September 2011 to August 2012

Health Board	Total wound dressings	Antimicrobial wound dressings	Antimicrobial wound dressings as a per cent of all wound dressings	Potential savings
Abertawe Bro Morgannwg	£2,082,994	£336,630	6.1	£91,000
Aneurin Bevan	£2,341,313	£262,673	4.1	£22,000
Betsi Cadwaladr	£3,067,866	£323,146	3.6	£0
Cardiff and Vale	£2,105,962	£354,291	7.3	£110,000
Cwm Taf	£1,053,129	£170,642	6.8	£50,000
Hywel Dda	£1,691,839	£185,199	6.6	£36,000
Powys	£272,541	£35,143	4.6	£5,000
Total	**£12,615,647**	**£1,667,723**	**5.3**	**£313,000**

Source: Wales Audit Office analysis of CASPA.net

Exhibit 6: Food supplement (sip feed) prescribing March2013 – May 2013

Health Board	Expenditure (Mar 2013 to May 2013)	Items prescribed (March 2013 to May 2013)	Average cost per item	Potential savings pro-rated for 12 months
Abertawe Bro Morgannwg	£442,000	10,366	£42.65	£183,000
Aneurin Bevan	£477,000	11,441	£41.73	£160,000
Betsi Cadwaladr	£691,000	17,244	£40.05	£125,000
Cardiff and Vale	£456,000	9,511	£47.97	£371,000
Cwm Taf	£300,000	6,138	£48.88	£261,000
Hywel Dda	£297,000	7,774	£38.23	£0
Powys	£125,000	3,169	£39.48	£16,000
Total	**£2,788,000**	**65,643**	**£42.48**	**£1,116,000**

Source: Wales Audit Office analysis of CASPA.net

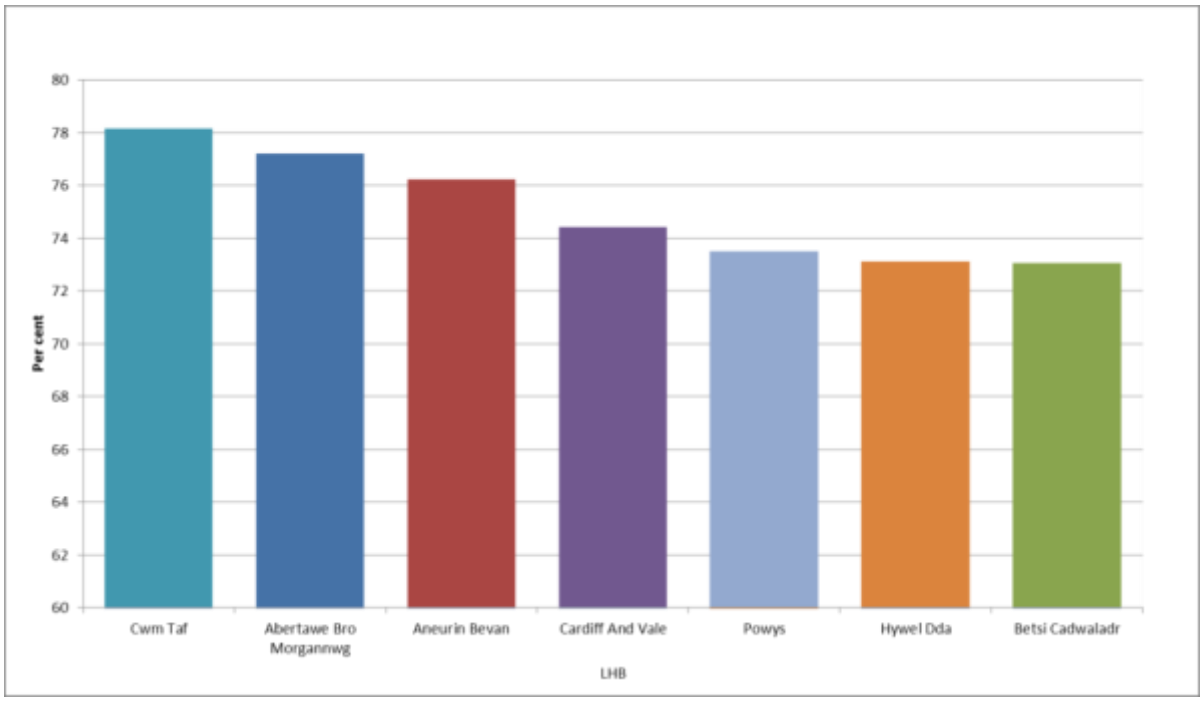
Exhibit 7: Expenditure on incontinence and stoma care prescribing June 2012 to May 2013

Health Board	Incontinence appliances total expenditure	Incontinence appliances per 1,000 prescribing units	Stoma appliances total expenditure	Stoma appliances per 1,000 prescribing units
Abertawe Bro Morgannwg	£412,000	£551	£3,179,000	£4,248
Aneurin Bevan	£541,000	£662	£3,444,000	£4,371
Betsi Cadwaladr	£758,000	£758	£3,643,000	£3,645
Cardiff and Vale	£364,000	£560	£2,122,000	£3,263
Cwm Taf	£280,000	£680	£1,656,000	£4,027
Hywel Dda	£372,000	£662	£2,386,000	£4,245
Powys	£162,000	£791	£770,000	£3,766

Source: Wales Audit Office analysis of CASPA.net

Performance against two national prescribing indicators from 2011-12

Exhibit 8: Items of ACE inhibitors as a percentage of drugs affecting the renin-angiotensin system: March 2013 to May 2013



Better performance is: Higher

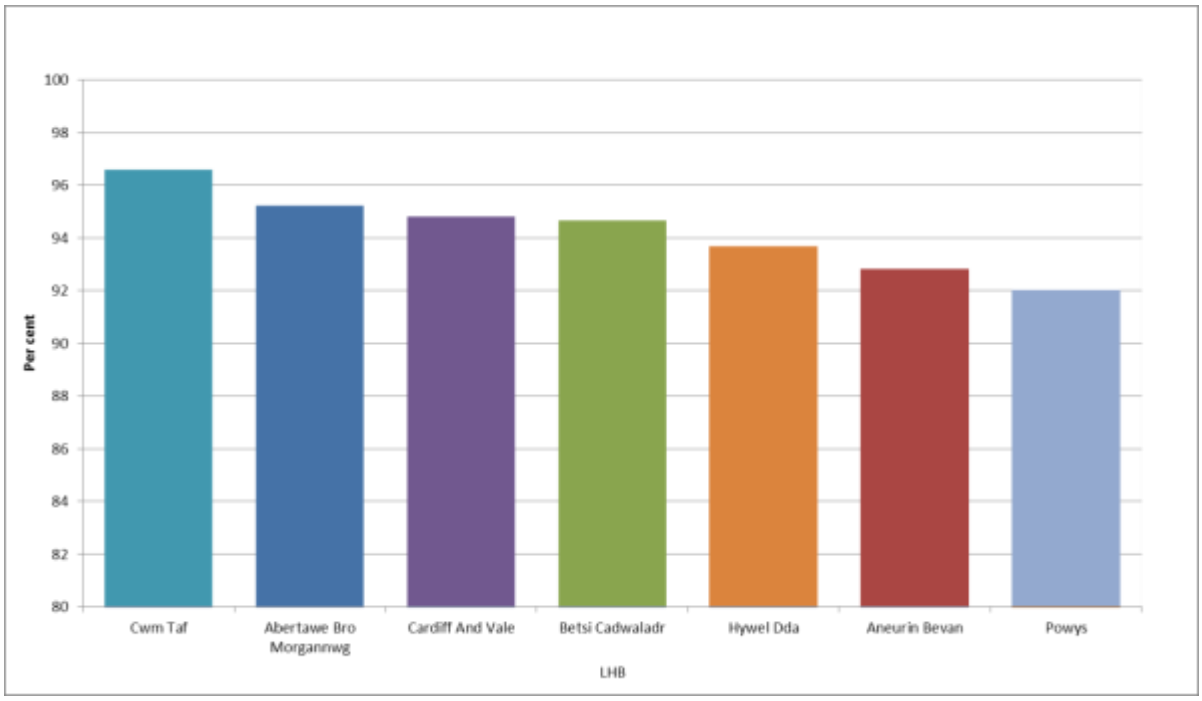
Source: Wales Audit Office analysis of CASPA.net

Exhibit 9: Potential annual savings from improved ACE inhibitor prescribing

Health Board	Potential savings if LHB achieved the best GP quartile (79.46 per cent)
Abertawe Bro Morgannwg	£57,000
Aneurin Bevan	£82,000
Betsi Cadwaladr	£197,000
Cardiff and Vale	£91,000
Cwm Taf	£15,000
Hywel Dda	£116,000
Powys	£27,000
Total	**£584,000**

Source: Wales Audit Office analysis of CASPA.net

Exhibit 10: Proton pump inhibitor items of low acquisition cost as a percentage of all PPIs: March 2013 to May2013



Better performance is: Higher

Source: Wales Audit Office analysis of CASPA.net

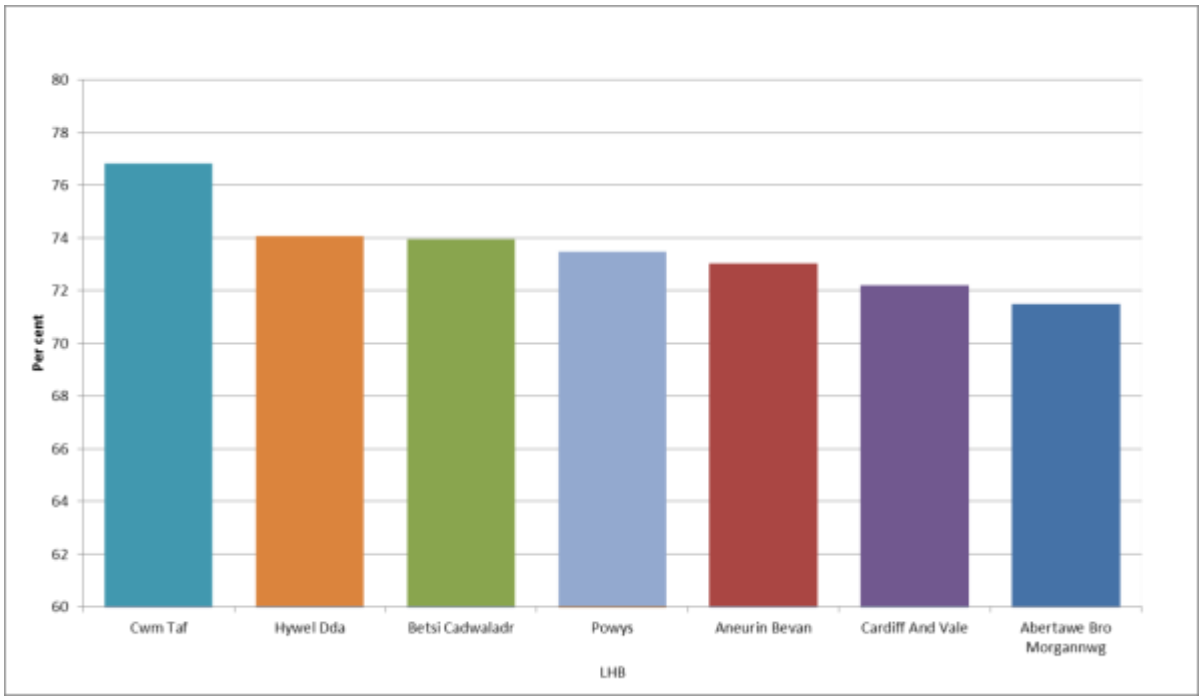
Exhibit 11: Potential annual savings from improved PPI prescribing

Health Board	Potential savings if the health board achieved the best GP quartile (96.61 per cent)
Abertawe Bro Morgannwg	£81,000
Aneurin Bevan	£241,000
Betsi Cadwaladr	£153,000
Cardiff and Vale	£87,000
Cwm Taf	£1,000
Hywel Dda	£128,000
Powys	£80,000
Total	**£771,000**

Source: Wales Audit Office Analysis of CASPA.net

Performance against the national prescribing indicators 2012-13

Exhibit 12: Ibuprofen and naproxen as a percentage of all NSAIDs[10]: March 2013 to May 2013



Better performance is: Higher

Target: Maintain performance levels within the upper quartile, or show an increase towards the quartile above.

Source: Wales Audit Office Analysis of CASPA.net

[10] NSAID – Non-steroidal anti-inflammatory drugs used primarily to treat inflammation, mild to moderate pain, and fever.

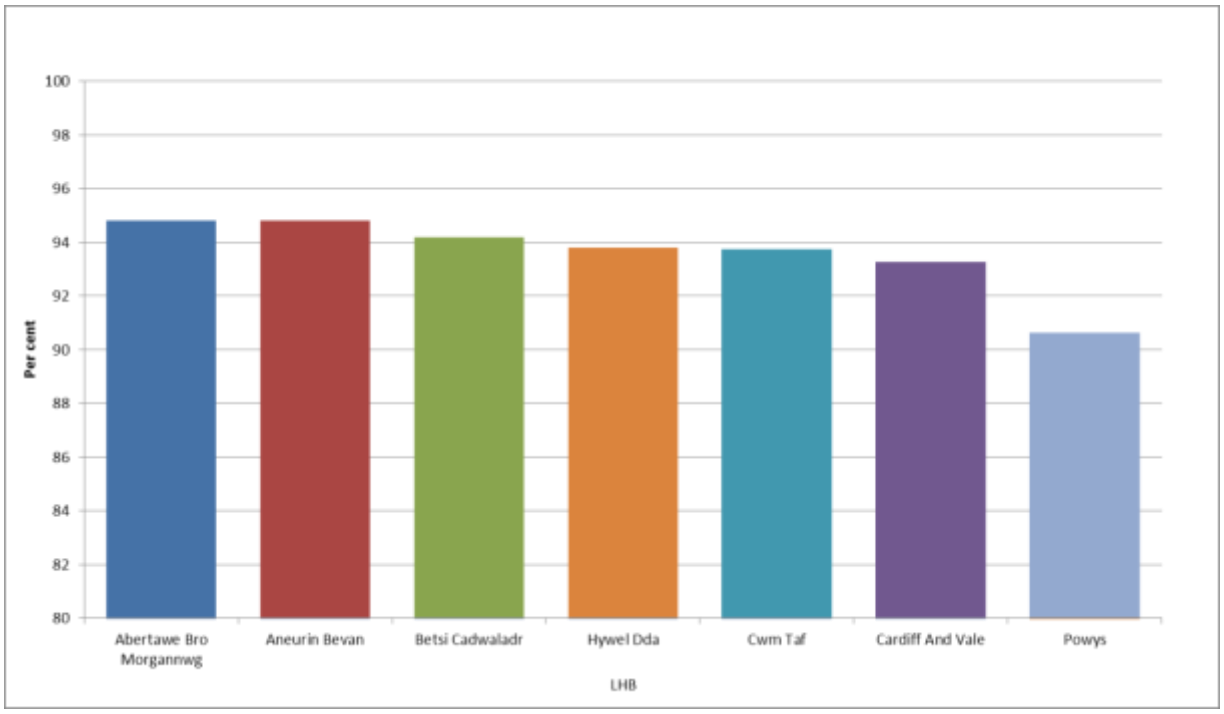
Exhibit 13: Potential annual savings from improved prescribing of ibuprofen and naproxen as a percentage of all NSAIDs[11]

Health Board	Potential savings if the health board achieved the best GP quartile (79.63 per cent)
Abertawe Bro Morgannwg	£100,000
Aneurin Bevan	£68,000
Betsi Cadwaladr	£69,000
Cardiff and Vale	£65,000
Cwm Taf	£13,000
Hywel Dda	£49,000
Powys	£18,000
Total	**£381,000**

Source: Wales Audit Office analysis of CASPA.net

[11] Calculation of potential savings: (Difference between GP UPPER QUARTILE (third) and CURRENT PERFORMANCE x Non-Preferred NSAIDS AVERAGE COST PER ITEM (in three-month reference period)) – (Difference between GP UPPER QUARTILE (third) and CURRENT PERFORMANCE x ibuprofen and naproxen AVERAGE COST PER ITEM (in three-month reference period)). Potential savings were then pro-rated for one year.

Exhibit 14: Low acquisition statin items as a percentage of all statins (including ezetimibe and ezetimibe combination products): March 2013 to May 2013



Better performance is: Higher

Target: Maintain performance levels within the upper quartile, or show an increase towards the quartile above.

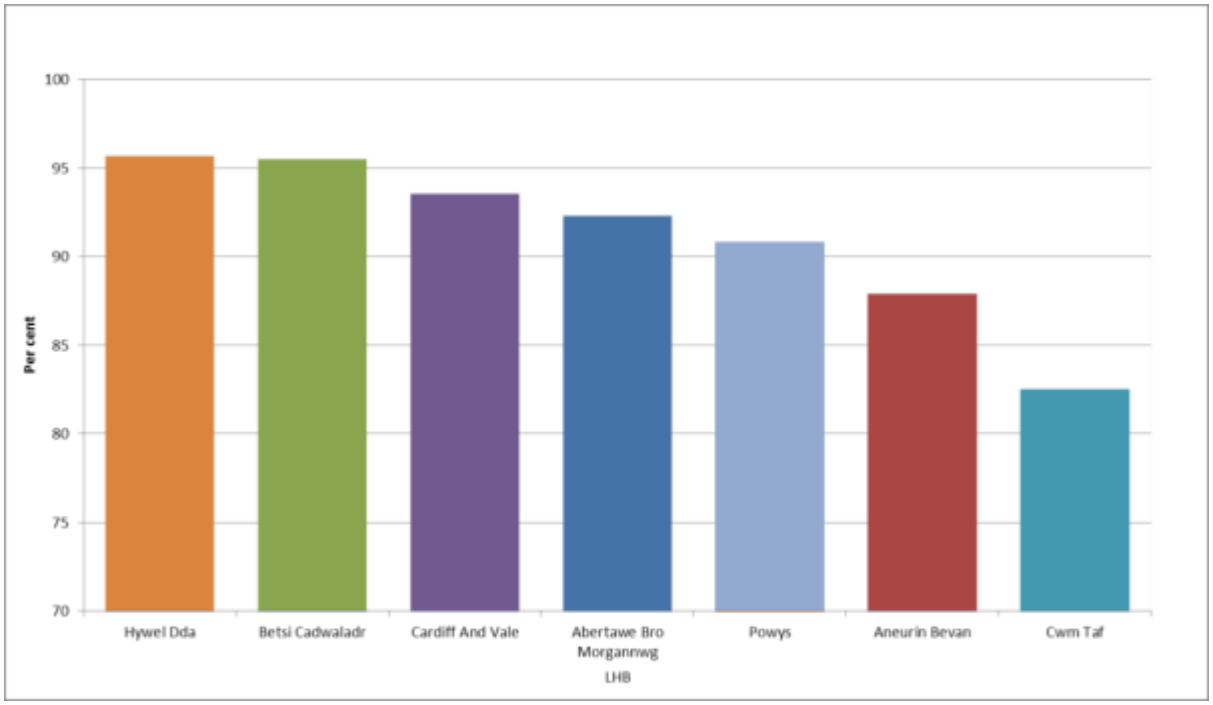
Source: Wales Audit Office analysis of CASPA.net

Exhibit 15: Potential annual savings on low acquisition statins

Health Board	Potential savings if the health board achieved the best GP quartile 96.26 per cent
Abertawe Bro Morgannwg	£281,000
Aneurin Bevan	£329,000
Betsi Cadwaladr	£509,000
Cardiff and Vale	£430,000
Cwm Taf	£293,000
Hywel Dda	£342,000
Powys	£267,000
Total	**£2,453,000**

Source: Wales Audit Office analysis of CASPA.net

Exhibit 16: Long acting insulin items as a percentage of long/interim acting insulin: March 2013 to May 2013



Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below.

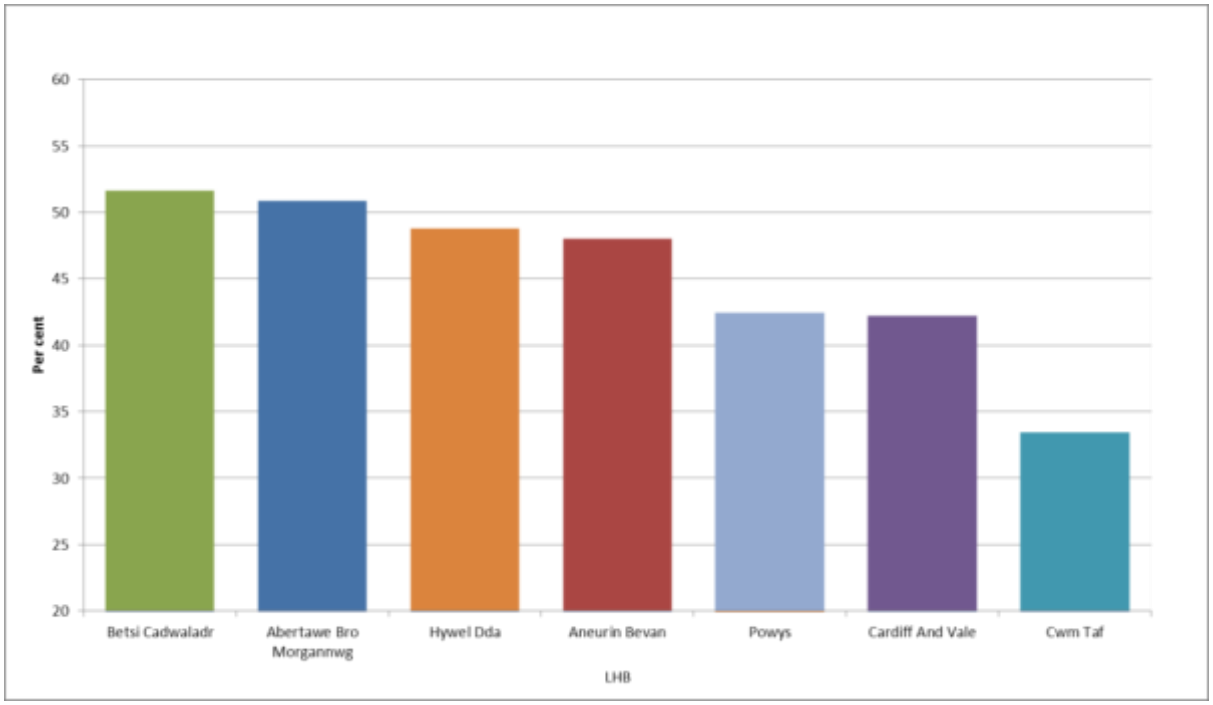
Source: Wales Audit Office Analysis of CASPA.net

Exhibit 17: Potential savings on long acting insulin prescribing

Health Board	Potential savings if the health board achieved the best GP quartile (87.88 per cent)
Abertawe Bro Morgannwg	£25,000
Aneurin Bevan	£0
Betsi Cadwaladr	£46,000
Cardiff and Vale	£39,000
Cwm Taf	£0
Hywel Dda	£36,000
Powys	£5,000
Total	**£151,000**

Source: Wales Audit Office analysis of CASPA.net

Exhibit 18: Morphine items as a percentage of strong opioid items: March 2013 to May 2013



Better performance is: Higher

Target: Maintain performance levels within the upper quartile, or show an increase towards the quartile above.

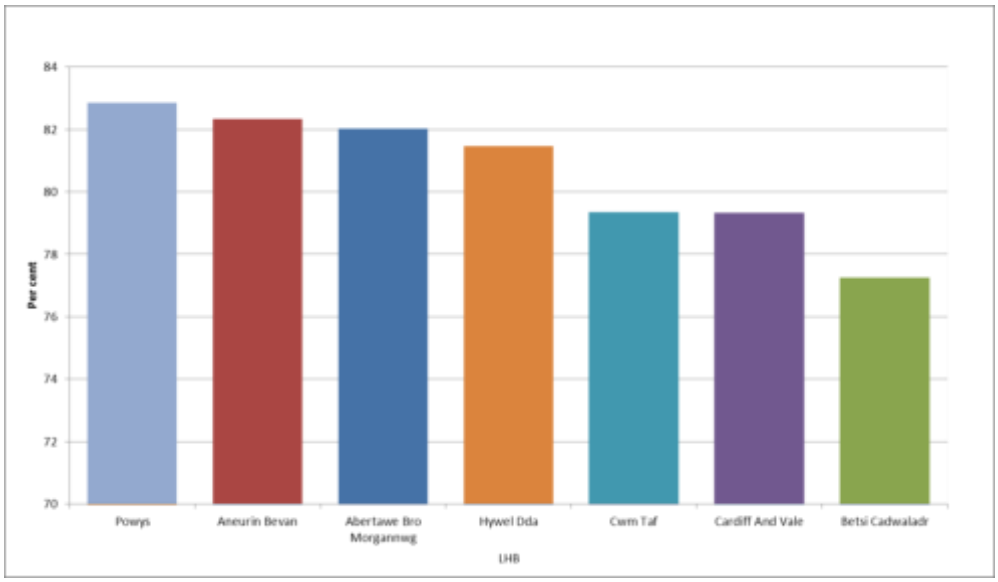
Source: Wales Audit Office analysis of CASPA.net

Exhibit 19: Potential annual savings from improved opioid prescribing

Health Board	Potential savings if the health board achieved the best GP quartile (55.93 per cent)
Abertawe Bro Morgannwg	£134,000
Aneurin Bevan	£243,000
Betsi Cadwaladr	£197,000
Cardiff and Vale	£427,000
Cwm Taf	£330,000
Hywel Dda	£224,000
Powys	£119,000
Total	**£1,674,000**

Source: Wales Audit Office Analysis of CASPA.net

Exhibit 20: Top nine antibacterial as a percentage of antibacterial items: June 2012 to May 2013

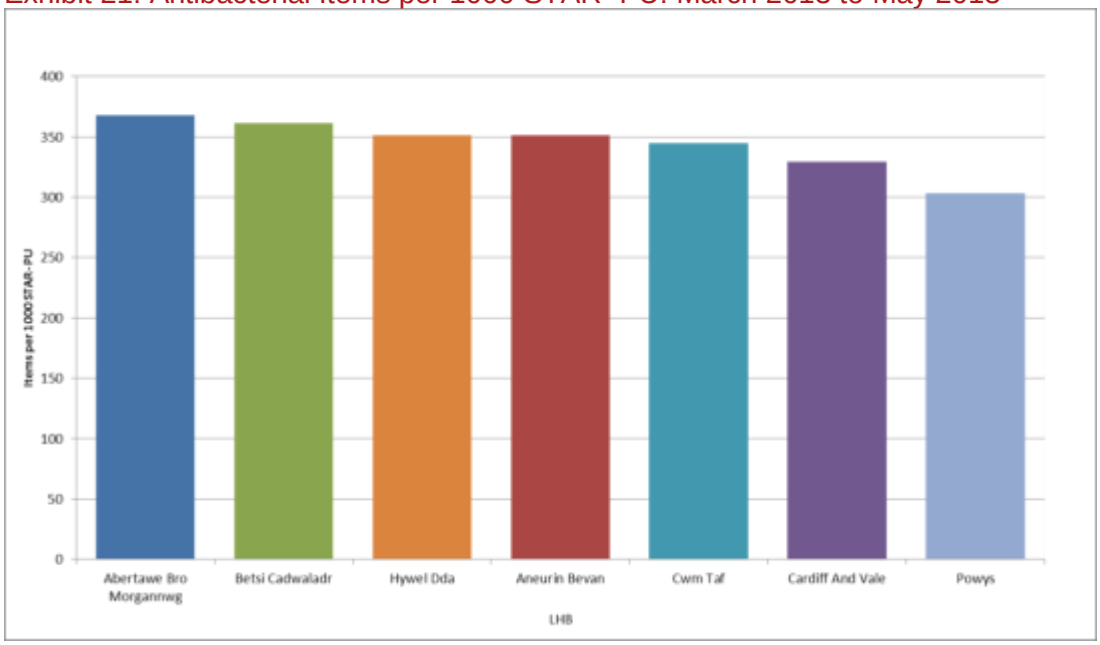


Better performance is: Higher

Target: Maintain performance levels within the upper quartile, or show an increase towards the quartile above.

Source: Wales Audit Office analysis of CASPA.net

Exhibit 21: Antibacterial Items per 1000 STAR- PU: March 2013 to May 2013

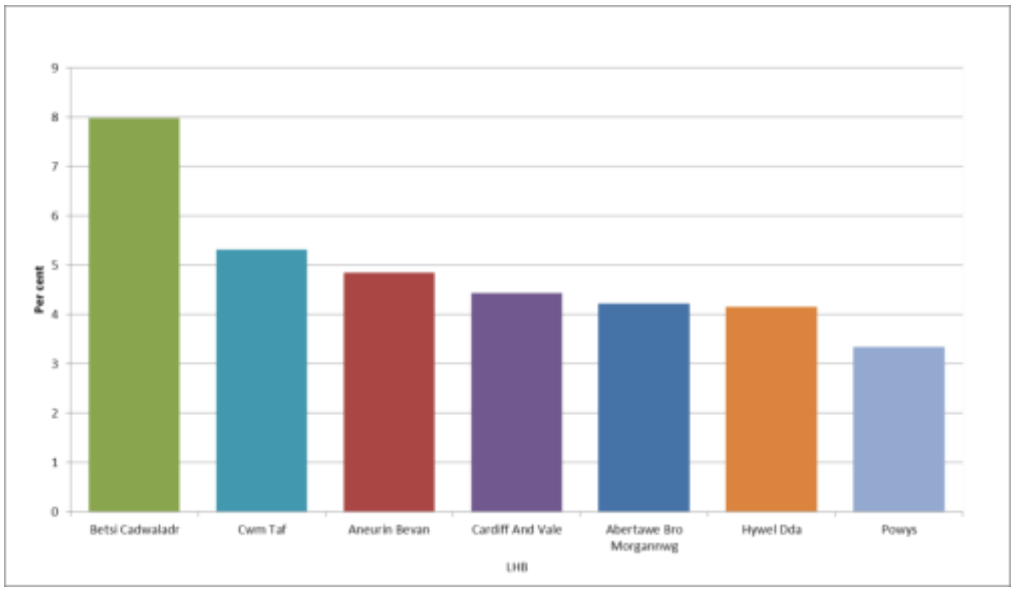


Better performance is: Lower

Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below.

Source: Wales Audit Office analysis of CASPA.net

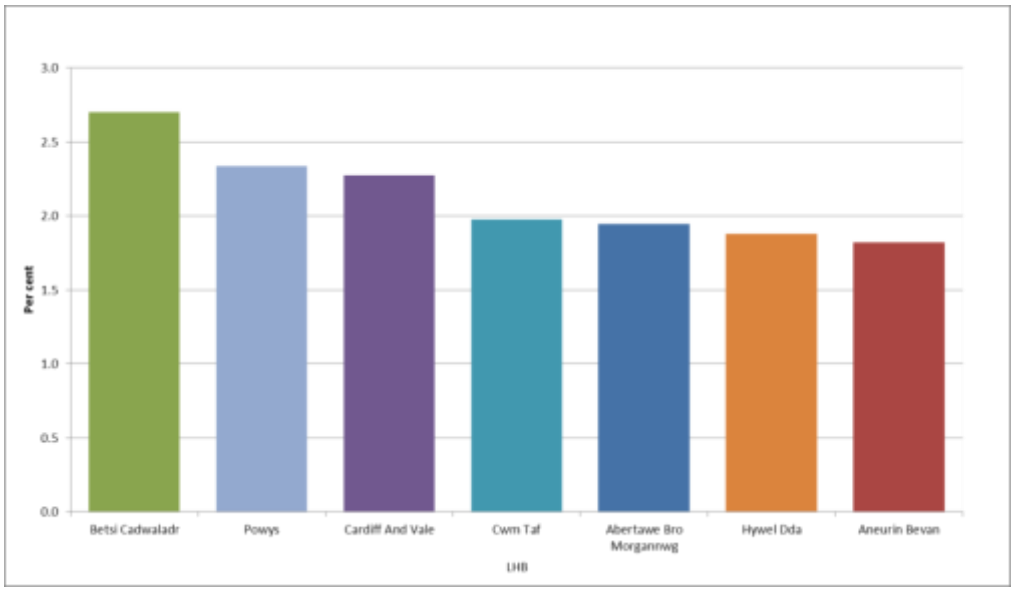
Exhibit 22: Cephalosporin items as a percentage of antibacterial items by health board: June 2012 to May 2013



Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below.

Source: Wales Audit Office analysis of CASPA.net

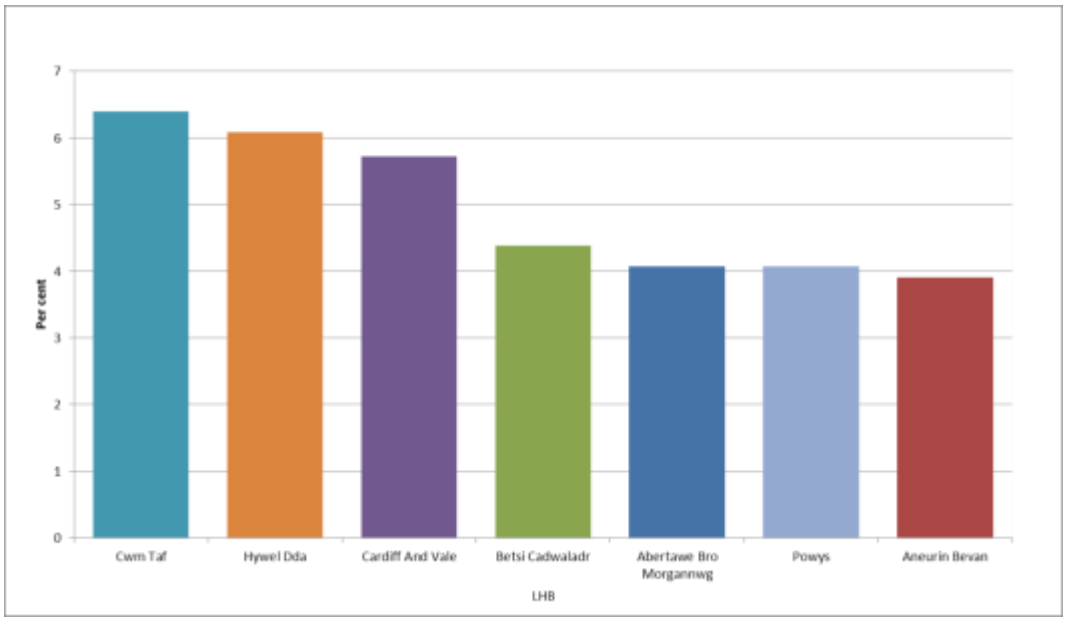
Exhibit 23: Quinolone items as a percentage of antibacterial items by health board: June 2012 to May 2013



Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below.

Source: Wales Audit Office analysis of CASPA.net

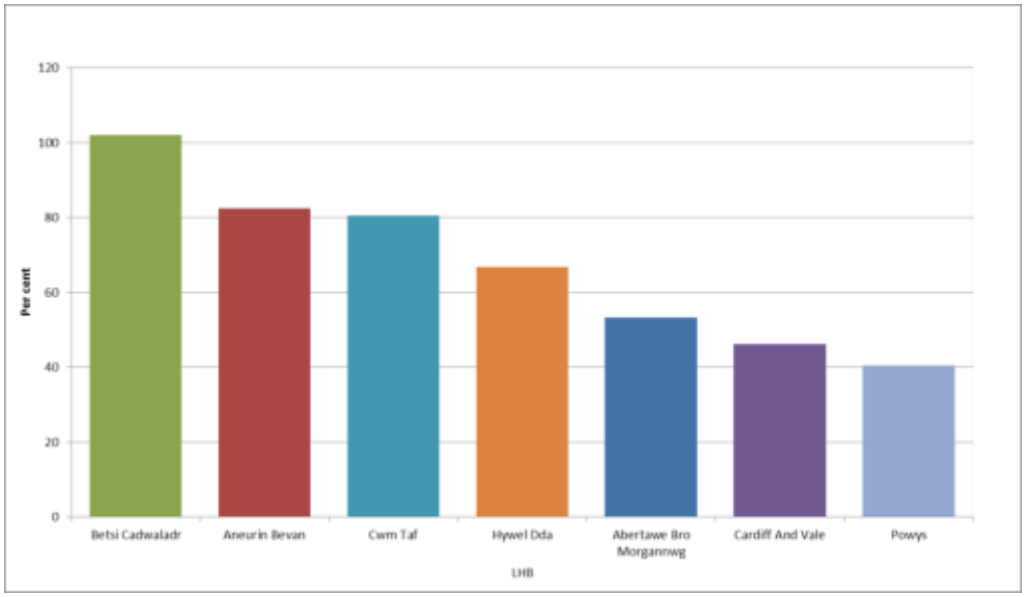
Exhibit 24: Co-amoxiclav items as a percentage of antibacterial items by health board: June 2012 to May 2013



Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below.

Source: Wales Audit Office analysis of CASPA.net

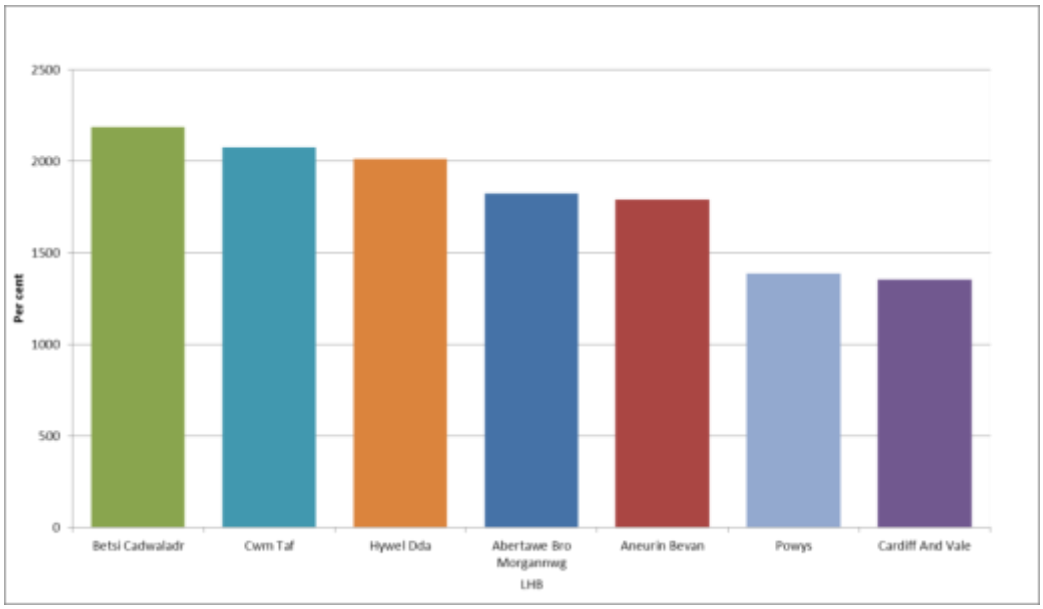
Exhibit 25: Dosulepin DDD quantity per 1,000 PUs: March 2013 – May 2013



Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below.

Source: Wales Audit Office analysis of CASPA.net

Exhibit 26: Hypnotics and anxiolytics DDD quantity per 1,000 patients: March 2013 to May 2013



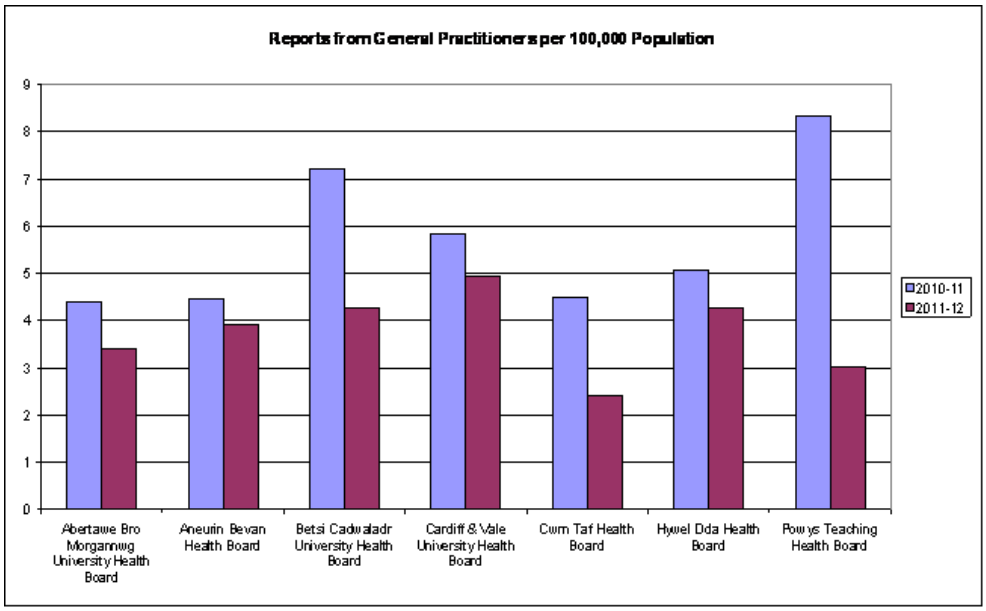
Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below.

Source: Wales Audit Office analysis of CASPA.net

Appendix 4

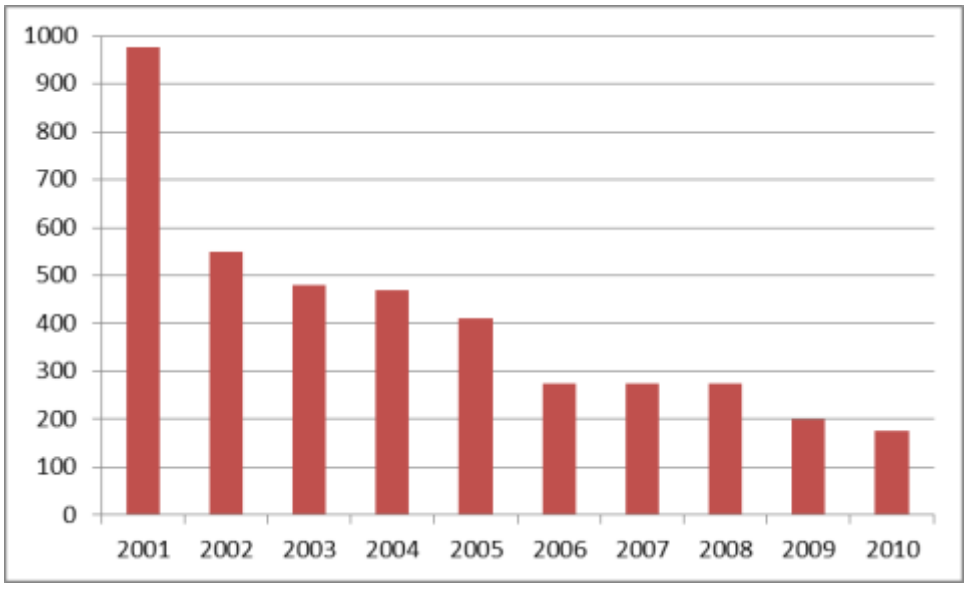
Reducing adverse drug reactions

Exhibit 27: Adverse drug reaction reports per 100,000 population



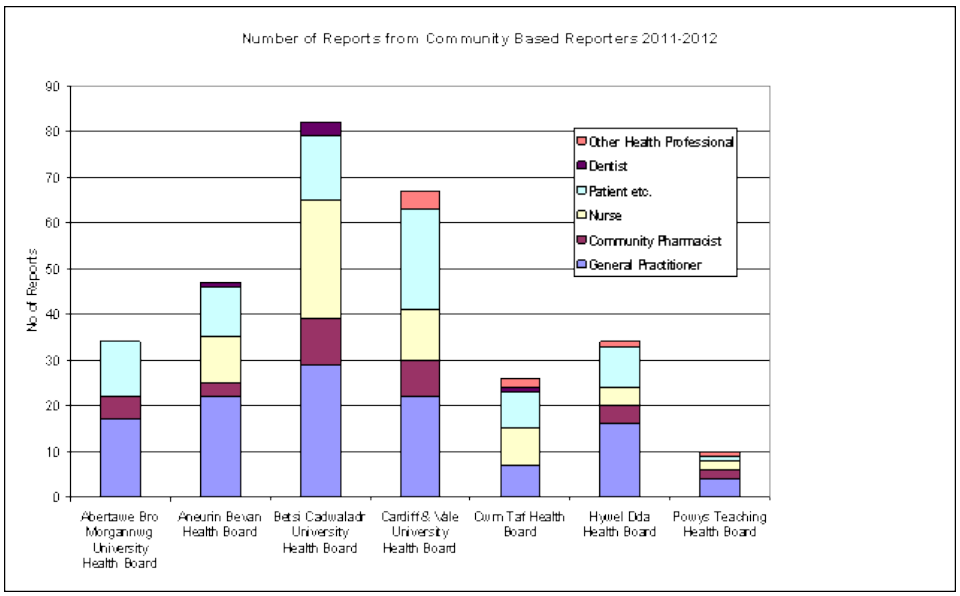
Source: Yellow Card Centre Wales

Exhibit 28: Decline in GP Yellow Card reporting across Wales



Source: Yellow Card Centre Wales

Exhibit 29: ADR report sources 2011-2012



Source: Yellow Card Centre Wales

Exhibit 30: Good practice for ADR prevention and reporting

ADR prevention and reporting
Training in primary care
Promotion of distance learning packages, for example the Wales Centre for Pharmacy Professional Education (WCPPE) packages, ADRs – Online and the MHRA e-Learning package
One-to-one educational visits
Individualised educational letters and follow-up calls from pharmacists
Roles
Pharmacists checking prescriptions to identify errors
Medicine reconciliation on discharge and in primary care
Incentive schemes
Tools
Introduction of e-prescribing systems
Alerts and prompts on IT systems
Minimising human factors through system design, and workflow

Source: MHRA and Yellow Card Scheme

Appendix 5

Managing drug wastage

The Welsh Government has estimated that the cost of wasted drugs amounts to £50 million each year. In the absence of any detailed data available in Wales and assuming the levels are consistent across health boards, the following exhibit identifies potential costs and potential savings reducing wasted medicines by 50 per cent. We have used this adjustment to address genuine reasons for drugs being wasted including the death of a patient and changes in treatment.

Exhibit 31: Potential cost of wasted drugs

Health Board	Potential wastage costs	Potential savings based on 50 per cent reduction
Abertawe Bro Morgannwg	£8,500,000	£4,250,000
Aneurin Bevan	£9,600,000	£4,800,000
Betsi Cadwaladr	£11,000,000	£5,500,000
Cardiff and Vale	£7,100,000	£3,550,000
Cwm Taf	£5,200,000	£2,600,000
Hywel Dda	£6,400,000	£3,200,000
Powys	**£2,200,000**	**£1,100,000**

Source: Wales Audit Office

Appendix 6

Primary care prescribing advice diary exercise

Health boards have varying levels of primary care medicines management and prescribing support staff, largely determined by the resources they inherited from the trusts that established them. The level of resources tends to be lower in relation to population for those health boards with a smaller, and more urban, geographical area.

Health Board teams consist mainly, though not exclusively, of pharmacists and pharmacy technicians. They carry out a substantial amount of work that indirectly supports their activities within general practices, the wider community, and in relation to secondary care. The teams are a vital component in the approach to improving the quality and economy of prescribing. They should be able to target and prioritise their activities according to the performance of the practices they work with.

Health boards use pharmacists and other support staff to help GPs improve their prescribing by:

- visiting practices to support and advise GPs and other primary care staff;
- developing and implementing guidance on prescribing;
- analysing prescribing data, monitoring formulary compliance and providing feedback to GPs; and
- undertaking projects to improve primary care prescribing, improving quality and reducing costs.

In carrying out this work it is generally accepted that the most effective approaches are:

- personalised communication with GPs from local experts;
- involving the whole prescribing community across primary and secondary in decisions on local drug policies; and
- providing local incentives through the GMS and Community Pharmacy contracts.

As part of the audit the Wales Audit Office undertook an activity analysis of the Health Board's directly employed prescribing teams. Each team member completed an activity diary over a one or two week period, depending on whether they had a full or part-time role. We grouped team activities into four categories: health board activities; working with GP practices; working in the community; and working with secondary care. It is important to remember that this exercise provides a snapshot of team activity. Team members' activities may vary from week to week, as well as through annual cycles of work.

A summary of the analysis from this exercise, showing the findings for the team by each of the four categories of activity, is given in Exhibit 32. The analysis found that an average of around 10 per cent of prescribing team time is spent working directly with GP practices. Within Powys work in primary care is supported by LES pharmacists who work directly with a GP practice. They are undertaking about eight hours per week with each practice, carrying out health board audits and supporting the quality agenda by supporting identification and switching medications for patients. This therefore provides extra capacity for the medicines management team and will account for the comparatively lower levels of work with GP practices.

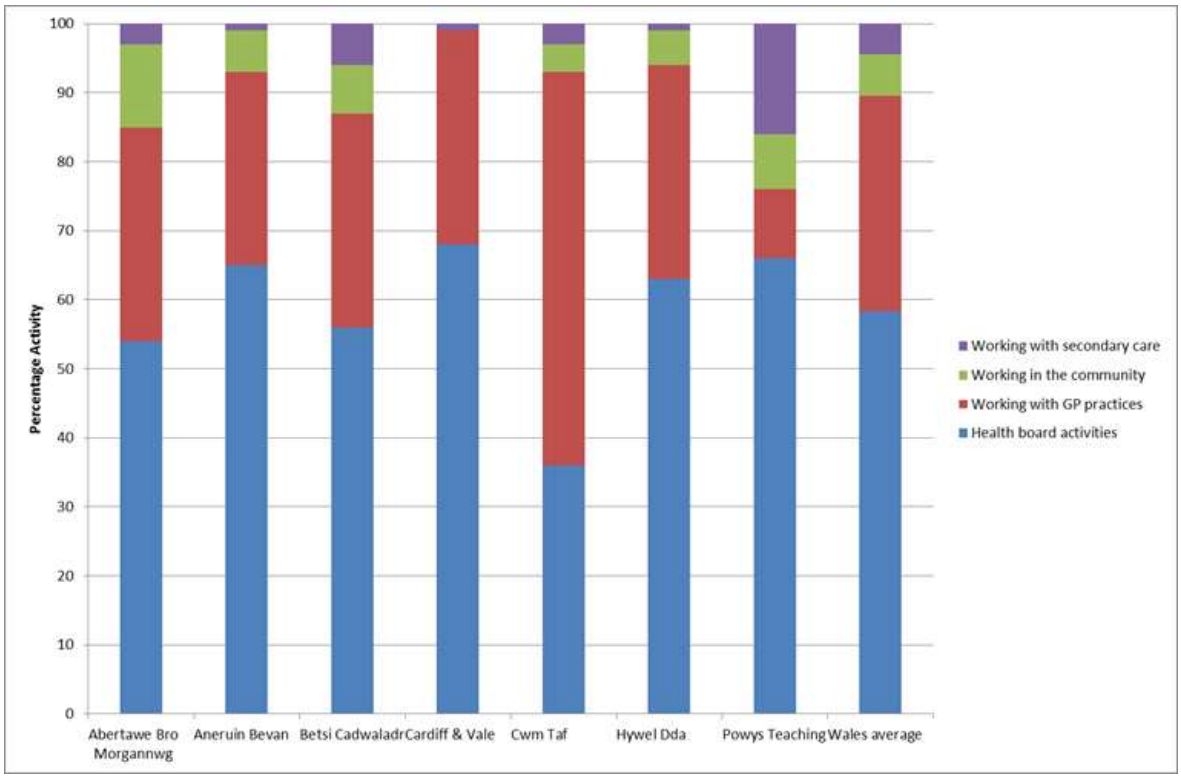
Exhibit 32: Analysis of activity by prescribing advice teams across four main categories of work

Prescribing team	Health board activities	Working with GP practices	Working in the community	Working with secondary care
Powys Medicines Management Team	66	10	8	16

Source: Wales Audit Office analysis of prescribing team activity diary exercise

Exhibit 33 compares the findings from this exercise at each health board in Wales. They show that the Powys Medicines Management team spend the least amount of time working with GP practices of all the health boards, but as the LES pharmacists work at the practice level this is understandable. The team spent the most amount of time working with secondary care; due to the different nature of service provision in Powys, the team are involved in more community initiatives and other projects.

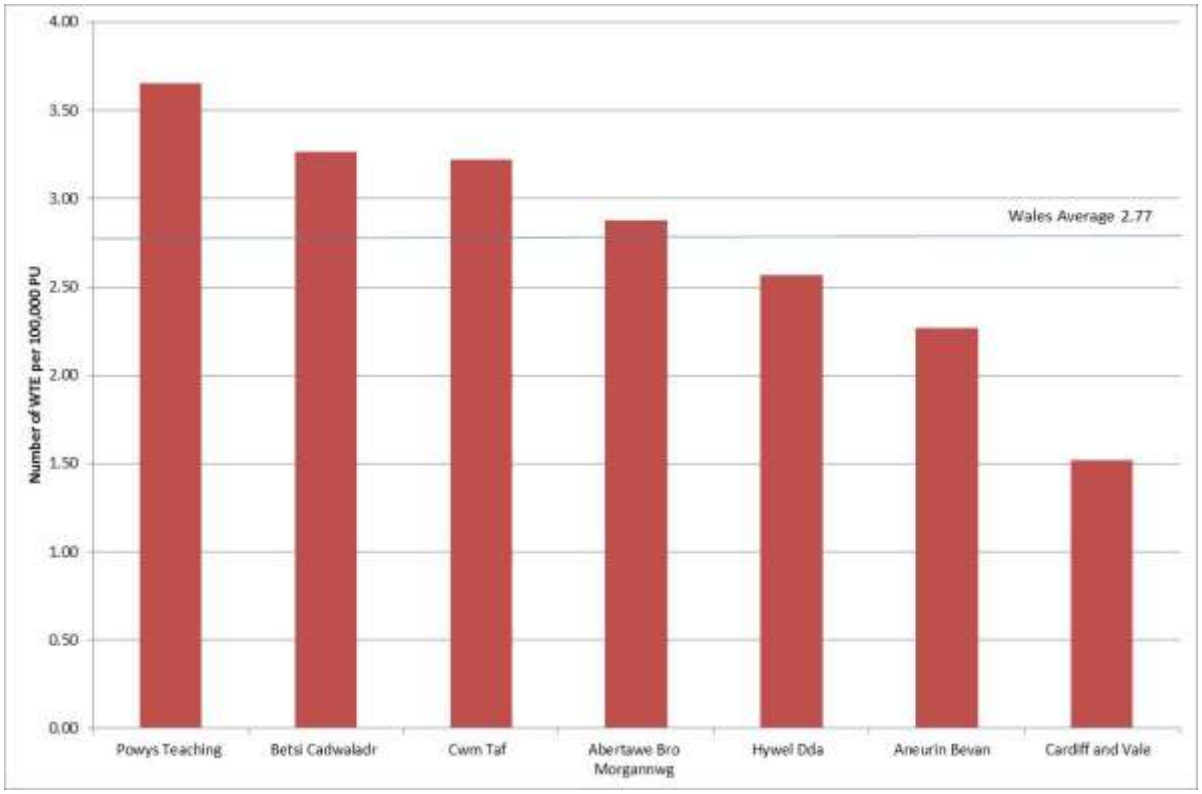
Exhibit 33: Analysis of health board prescribing advice activity



Source: Wales Audit Office analysis of prescribing team activity diary exercise

The number of whole-time equivalents deployed to support primary care prescribing (when population adjusted) shows the Health Board has the highest staffing levels for Wales (Exhibit 34). However, this is not to say that these levels within the Health Board or Wales are appropriate. As part of workforce planning and strategy development the team needs to clarify roles and responsibilities and ensure that they have the right resources in place to deliver the strategy.

Exhibit 34: Total prescribing support by health board



Source: Wales Audit Office analysis of prescribing team activity diary exercise

Exhibit 35 looks at the variation in the time spent on the four main categories of activity that can be seen across the different staff roles. Staff in more senior roles recorded spending much less time working directly with practices, which would be expected. The medicines management nurse spent over a third of her time working in the community.

Exhibit 35: Percentage of time spent by role and key work area

Role	Health board activities	Working with GP practices	Working in the community	Working with secondary care
Head of Pharmacy and R and sD	86	7	0	7
Medicines Management Nurse	61	0	33	7
Medicines Management Pharmacist	78	7	7	9
Medicines Management Project Technician	29	70	0	1
Medicines Management Technician	30	17	9	43
Medicines Management/Research and Development Admin	100	0	0	0
Pharmacy Technician	93	0	7	0
Total	**66**	**10**	**8**	**16**

Source: Wales Audit Office analysis of prescribing team activity diary exercise

Exhibit 36 provides further detail of activities and shows that four Health Board activities accounted for almost a quarter of pharmacist time overall:

- travelling time (8.9 per cent);
- attending meetings (8.5 per cent);
- preparation and analysis of CASPA data (4.6 per cent); and
- administrative tasks (4.1 per cent).

The high amount of time spent on travelling and attending meetings may be partly attributed to the rurality of the area.

Exhibit 36: Percentage of time spent by each diary activity

Activity profile	Percentage time
Health Board Activities	
Prescribing or clinical audit and review activities to ensure robust therapeutic/drug monitoring ensuring safe prescribing of complex drugs.	3.5%
Supporting/managing the development and maintenance of the LHB formulary.	1.8%
Providing summaries of MHRA and NPSA warnings that affect medicines for medical and nursing staff (including audit activity to identify compliance with guidance).	0%
Development of tools to support the management of prescribing.	1%
Development of Medicines Management LESs.	1.8%
Support and audit relating to the GP contract QoF and Medicines Management LESs.	1.1%
Liaison with other healthcare professionals on medicines management issues: • district nurses (eg, wound dressings); • dieticians (eg, patient nutrition); • local care homes (eg, EMI, nursing and residential) to ensure safe and cost-effective prescribing of practice patients; and • community pharmacists regarding patient's compliance, waste, prescribing changes and the management of repeat prescriptions.	3.6%
Consultations with patients as a prescriber/non-prescriber within areas of competence eg, diabetes, CVD, COPD/Asthma, pain, Care of the Elderly.	0%
Domiciliary visits for medication review for house-bound patients.	0%
Managing controlled drugs, for example: • controlled drug monitoring; and • witnessing destruction of controlled drugs.	2%
Production of newsletters and information for patients/healthcare professionals.	3.2%
Preparation and analysis of CASPA data.	4.6%
Analysing financial information.	2.8%
Horizon scanning.	0.6%
Online script views.	0%
Medicines information enquiries by GPs, nurses, community pharmacists, patients, locality colleagues, practice staff, MPs/FOI requests.	4.4%
Attending meetings eg, prescribing team meetings, DTC, LHB primary care support unit, clinical governance, incident reporting, dispensing services, locality meetings, council meetings etc.	8.5%
Clinical governance related work.	0.6%

Activity profile	Percentage time
Risk assessment work.	0%
Training/Continuing professional development.	1.9%
Managing staff.	2.1%
Travelling time.	8.9%
Administrative tasks.	4.1%
Dealing with adverse drug reactions.	0%
Other… Dealing with IT related issues.	
Other… E-mails.	
Working with GP practices	
Reviewing and supporting the management of practices' prescribing budgets (including interrogation of prescribing data, CASPA).	0.8%
Training and advising practice staff on: • local and national guidelines (NICE, NSF, DTG decisions); and • repeat prescribing systems - improving safety and reducing waste.	0.2%
Supporting and undertaking clinical audit to identify compliance with guidance.	0%
Supporting practices to manage drug withdrawals and discontinuations of benzodiazepines.	3.2%
Promoting cost effective prescribing by utilising medication changes eg, switches or lower cost equivalent identified under LES 2012-13.	0.1%
Providing independent advice on the prescribing of novel medicines and sharing prescribing guidelines within the practice.	0%
Supporting medication reviews in GP practices including: • removal of medicines that have not been issued in the past 12 months; • linking medicines to diagnosis and harmonize quantities so that all medicines fall due at the same time; and • compliance with LHB Medication Review standards.	1.7%
Promoting and supporting practices to undertake any LHB/WAG initiatives eg, 1000 Patient Lives Campaign.	0.7%
Supporting practices about interface prescribing issues.	0.7%
Supporting the implementation or management of ScriptSwitch.	1.2%
Training and advising dispensing staff in prescribing practices in completing and reviewing SOPs.	0%
Other…..General liaison with practice staff regarding medicine management issues.	
Other…Clinic support.	

Activity profile	Percentage time
Other…Resolving prescribing coding issues.	
Other…GP out-of-hours support activities.	
Other…Run GP practice meeting.	
Working in the community	
Supporting medication reviews: • within local care homes; and • for housebound patients.	0.4%
Providing support to community staff eg, community nurses, district nurses, health visitors, case managers, on medicines management queries.	0.5%
Attending multidisciplinary team meetings within the locality.	0%
Meetings with community pharmacists and other healthcare professionals.	0.8%
Providing support in care homes, for example: • training for carers; • prescription ordering and waste management; • MAR sheet completion; • controlled drug management; • care home medicines management assessment – targeted; and • training and advising care home staff in completing and reviewing SOPs.	0.4%
Providing training for social services staff.	3.2%
Other – Medicine Use Review activity.	
Other – Development/support work relating to community pharmacists.	0.8%
Working with secondary care	
Organising a supply of a hospital-only drug eg, acitretin, dronaderone, clozapine susp, mercaptopurine, daptomycin injection etc.	1%
Answering queries from GPs regarding a TTO or an OPD letter – please also indicate who you liaised with eg, consultant, specialist nurse, pharmacist, secretary.	0.7%
Promoting and supporting Health Board/Welsh Government initiatives eg, 1000 Patient Lives Campaign.	0.7%

Activity profile	Percentage time
Supporting the safe transcription of medication from hospital: • discharge letters; and • targeting specific problem issues.	0.1%
Developing shared care protocols.	2.1%
Managing compliance with shared care protocols and RAG system.	0%
Other – Liaison with/responding to secondary care staff queries/issues.	
Other – Undertaking secondary care pharmacy advisory work.	

Appendix 7

European Centre for Disease Prevention and Control key messages for primary care prescribers

Growing antibiotic resistance threatens the effectiveness of antibiotics now and in the future

Antibiotic resistance is an increasingly serious public health problem in Europe.

While the number of infections due to antibiotic-resistant bacteria is growing, the pipeline of new antibiotics is unpromising, thus presenting a bleak outlook on availability of effective antibiotic treatment in the future [3, 4].

Rising levels of antibiotic-resistant bacteria could be curbed by encouraging limited and appropriate antibiotic use in primary care patients

Antibiotic exposure is linked to the emergence of antibiotic resistance. The overall uptake of antibiotics in a population, as well as how antibiotics are consumed, has an impact on antibiotic resistance.

Experience from some countries in Europe shows that reduction in antibiotic prescribing for outpatients has resulted in concomitant decrease in antibiotic resistance.

Primary care accounts for about 80 per cent to 90 per cent of all antibiotic prescriptions, mainly for respiratory tract infections.

There is evidence showing that, in many cases of respiratory tract infection, antibiotics are not necessary and that the patient's immune system is competent enough to fight simple infections.

There are patients with certain risk factors such as, for example, severe exacerbations of chronic obstructive pulmonary disease (COPD) with increased sputum production, for which prescribing antibiotics is needed.

Unnecessary antibiotic prescribing in primary care is a complex phenomenon, but it is mainly related to factors such as misinterpretation of symptoms, diagnostic uncertainty and perceived patient expectations [14, 21].

Communicating with patients is key

Studies show that patient satisfaction in primary care settings depends more on effective communication than on receiving an antibiotic prescription [22–24] and that prescribing an antibiotic for an upper respiratory tract infection does not decrease the rate of subsequent return visits.

Professional medical advice impacts patients' perceptions and attitude towards their illness and perceived need for antibiotics, in particular when they are advised on what to expect in the course of the illness, including the realistic recovery time and self-management strategies.

Primary care prescribers do not need to allocate more time for consultations that involve offering alternatives to antibiotic prescribing. Studies show that this can be done within the same average consultation time while maintaining a high degree of patient satisfaction.

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