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Primary Care Prescribing

Cardiff and Vale University Health Board

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The team who delivered the work comprised Philip Jones, Malcolm Latham and Alun Griffiths.

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The Health Board has focused on achieving savings instead of developing a long-term primary care prescribing strategy, and while management arrangements are clear and it performs well on key prescribing indicators, there is substantial scope for further improvement.

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 on primary care prescribing per head each year (£196) is higher than England (£169) and Scotland (£180). In addition the number of items prescribed in Wales per head per year is the highest in the UK at 24 items and has increased from 15 in 2002.

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

3. Cardiff and Vale University Health Board (the Health Board) encompasses a largely urban area in and around the city of Cardiff, together with a more rural area in the Vale of Glamorgan.

4. The primary care medicines management team report professionally and managerially to the Service Director for Pharmacy and Medicines Management. There is a single primary care prescribing team led by a divisional pharmacist with a senior prescribing advisor (Locality Lead Pharmacist) for each locality. This structure allows prescribing advisors and technicians wherever possible to be aligned with practices within the same locality.

5. 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.

6. This audit examined the Health Board's approach 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?' In order to answer this question we examined whether:

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

Our main findings

7. Our main conclusion is that the Health Board has focused on achieving savings instead of developing a long-term primary care prescribing strategy, and while management arrangements are clear and it performs well on key prescribing indicators, there is substantial scope for further improvement.

8. The table below summarises the findings that have led to this conclusion.

Strategic planning arrangements
The Health Board has focused on in-year savings rather than developing a long-term strategic approach to primary care prescribing; although budget setting has improved the same priority has not been given to developing an integrated approach across primary and secondary care. **Setting the strategic direction:** • There is no clear long-term primary care prescribing strategy, and while there are a range of plans and initiatives to support the delivery of in-year savings, they do not always have clearly identifiable objectives or measurable outcomes outside of financial ones. • There is a clear focus by the primary care medicines management team on the 'top-10' high spending practices in order to reduce variation, key issues arising from this work are shared with other practices and the wider prescribing community, although it is less clear how other activities are strategically prioritised and directed. • The Health Board has not fully integrated its approach to primary and secondary care prescribing which means some important issues such as the influence of secondary care prescribers have still to be fully addressed. **Use of evidence supporting strategy development:** • While the Health Board's approach takes into account NICE and AWMSG recommendations, work needs to be done to include 1,000 Lives and National Strategic Frameworks into planning. • There is little evidence of stakeholder and patient engagement in developing the future direction of these services. **Financial analysis used to support strategy development:** • A new budget setting process has been established for 2013-14 which has the potential to significantly strengthen the financial analysis underpinning budget setting over time. **Monitoring outcomes, delivery and performance:** • The primary focus is on financial savings targets; there is little in the way of other specific and measurable targets.

Structures, resources and managing the interface with secondary care

Although management arrangements for primary care prescribing are clear , there are still opportunities to use resources more effectively and to address the impact of secondary care prescribing decisions on primary care:

- The arrangements for executive, professional and managerial accountability for primary care locality prescribing teams are clear.
- Some of the foundations for an integrated approach to prescribing and medicines management across primary and secondary care are in place, although progress in achieving integration has been slow.

Prescribing support to primary care:

- The roles of the primary care prescribing and medicines management team members are clearly defined as part of the Primary, Community, and Intermediate Care Division.
- GPs place a high value on the support and advice provided to them by members of the primary care prescribing and medicines management team.
- There is a low level of primary care prescribing and medicines management staff resource, which may in part reflect the urban nature of the Health Board, but is nonetheless the lowest in Wales.
- The primary care medicines management team spend around 30 per cent of their time working directly with GP practices and there is the opportunity to use the results of the diary exercise to see whether this resource is being used to best effect, particularly with the loss of some posts and a change analytical function capacity.

Health Board formulary:

- A single health board formulary has been in place for some time, however, there are variable levels of ownership across the Health Board.
- The impact of secondary care prescribing decisions on primary care prescribing is significant and there is scope to improve how this is managed.

Medicines Management Group:

- The MMG considers complex information from a range of sources, but does not always secure balanced representation from clinician members across secondary and primary care to support its work.

Interface working:

- There is a substantial number of shared care agreements (SCAs), although the Health Board's own recent audit of SCAs found that compliance is highly variable, and their format and content lack consistency.
- GPs are concerned with the quality of information contained in, and the timeliness of, the patient discharge letters they receive from specialist clinicians.

Delivering safe, effective and economical prescribing

While the Health Board has sound financial management arrangements and performs well against a number of prescribing indicators, there are still substantial opportunities to improve the quality of prescribing and the economical use of drugs in some areas.

Budget setting and financial performance:

- A new process of budget setting for primary care prescribing was introduced for 2013-14, which has the potential to significantly strengthen the analysis underpinning the process.

Financial monitoring:

- There is dedicated financial support for primary care prescribing and medicines management. This member of staff meets with locality leads on a weekly basis and liaises with finance colleagues providing support to secondary care divisions, as necessary.
- The Health Board reviews prescribing in areas of high growth on a monthly basis. Data is analysed in detail to determine therapeutic categories with high growth. In 2012 the Health Board carried out a review to determine wider reasons for growth.

Overall expenditure on primary care prescribing:

- The Health Board expenditure on primary care drugs between September 2011 and August 2012 was £75 million. When adjusted for population, this spending is below the median for Wales, as are the number of items prescribed.
- In addition to this expenditure, a further £280,000 was spent on unclassified drugs and special preparations.

Indicators of effective prescribing:

- We have estimated that by improving prescribing performance there is the potential to secure up to £2.1 million in savings without affecting patient care.
- The Health Board has the potential to improve generic prescribing which could secure around £353,000 in savings.
- The Health Board spends £2.1 million on wound dressings and has the highest percentage of antimicrobial dressings prescribed in Wales; while not all dressings used feature in the data because of different approaches between health boards, reducing the current rate to the best performing one suggests there could be potential savings of £110,000. The Health Board's cost per weighted population is the lowest in Wales for both stoma and incontinence appliances: while this performance is comparatively good it is still likely that improvements can be made to the management of incontinence in primary care.

National prescribing indicators:

- The Health Board has proportionally one of the lowest levels of prescribing for Ibuprofen and Naproxen in Wales, which suggests that more could be done to improve the quality of NSAID prescribing.
- While the Health Board has one of the lowest rates of antibiotic prescribing in Wales, which is good performance, the proportion of top-nine antibacterial drugs prescribed is one of the lowest in Wales and, although the reasons can be complex, the Health Board needs to maintain a focus on good quality antibacterial prescribing in its future medicines management strategy to minimise the risk of antibacterial resistance.
- The Health Board's prescribing of Dosulepin is one of the lowest in Wales and this is as a result of local work which demonstrates the positive impact of targeted intervention.
- GPs in the Health Board area currently prescribe less hypnotics and anxiolytics per 1,000 patients than any other health board, which is good performance.

Delivering safe, effective and economical prescribing

While the Health Board has sound financial management arrangements and performs well against a number of prescribing indicators, there are still substantial opportunities to improve the quality of prescribing and the economical use of drugs in some areas:

Adverse drug reaction (ADR) reporting:

- Over the past few years the level of reporting has steadily fallen; encouragingly, as a result of recent local initiatives, the rate has started to increase.

Drug wastage:

- The Health Board is targeting waste, although its relative success to date is unclear because monitoring, analysis and reporting are not yet well developed.

Recommendations

9. The Health Board should:

Strategic planning arrangements

R1 Develop and implement a clear strategic framework for primary care medicines management, setting out, amongst other things:

- a medium to long-term vision and objectives for service provision;
- a direction for the integration of prescribing and medicines management services;
- links to its wider strategic objectives;
- an approach that further strengthens alignment with, and supports the delivery of, national policies; and
- an approach for the reduction of waste, including effective monitoring.

R2 Ensure that longer-term objectives are clearly prioritised within annual work programmes for primary care prescribing and medicines management teams.

R3 Ensure that meaningful patient and stakeholder engagement is an integral part of the development of a strategic approach to primary care prescribing and medicines management.

R4 Further develop its performance dashboard to include key indicators directly relating to performance in primary care medicines management.

Structures, resources, and managing the interface

R5 Establish clear prescribing and medicines management plans for the interface between secondary and primary care to:

- ensure routine monitoring and robust challenge of prescribing recommendations across the interface;
- further strengthen mechanisms to support GPs in their responses to secondary care prescribing recommendations;
- ensure effective influencing by senior clinical staff with regard to the prescribing behaviour of secondary care colleagues;
- raise awareness amongst secondary care clinicians of the potential cost and wider impact of their prescribing recommendations on primary care, and of unilateral decision making;
- improve the quality of discharge communications; and
- identify and pursue opportunities for prescribing and medicines management staff, and other clinicians, to work across the interface to reinforce effective prescribing between secondary and primary care.

R6 Using the findings from the snapshot diary exercise, ensure that prescribing support resources are being used to best effect by:

- optimising the proportion of work taking place directly with individual prescribers and general practices;
- building capacity for data analysis, to support the locality teams;
- organising the activities of prescribing support teams to enable them to undertake more education and one-to-one sessions with GPs; and
- setting clear longer-term objectives for the work of prescribing support staff.

R7 Strengthen current arrangements for the Medicines Management Group (MMG) by:

- setting out a forward programme for the Group;
- improving secondary care consultant representation on the Group; and
- considering routine reports on formulary compliance to help to understand and manage the reasons for non-complaint prescribing.

R8 Improve information available to prescribers by:

- developing an electronic online version of the local formulary; and
- ensuring a consistent format and content for SCAs, and making them easily accessible online.

Delivering safe, effective and economical prescribing

R9 Address each of the specific opportunities highlighted in this report to improve the quality, safety and economy of primary care prescribing.

R10 Strengthen the approach to increasing rates of generic prescribing.

R11 Ensure regular reporting to the Board of clear performance information in relation to primary care prescribing.

R12 Develop an approach to improve ADR reporting as part of the development of the primary care prescribing strategy.

Strategic planning arrangements

10. The Health Board has focused on in-year savings rather than developing a long-term strategic approach to primary care prescribing; although budget setting has improved the same priority has not been given to developing an integrated approach across primary and secondary care. We came to this conclusion because:

Setting the strategic direction:

- There is no clear long-term primary care prescribing strategy, and while there are a range of plans and initiatives to support the delivery of in-year savings, they do not always have clearly identifiable objectives or measurable outcomes other than financial ones.
- There is a clear focus by the primary care medicines management team on the 'top-10' high spending practices in order to reduce variation; key issues arising from this work are shared with other practices and the wider prescribing community, although it is less clear how other activities are strategically prioritised and directed.
- The Health Board has not fully integrated its approach to primary and secondary care prescribing, which means some important issues such as the influence of secondary care prescribers have still to be fully addressed.

Use of evidence supporting strategy development:

- While the Health Board's approach takes into account NICE and AWMSG recommendations, work needs to be done, include 1,000 Lives and National Strategic Frameworks into planning.
- There is little evidence of stakeholder and patient engagement in developing the future direction of these services.

Financial analysis used to support strategy development:

- A new budget setting process has been established for 2013-14 which has the potential to significantly strengthen the financial analysis underpinning budget setting over time.

Monitoring outcomes, delivery and performance:

- The primary focus is on financial savings targets; there is little in the way of other specific and measurable targets.

11. The following table summarises the findings supporting the conclusion.

Setting the strategic direction		
Expected practice	**In place?**	**Further information**
The Health Board has an up-to-date 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.	✓/✗	There is no medium to long-term primary care prescribing strategy in place. Instead the main focus of work has been on meeting the Health Board's annual savings targets. The primary care prescribing and medicines management team has a well-established annual work plan which is focused on strategic themes and this year, on top of the usual support given to GP practices, is focused on providing additional support to the top-10 high-spending practices. The key common issues identified in the top-10 practices are shared with all GP practices and secondary care clinicians, ensuring learning is derived from the work and key prescribing messages are understood. As well as this support, thematic work programmes are in place addressing the rational prescribing of drugs such as inhaled corticosteroids, Dosulepin, warfarin and NSAIDs. The programme also focuses on delivering wider improvements in disease management, a recent example is the development of prescribing guidance and an algorithm for asthma management. The appointment of the new Divisional Director for PCIC is regarded as having marked a new stage in the ongoing development of pharmacy and medicines management services. This leadership change is expected to lead to a change in emphasis with an increased focus on a whole system approach, and reducing the potential for harm, waste and unnecessary variance. The approach to providing advice is moving more towards focusing on the majority of GP practices for some prescribing issues, as well as targeting outliers.

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.	✓/✗	The Health Board does not yet have a clear integrated strategic approach for prescribing and medicines management across primary and secondary care. Staffing resources for each sector are part of separate divisions. The new Divisional Director for PCIC recognises that there has been slow progress on integration to date. Some of the potential building blocks, such as a joint formulary and SCAs have been developed. However, a consistent view emerged from interviews during our fieldwork, that consultants have insufficient awareness of, or interest in, the implications of their prescribing recommendations on primary care. Consequently there is still much to be done to help develop the awareness, co-operation and collaboration necessary to underpin an effective integrated approach to prescribing.
The strategic approach should link to the Health Board's other strategic aims, for example, its Public Health Strategy.	✓/✗	The prescribing and medicines management teams contribute to a number of Health Board initiatives, including those for Public Health. The Chief Pharmacist has emphasised the importance of the emerging strategic priorities for the Health Board, and is working to communicate the contribution that prescribing and medicines management services can make to those priorities, as well as to ensure that the priorities are accounted for in prescribing and medicines management planning processes. However, in the absence of a clear longer-term strategic approach for primary care prescribing it is difficult to see how the relative focus and priority can be given to the different elements of the current and emerging agenda.

Setting the strategic direction		
Expected practice	**In place?**	**Further information**
Planning arrangements address service redesign including workforce developments and training.	✘	The absence of clear longer-term strategic plans for primary care prescribing and medicines management, limits the potential to effectively address service redesign, workforce development and training issues. Such planning would potentially strengthen the position, help to make an 'invest-to-save' case for resources, and fill vacant posts.
The strategy addresses the reduction of waste, for example, through promoting practice medicine reviews, repeat prescription management and working with community pharmacists. See also *Managing drug wastage* below.	✓/✘	The Health Board is focussing its efforts to reduce medicines waste on a number of areas, including: • development of a policy for managing potentially excessive and inappropriate prescribing; • as a key issue which will form part of the developing engagement strategy with GPs and community pharmacists; and • the audit of repeat prescribing and other areas of waste within primary care. The extent of waste is difficult to quantify, and it is too early to say just how much impact the Health Board's existing work has had on reducing waste. More widely, the Health Board took part in the recent medicines waste reduction advertising campaign which was carried out jointly by health boards across South Wales. Staff acknowledged that the impact of this type of initiative is difficult to evaluate.

Use of evidence supporting strategy development		
Expected practice	**In place?**	**Further information**
Strategy development is informed by a clear analysis of factors influencing prescribing behaviour such as demographics, deprivation, needs assessment and public health issues.	✓/✗	The PCIC takes account of information on deprivation, needs and public health issues during the course of its medicines management work. However, this information needs to be used to help provide a clearer focus for medium to long-term planning.
Strategy development aligns with and supports the delivery of national policies regarding medicine including NICE and AWMSG guidance, including the impact of new drugs and changing the use of existing drugs.	✓/✗	NICE, Technology Appraisal guidance recommendations and AWMSG decisions are managed through the MMG. Financial and other planning processes also take account of the implications of existing and forthcoming guidance from these sources.
Strategy development aligns with 1000 lives and NSF guidance).	✓/✗	There is some linkage to 1,000 Lives in the approach to primary care prescribing. This needs to be more clearly incorporated into future planning developments. Specific work on dementia in relation to 1,000 Lives Plus has been carried out as part of GMS audit activity. There is no clear linkage to the NSFs in the strategic approach to primary care prescribing. Prescribing advisors found that QOF and NSF guidance is not always aligned, which can give rise to conflicting priorities and prescribing messages. This also needs to be addressed as part of future planning developments.
The strategy has been prepared with input from key stakeholders such as GPs, hospital consultants and patient representatives.	✗	We found little evidence of the systematic use of patient and stakeholder engagement in the development of a strategic direction for primary care prescribing. This needs to be addressed.

A financial analysis is used to support strategy development		
Expected practice	**In place?**	**Further information**
The strategy includes a financial analysis and is based on the following.	✓	A new budget setting process has been established for 2013-14 based on: • current spending; • recurrent savings; • horizon scanning for savings potential through new generic drugs; • NICE guidance implications; • impact of the savings scheme; and • contracting Category M savings. A number of these factors are included in the process for the first time. However, whereas previously budget setting would have been based on run rates, this year growth has not been included. Overall, the new approach has the potential to significantly strengthen the financial analysis underpinning budget setting over time.
Generic prescribing and the use of branded drugs.	✓	Financial planning processes take account of the potential impact of generic prescribing and the cost of using branded drugs, which is incorporated into the budget planning process (see above).
Contingency arrangements for unplanned developments.	✗	There is no clear capacity to respond to different contingencies eg, the emergence of antibiotic resistance or the effects of low vaccination rates.

Monitoring outcomes delivery and performance		
Expected practice	**In place?**	**Further information**
There are clear strategic aims, outcomes and SMART objectives.	✓	Existing planning documents do not include specific measurable targets. The focus is primarily on short-term financial savings.
The framework for monitoring delivery includes reporting to the Board and appropriate committees.	✓/✗	A range of performance reports are used by the prescribing and medicines management team, which mainly focus on financial performance. Quality issues are reported to the MMG and the Health Board's Quality and Safety Committee. Performance against national indicators has not been routinely reported to these committees or annually to the Board.

Structures, resources and managing the interface with secondary care

12. Although management arrangements for primary care prescribing are clear, there are still opportunities to use resources more effectively and to address the impact of secondary care prescribing decisions on primary care.

Management arrangements:

- The arrangements for executive, professional and managerial accountability for primary care locality prescribing teams are clear.
- Some of the foundations for an integrated approach to prescribing and medicines management across primary and secondary care are in place, although progress in achieving integration has been slow.

Prescribing support to primary care:

- The roles of the primary care prescribing and medicines management team members are clearly defined as part of the Primary, Community, and Intermediate Care Division.
- GPs place a high value on the support and advice provided to them by members of the primary care prescribing and medicines management team.
- There is a low level of primary care prescribing and medicines management staff resource, which may in part reflect the urban nature of the Health Board, but is nonetheless the lowest in Wales.
- The primary care medicines management team spend around 30 per cent of their time working directly with GP practices and there is the opportunity to use the results of the diary exercise to see whether this resource is being used to best effect, particularly with the loss of some posts and a change analytical function capacity.

Health Board formulary:

- A single health board formulary has been in place for some time, however, there are variable levels of ownership across the Health Board.
- The impact of secondary care prescribing decisions on primary care prescribing is significant and there is scope to improve how this is managed.

Medicines Management Group:

- The MMG considers complex information from a range of sources, but does not always secure balanced representation from clinician members across secondary and primary care to support its work.

Interface working:

- There is a substantial number of SCAs, although the Health Board's own recent audit of SCAs found that compliance is highly variable, and their format and content lack consistency.
- GPs are concerned with the quality of information contained in, and the timeliness of, the patient discharge letters they receive from specialist clinicians.

13. The following table summarises 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 an executive lead at Board level.	✓	Although the Health Board is currently reviewing its medicines management structures within the existing arrangements the executive, professional and managerial accountability for primary care prescribing and medicines management arrangements remains clear. The Medical Director has executive accountability for pharmacy and medicines management issues across the Health Board. The Service Director for Pharmacy and Medicines Management is professionally and managerially responsible for all pharmacy staff in the Health Board including the primary care prescribing team. This single team is led by the Divisional Pharmacist for the PCIC. This team has a senior prescribing advisor (Locality Lead Pharmacist) for each locality. Prescribing advisors and technicians are aligned with practices in the same locality as far as practicable. The drugs budget for primary care is held by the PCIC Division, along with responsibility for its management. This reflects arrangements in all the other divisions.

Prescribing support to primary care		
Expected practice	**In place?**	**Further information**
Primary care prescribing support and advice roles are clearly defined.	✓	Pharmacist and technician roles in the locality prescribing teams are clearly defined. The Health Board has a low level of primary care medicines management staff resource. While this may in part reflect the urban nature of much of the area covered by the Health Board, it is nonetheless the lowest in Wales (see Appendix 6: Exhibit 49). One consequence of cost-saving measures is that some staff vacancies are not being filled. There is no dedicated data analysis support for the prescribing and medicines management team, and some standard prescribing reports are no longer produced due to the loss of the particular skills of a post holder who left. In addition, more prescribing advisor time is spent on analytical activities, which may not be the best use of their time. GPs told us that they valued the work of the primary care prescribing and medicines management team, and that very good working relationships prevailed.
Performance and compliance are monitored and prescribing team resources are directed towards priority and high-impact areas.	✓	In addition to providing the normal level of support to GP practices there is a clear emphasis on the current top-10 high spending practices across the localities. Target areas are identified for each GP practice, and the identified top 10 are visited each week by a pharmacy adviser. Work with individual general practices is also prioritised on the basis of their relative performance in relation to national and local performance indicators and targets. The prescribing teams undertake detailed analyses of prescribing data and use this to target interventions and to flag up improvement areas, and where there are outliers. They also focus on wider clinical and other governance issues arising out of the monitoring of prescribing. The extent of work with individual practices is partly determined by the receptiveness of practices and individual GPs to interventions.

Prescribing support to primary care		
Expected practice	**In place?**	**Further information**
Performance and compliance are monitored and prescribing team resources are directed towards priority and high-impact areas.	✓	The prescribing team activity diary exercise (see Appendix 6) identified that around 30 per cent of the work of the primary care prescribing team is directly with GP practices. Over two thirds of their time is spent on wider supporting activities. During the period of the exercise the team reported little time was spent working in the community, and with the acute sector. The detailed analysis is included in Appendix 6 which provides the basis for more wide ranging discussions on whether these resources are being used to best effect, particularly with the loss of some posts. Areas to focus on include improving integration with secondary care, increasing the amount of support given to all practices, addressing longer-term issues and the more difficult areas of prescribing practice, and improving the analytical function.
Supporting information systems.	✓/✗	A Health Board Programme Management Office has been established to help co-ordinate activities across primary and secondary care. It is anticipated that there will be greater focus on the performance management of secondary care prescribing patterns during 2013, potentially at divisional level. This offers an important opportunity for influencing to take place a senior level.

Prescribing support to primary care		
Expected practice	**In place?**	**Further information**
Education programme in place.	✓/✗	Primary care prescribing and medicines management team staff said that training opportunities have declined substantially over the last two years as a consequence of stricter budget control measures and national reorganisations, for example, movement of NPC into NICE. At the same time, shared learning forums between health boards have ceased. The limited primary care prescribing and medicines management staffing resource further restricts capacity to provide training to others, and makes it more difficult for individual members of staff to take time out for their own development. Most GPs value the professional support provided to them by the locality teams, including where this extends to the provision of education. They hold quarterly educational events for GPs, to help raise awareness of key prescribing issues. There was a strong consensus amongst GPs and the prescribing teams that more of these sessions would be helpful. Prescribing teams regularly undertake one-to-one meetings with GPs and would like to spend more time providing this kind of support because both GPs and team members found this to be a good use of time. There is a need to consider how a greater focus on working directly with GPs and practices can be achieved, potentially as part of longer-term planning for the future of these services.

Health Board formulary		
Expected practice	**In place?**	**Further information**
Establishing 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 DTG does not recommend use of a medicine except in exceptional circumstances. In these instances prescribing advisor advice is obtained and the reasons for the prescribing are recorded.	✓	A Health Board-wide formulary is in place, which was established prior to NHS reorganisation. This was principally a PDF document which is kept online. However, ownership across the Health Board was highly variable and prescribing advisors reported that it took a long time to update to the formulary. This had led to poor version control and difficulty in aligning it with the content of the ScriptSwitch and Vision systems. To improve formulary compliance the PDF version has been replaced by an online version. Many trusts in England and one Welsh Health Board have also made the formulary available to the public. This not only promotes compliance but also helps to educate service users about prescribing choices.

Health Board formulary		
Expected practice	**In place?**	**Further information**
Formulary compliance is monitored and action taken when breaches are found.	✓/✗	A consistent theme emerging from interviews was the impact of secondary care prescribing on primary care, which included non-compliance with the formulary and off licence prescribing. The MMG does not regularly monitor formulary compliance. Yet there are often examples of clinicians not complying with existing guidance. When the reasons for this prescribing are unclear, tensions can arise between clinicians regarding the perceived risks of pursuing the prescribing advice and the associated monitoring that may be necessary. One example highlighted was prescribing recommendations from Women and Child Health specialists, which sometimes include drugs which are unlicensed or off-formulary. GPs are not always prepared to prescribe these drugs. Where this happens, the child has to return to the secondary care centre to collect their prescription. As the Health Board is a tertiary referral centre, this can mean some patients having to travel long distances to receive medication. There is sometimes a lack of understanding in secondary care about the reasons why GPs refuse to accept responsibility for prescribing, although there is tacit recognition that it may relate to the implications of monitoring and providing ongoing care. To overcome this work has been done to audit shared care protocol compliance. The outcome of this work has been increasing the understanding of secondary care clinicians about responsibilities involved in safely transferring care to GPs. As mentioned above, the Programme Management Office has recently begun focussing on secondary care prescribing patterns and directly pursuing changes within secondary care. It is too early to determine the impact of this activity on prescribing patterns over time.

Medicines Management Group		
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. To ensure it works effectively the membership should represent all the stakeholders including lay members.	✓/✗	The MMG is chaired by the Medical Director. Its membership includes GPs, secondary care consultants, divisional managers, nurses, pharmacists and a financial manager. In the meeting observed as part of this audit, the attendees comprised: • three GPs; • two consultants; • one divisional manager; • one finance manager; • one specialist nurse; and • nine pharmacists. Participants recognise that MMG meetings frequently have poor secondary care representation and a comparatively high number of pharmacists. In addition, there are no lay, third sector or community health council members to give the patient and service user perspective. The Health Board needs to review the membership of the group to ensure a balance of representation between primary and secondary care, and representation of the patient and service user perspective.
The membership covers a wide range of specialities in terms of medical expertise.	✓/✗	Complex information is presented at meetings. Poor secondary care representation at meetings is likely to weaken the extent to which fully informed decisions are made. Specialists and business managers are invited to present information to the meeting as necessary.
The forward plan sets out a work programme for the year.	✓/✗	The MMG responds to the decisions of the Bro Taf Drugs and Therapeutics Committee, which also serves Cwm Taf Health Board. While there is no detailed forward plan in place, each meeting has an agenda and items are identified to be discussed at future meetings. It includes detailed requests for new drugs, changing clinical practice, and formulary changes.

Medicines Management Group		
Expected practice	**In place?**	**Further information**
The MMG utilises the full range of information sources available to inform decision-making.	✓/✗	Information includes financial analysis, NICE and AWSMG recommendations, in-house research and evidence-based changes to clinical practice. In addition to these arrangements the MMG decisions are informed through its relationships with a number of other groups including the: • Antimicrobial Management Group • Good Prescribing Guide Group • Thromboprophylaxsis and Anticoagulation Group • IV Therapy Group • Safe Medication Practice Group As previously identified, a weakness in the existing arrangements is the lack of routine monitoring of formulary compliance and managing and understanding the reasons for non-compliant prescribing.
The MMG has a robust, systematic and transparent process for decision-making as part of its overall governance framework.	✓	Committee papers are circulated in advance of meetings and decisions are mainly communicated through minutes and by the Medical Director's office.
All prescribing decisions take into account the impact of loss leaders in secondary care on primary care.	✓/✗	The Health Board has established a NICE Financial Monitoring Group which has developed a finance horizon scanning grid. This grid is mainly shared with directorate accountants. While it is implicit that whole system consequences can be taken into account, there was no direct evidence in working papers and our committee observation that this happened.

Medicines Management Group		
Expected practice	**In place?**	**Further information**
The MMG decisions are communicated in a timely way.	✓/✗	While decisions are clearly documented, MMG members identified that implementation through the divisional and directorate structures can be a problem. A particular problem is the difficulty of ensuring 'buy-in' from consultants to decisions made by the MMG which they were not involved in making. One example was highlighted at the MMG meeting we observed. The Health Board has clear guidance on post-operative use of Oxycodeine, designating it a third-line treatment. Despite the guidance, it was becoming a first-line treatment and GPs were under increasing pressure to prescribe the treatment to post-operative discharged patients.

Interface working		
Expected practice	**In place?**	**Further information**
The most significant issue affecting medicines management issues across the interface is poor communication and the quality of information shared between prescribers. There is a policy or working protocols which ensures safe transfer of medicines and information across the primary care secondary care interface.	✓/✗	There are more than 50 SCAs. The existing agreements are usually drug-specific. There was a Health Board audit of SCAs in the autumn of 2012. Compliance was reported to be variable, some at less than 20 per cent. Existing protocols are variable in content and format, generally lacking consistency. There are recurring patient flow issues between Child Health and primary care with potential safety implications for children on medication.
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.	✓/✗	Specialist recommendations for prescribing in primary care may have implications in terms of monitoring, risk, and ongoing patient care. There is general dissatisfaction amongst GPs about the lack of information provided by specialists in discharge letters and also about the amount of time it takes for these letters to be received. Increased support has been given to GPs through the provision of a standard form that enables them to refer back prescribing recommendations they are not prepared to follow.

Delivering safe, effective and economical prescribing

14. While the Health Board has sound financial management arrangements and performs well against a number of prescribing indicators, there are still substantial opportunities to improve the quality of prescribing and the economical use of drugs in some areas. We came to this conclusion because:

Budget setting and financial performance:

- A new process of budget setting for primary care prescribing was introduced for 2013-14, which has the potential to significantly strengthen the analysis underpinning the process.

Financial monitoring:

- There is dedicated financial support for primary care prescribing and medicines management. This member of staff meets with locality leads on a weekly basis and liaises with finance colleagues providing support to secondary care divisions, as necessary.
- The Health Board reviews prescribing in areas of high growth on a monthly basis. Data is analysed in detail to determine therapeutic categories with high growth. In 2012 the Health Board carried out a review to determine wider reasons for growth.

Overall expenditure on primary care prescribing:

- The Health Board expenditure on primary care drugs between September 2011 and August 2012 was £75 million. When adjusted for population, this spending is below the median for Wales, and the amount of prescribing is the lowest in Wales.
- In addition to this expenditure, a further £280,000 was spent on unclassified drugs and special preparations.

Indicators of effective prescribing:

- We have estimated that by improving prescribing performance there is the potential to secure up to £2.1 million in savings without affecting patient care.
- The Health Board has the potential to improve generic prescribing which could secure around £353,000 in savings.
- The Health Board spends £2.1 million on wound dressings and has the highest percentage of antimicrobial dressings prescribed in Wales; while not all dressings used feature in the data because of different approaches between health boards, reducing the current rate to the best performing one suggests there could be potential savings of £110,000. The Health Board's cost per weighted population is the lowest in Wales for both stoma and incontinence appliances, while this performance is comparatively good it is still likely that improvements can be made to the management of incontinence in primary care.

National prescribing indicators:

- The Health Board has proportionally one of the lowest levels of prescribing for Ibuprofen and Naproxen in Wales, which suggests that more could be done to improve the quality of NSAID prescribing.

National prescribing indicators:

- While the Health Board has one of the lowest rates of antibiotic prescribing in Wales, which is good performance, the proportion of the top-nine antibacterial drugs prescribed is one of the lowest in Wales and although the reasons can be complex the Health Board needs to maintain a focus on good quality antibacterial prescribing in its future medicines management strategy to minimise the risk of antibacterial resistance.
- The Health Board's prescribing of Dosulepin is one of the lowest in Wales and this is as a result of local work, which demonstrates the positive impact of targeted intervention.
- GPs in the Health Board area currently prescribe less hypnotics and anxiolytics per 1,000 patients than any other health board, which is good performance.

Adverse drug reaction (ADR) reporting:

- Over the past few years the level of reporting has steadily fallen: encouragingly, as a result of recent local initiatives, the rate has started to increase.

Drug wastage:

- The Health Board is targeting waste, although its relative success to date is unclear because monitoring, analysis and reporting are not yet well developed.

15. The following table summarises the findings supporting the conclusion.

Financial performance		
Expected practice	**In place?**	**Further information**
The budgeting process should be a key driver of continuous performance improvement and this requires budgets to be set in a rational manner which is open and transparent.	✓	The prescribing budgets for primary and secondary care are held separately. The budget for primary care is held by the PCIC Division and is around £70 million. The secondary care budget is devolved to individual directorates. While this arrangement is not unusual it does require a sound integrated approach to addressing issues. During the course of this audit two issues have been identified which highlight opportunities to improve existing arrangements: • There is recognition that it is often necessary to tackle individual clinicians about prescribing behaviours. While primary care prescribing advisors are seen to have the necessary seniority and skills to influence GPs, there is a perception that some secondary care directorate pharmacists who need to challenge these prescribing behaviours can lack the seniority to influence senior consultants and their teams. • Staff reported that, because the budget is held locally across the different divisions in secondary care, unilateral decisions are sometimes made to change prescribing, without consideration of the impact of those changes elsewhere across the organisation.

Financial performance		
Expected practice	**In place?**	**Further information**
The budgeting process should be a key driver of continuous performance improvement and this requires budgets to be set in a rational manner which is open and transparent.	✓	A new process of budget setting was introduced for the financial year 2013-14. The previous approach projected the items issued and the average spending. It took the current budget spend and the predicted growth, adjusted for dispensing days, to reach the budget. This year budget setting will take account of: • current budget; • recurrent savings; • results of horizon scanning for generic potential (coming off patent); • NICE guidance; • the impact of the savings scheme; and • contracting Category M savings (not confirmed). While run rates would previously have been factored in, the new approach will not include growth. As a consequence, an overspend is forecast for the current year. Overall, the new approach has the potential to significantly strengthen the budget setting process.
Financial monitoring takes place at team level and action is taken if targets are not being met.	✓	There is dedicated financial support for primary care prescribing and medicines management, which is regarded as an effective model of support by all parties. This member of staff: • meets locality leads on a weekly basis; • liaises with finance colleagues, providing support to secondary care divisions, as necessary; and • attends meetings of the MMG. The Health Board reviews prescribing in areas of high growth on a monthly basis. Data is analysed in detail to determine therapeutic categories with high growth. In 2012 the Health Board carried out a review to determine wider reasons for growth.
Financial monitoring takes place at Board level.	✓	There is some evidence of financial monitoring at, and of medicines management proposals being taken to, the Board. There is scope for this to be strengthened so that directors are routinely apprised of current performance.

Overall expenditure on primary care prescribing		
Expected practice	**In place?**	**Further information**
Expenditure on prescribing is well understood by the Health Board.	✓/✗	The Health Board expenditure on primary care drugs between September 2011 and August 2012 was £75 million. When adjusted for population, this spending is below the median for Wales, and the number of items prescribed is the lowest in Wales (Appendix 2: Exhibit 1). In addition to this expenditure, a further £280,000 was spent on unclassified drugs and special preparations.

Indicators of effective prescribing	
Expected practice	**Further information**
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 has the potential to realise additional annual savings of up to £2.1 million without affecting patient care (Appendix 1). Realising all or some of these savings will require sustained action over the medium to long term.
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. The Health Board could realise savings by encouraging all GPs towards higher levels of generic prescribing. To reduce the impact of variation, a basket of commonly prescribed drugs with generic equivalents has been developed (Appendix 3) to identify realisable savings through improved generic prescribing.	If the total basket was prescribed generically this would realise a £353,000 saving (Appendix 3: Exhibit 9) suggesting there is still scope to improve generic prescribing through focused intervention and support.
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.	Currently, the Health Board spends £256,000 on these preparations (see Appendix 3: Exhibit 10). This suggests the Health Board has both quality and savings opportunities if improvements were delivered in this area.

Indicators of effective prescribing	
Expected practice	**Further information**
NICE found no strong evidence for the effectiveness of glucosamine prescribing, and subsequently it has not been recommended for prescribing by the NHS. If GPs discontinued glucosamine then the Health Board could realise savings.	Currently the Health Board's GPs prescribe only a small number of glucosamine items (see Appendix 3: Exhibit 11), which is effective prescribing.
NICE has identified a number of drugs not recommended for routine use. Performance against a basket of drugs[1] in this category reflects effective and safe prescribing within primary care. No target for savings is suggested although a review of the use of these medications would inform future prescribing advice activity.	Currently the Health Board spends £24,000 on these drugs (see Appendix 3: Exhibit 12). The combination of this and the previous baskets shows that there are opportunities to improve the quality of prescribing in this area, although financial savings are small.

Prescribing on wound management, food supplements and incontinence products	
Expected practice	**Further information**
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 the 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.	Currently, the Health Board spends £2.1 million on wound dressings and has the highest percentage of antimicrobial dressings prescribed in Wales (see Appendix 3: Exhibit 13). Other health boards have introduced effective arrangements for wound management in primary care, which suggests targeted action could reduce expenditure. There are potential savings of £110,000, if it matched the performance of the best performing health board.

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

Prescribing on wound management, food supplements and incontinence products	
Expected practice	**Further information**
SIP feed food supplements The evidence base for oral nutritional supplements was assessed by the 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 realise savings. Further savings may be forthcoming if the quantity of items is reduced.	Currently the Health Board spends around £1.8 million per annum on these food supplements at an average cost of £47.97 per item. This cost per item is high and reducing cost alone would save £371,000 (see Appendix 3: Exhibit 14). Some health boards have managed to reduce the volume prescribed in primary care through increased dietetic support which suggests there are both quality and cost saving opportunities in this area.
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 the quality and quantity of prescribing incontinence and stoma products can realise cost savings.	Currently the Health Board spends £2.1 million (see Appendix 3: Exhibit 15) on stoma appliances and £364,000 on incontinence appliances. The cost per weighted population is the lowest in Wales for both stoma and incontinence appliances. Whilst this performance is comparatively good, it is still likely that improvements can be made to the management of continence services in primary care.

Performance against the national prescribing indicators 2011-12	
Expected practice	**Further information**
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 would potentially realise savings.	Currently, the Health Board performance is the fourth out of seven against this indicator (see Appendix 3: Exhibit 16). If the Health Board was able to achieve the levels of performance of the best GP quartile, savings would amount to £190,000 (Appendix 3: Exhibit 17). This performance suggests the Health Board has significant scope to improve the quality of prescribing in this area.
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 would potentially realise savings.	The Health Board performs relatively well against this indicator and while there are still prescribing quality gains to be made, financial savings over the long term are relatively low at £87,000. More generally, our analysis of the spending and the amount of prescribing on drugs in the BNF category on gastrointestinal drugs, when adjusted for population, shows that the Health Board spends and prescribes the least in Wales (see Appendix 2: Exhibit 18).

Performance against the national prescribing indicators 2012-13	
Expected practice	**Further information**
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 to reduce 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 would potentially realise savings.	In overall terms, in relation to this indicator, the Health Board has one of the lowest performance levels in Wales (see Appendix 3: Exhibit 20). This performance suggests much more could be done to improve the quality of this prescribing (Appendix 3: Exhibit 21).

Performance against the national prescribing indicators 2012-13	
Expected practice	**Further information**
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 would potentially realise savings.	Currently the Health Board prescribes low amounts of low acquisition cost statins when compared to other health boards in Wales. In part, this performance has been attributed to secondary care influence and is currently a target area. Over the year the Health Board has reduced potential savings from £982,000 to £430,000 (see Appendix 3: Exhibit 24), showing the value of targeted action.
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 would potentially realise savings.	Performance against this indicator is in the top half of Wales (Appendix 3: Exhibit 26) The Health Board has scope to improve performance and should maintain a focus on this important quality indicator.
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 would potentially realise savings.	Currently, the Health Board has one of the lowest levels of morphine prescribing as a percentage of strong opioid items in Wales (see Appendix 3: Exhibit 28). Pain management has already been identified as a high impact area. If the Health Board could achieve the performance of the best performing quartile of GPs, it has the potential to release £427,000 in savings (see Appendix 3: Exhibit 29).

Performance against the national prescribing indicators 2012-13	
Expected practice	**Further information**
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.	The Health Board has one of the lowest rates of top nine antibacterial prescribing in Wales (see Appendix 3: Exhibit 31).
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.	The Health Board has one of the lowest rates of antibiotic prescribing in Wales, which is effective practice. Given public health concerns, this performance needs to be maintained (see Appendix 3: Exhibit 33).
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.	The level of prescribing of Quinolones, as a percentage of antibacterials, by Health Board GPs is the third highest in Wales. Appendix 3: Exhibit 35 shows that a large number of GPs in the Health Board area are prescribing the drug at higher rates.

Performance against the national prescribing indicators 2012-13	
Expected practice	**Further information**
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.	The Health Board's prescribing of Dosulepin is one of the lowest in Wales, and is at the target level. This performance is a direct result of a recent campaign to improve rational prescribing in this area, demonstrating the effectiveness of targeted action. Specific GMS audit work was carried out at 41 practices across the Health Board area.
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.	GPs in the Health Board area currently prescribe less hypnotics and anxiolytics than any other health board (see Appendix 3: Exhibit 38). This area was one of the potential themes that practices could select for audit as part of the GMS scheme in 2012-13. The Health Board recognises that while this is the case, primary care organisations in England are prescribing fewer drugs in this category than the Welsh health boards. Consequently, this is still regarded by the Health Board as an area for further improvement, and it is undertaking audits to help drive this forward.

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 YCC Wales has developed an education programme which is available to GPs and health boards.	✓/✗	The Health Board hosts the Yellow Card Scheme. Appendix 4: Exhibit 43 shows that the Health Board's ADR reporting declined between 2010-11 and 2011-12, reflecting the downward trend for Wales (see Appendix 4: Exhibit 44). Appendix 4: Exhibit 45 shows the number of ADR reports per 100,000 population from community-based sources, by health board. Recently, Yellow Card awareness raising sessions have been held with GPs and, as part of its strategic approach to improving primary care prescribing, the Health Board will need to continually improve ADR reporting.

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.	✗	Assuming the levels are consistent across Wales we estimate that the cost of wasted drugs is £7.1 million. If the Health Board could reduce this by 50 per cent up to £3.55 million could be saved (Appendix 5: Exhibit 39).
The Health Board has information on medicine wastage levels; for example, audits have been undertaken.	✓/✗	The Health Board accumulates information on waste reduction, although it is unclear how this is used. The overall impact of the Health Board's approach to wastage levels is unclear.
The Health Board is using the community pharmacy contract to reduce wastage, for example, incentivising management of medicines at the start of dispensing.	✓/✗	Some work has taken place using the community pharmacy contract to help reduce waste. However, taking this forward has proved difficult because of problems getting support from the contractor body to roll this service out to other pharmacies.

Drug wastage		
Expected practice	**In place?**	**Further information**
Local medicine wastage campaigns.	✓/✗	The issue of medicines wastage is recognised as an important area and the Health Board recently signed up to the regional waste reduction campaign.
Supporting GPs in improving repeat prescribing arrangements.	✓	All practices were given the potential option of taking part in a GMS audit of repeat prescribing during 2012-13. This included assessment of current practice procedures, with consideration of the extent to which non-clinical staff were involved in repeat prescribing.

Appendix 1

Summary of potential savings

This appendix provides a summary of potential savings, identified from the comparative performance of the Health Board against a range of prescribing indicators (see Appendix 3). The table below shows the basis of the savings calculations that have been used.

Indicator	Basis of savings calculation used in this report
Generic prescribing rates	The best quartile of GP practices in Wales realises 85 per cent levels of generic prescribing. Some branded drugs (such as Ventolin and Zapain) which are prescribed in large quantities are currently cheaper than generic equivalents. Depending on 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. Performance has been calculated on the prescribing behaviour between March 2013 and May 2013 extrapolated for one year. Savings are then based on the price difference between the generic and proprietary drug for that period.
Drugs identified as less suitable for prescribing	The savings are based on reducing the total expenditure by 50 per cent, recognising the sustained effort and education programme that may be required to change individual prescribers' habit, and for some individual patients this may be the only option that works.
NICE non-recommended drug basket	The savings are based on 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	These indicators are primarily to improve prescribing quality and where there are savings opportunities these have been calculated on health boards achieving the best quartile GP practice performance.

Summary of potential savings

Area	Savings
Improved generic prescribing	£353,000
Drugs less suitable for prescribing	£129,000
NICE non-recommended drug basket	£24,000
Wound management and food supplements	
Antimicrobial wound dressing	£110,000
Food supplements	£371,000
National prescribing indicators	
Improved ACE inhibitor prescribing	£91,000
Proton pump inhibitors	£87,000
NSAIDs	£65,000
Low acquisition statins	£430,000
Long acting Insulin	£39,000
Opioid prescribing	£427,000
Total	**£2,126,000**

Source: Wales Audit Office analysis of CASPA.Net data

Appendix 2

Comparative analysis of British National Formulary chapter prescribing by health board

Exhibit 1: Total expenditure by BNF chapter per 1,000 Prescribing Units[2] – 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, Gynaecology and Urinary Tract Disorders	£5,297	£5,561	£5,406	£6,644	£6,371	£5,379	£5,354
Malignant Disease and 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

[2] Prescribing Units (PUs) take account of the greater need of elderly patients for medication in reporting prescribing performance at both the practice and health authority 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.

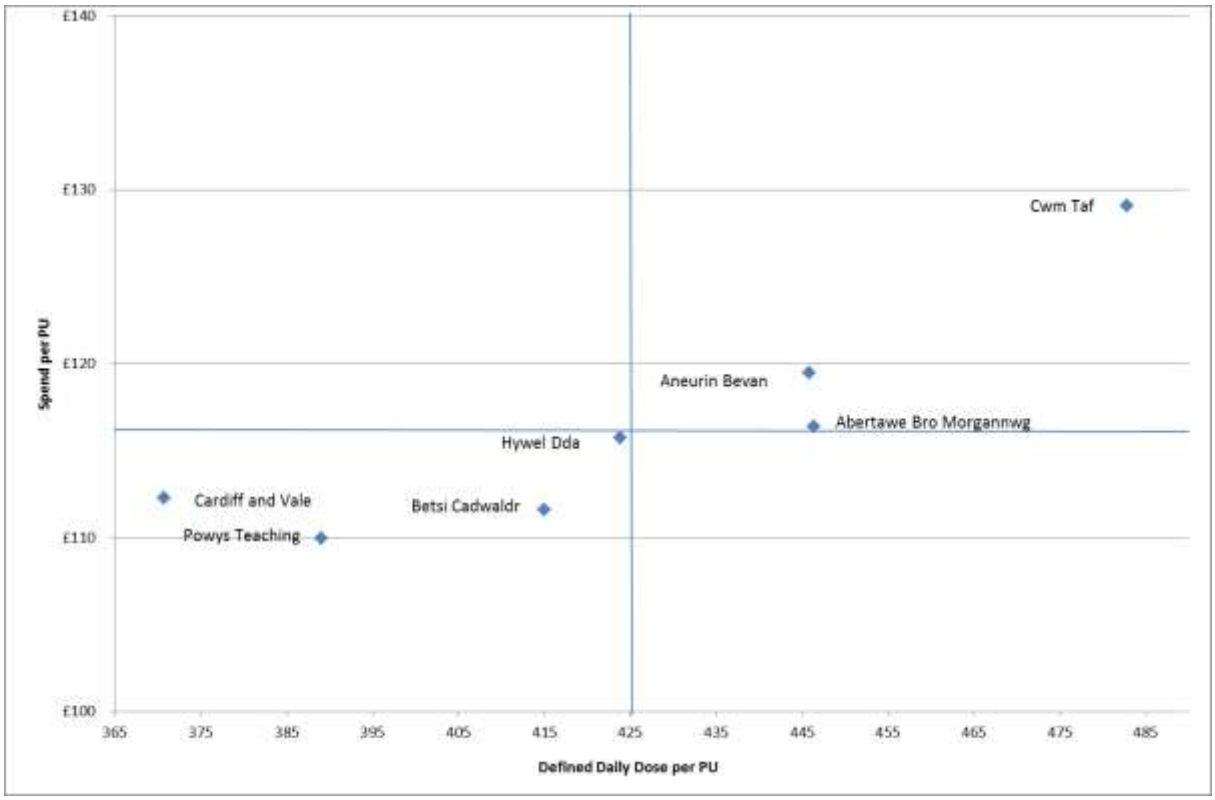
	Abertawe Bro Morgannwg Uni	Aneurin Bevan	Betsi Cadwaladr Uni	Cardiff and Vale Uni	Cwm Taf	Hywel Dda	Powys Teaching
Musculo-skeletal and Joint Diseases	£2,938	£3,183	£2,637	£2,653	£2,875	£3,109	£2,938
Eye	£2,155	£1,783	£2,108	£2,004	£2,310	£2,385	£2,151
Ear, Nose and Oropharynx	£1,307	£1,225	£1,199	£1,433	£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 data

The top six areas of high expenditure BNF chapter headings are:

i. gastro intestinal drugs;
ii. cardiovascular drugs;
iii. respiratory drugs;
iv. central nervous system drugs;
v. endocrine drugs; and
vi. nutrition and blood drugs.

Exhibit 2: Total health board spending and quantity of drugs prescribing per weighted head of population by PUs [3] June 2012 to May 2013

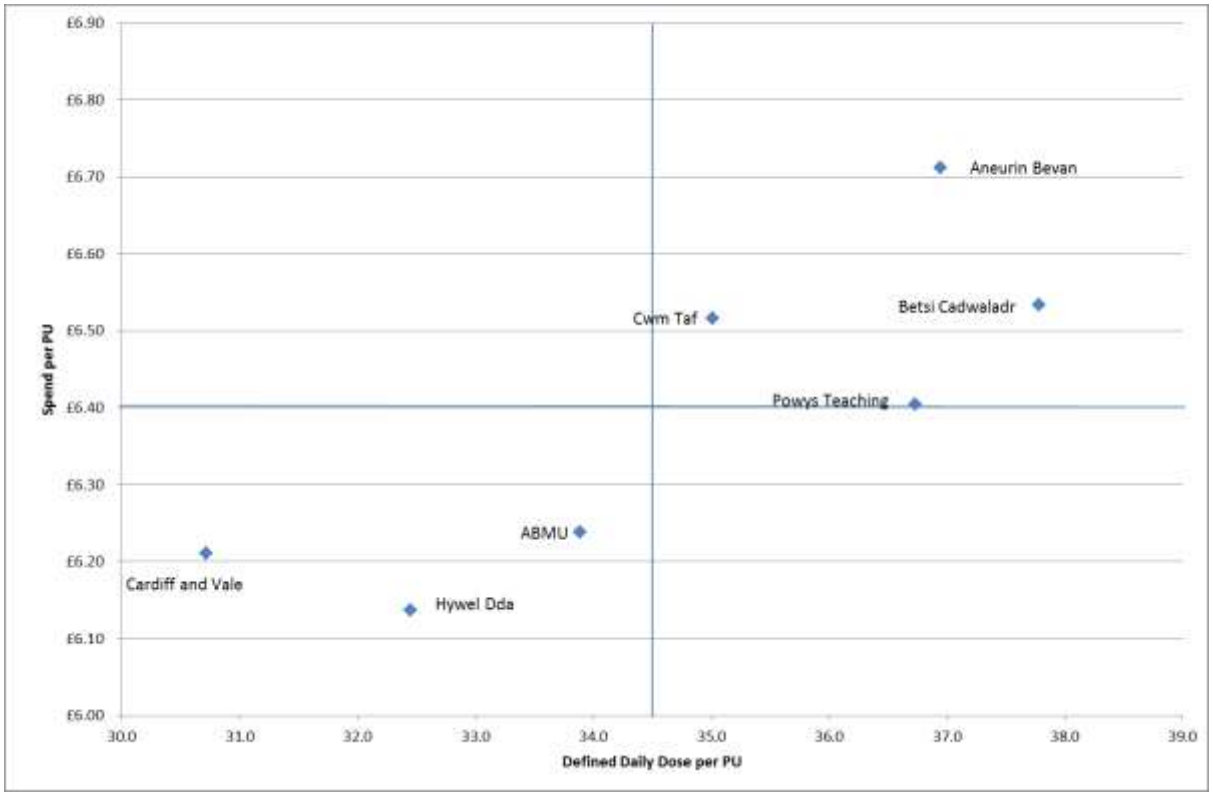


Source: Wales Audit Office analysis of CASPA.net data

Note: Cross lines represent the Wales average spend and prescribing volume. Horizontal access left to right shows increasing volumes of drugs prescribed. Vertical access shows the increasing cost of drug. Therefore, bottom left-hand box shows lower than average spending and prescribing per PU. Top left-hand box shows above average spending and lower prescribing per PU. Bottom right-hand box shows lower-than-average spending and above-average prescribing per PU. Top right-hand box shows higher-than-average spending and prescribing per PU.

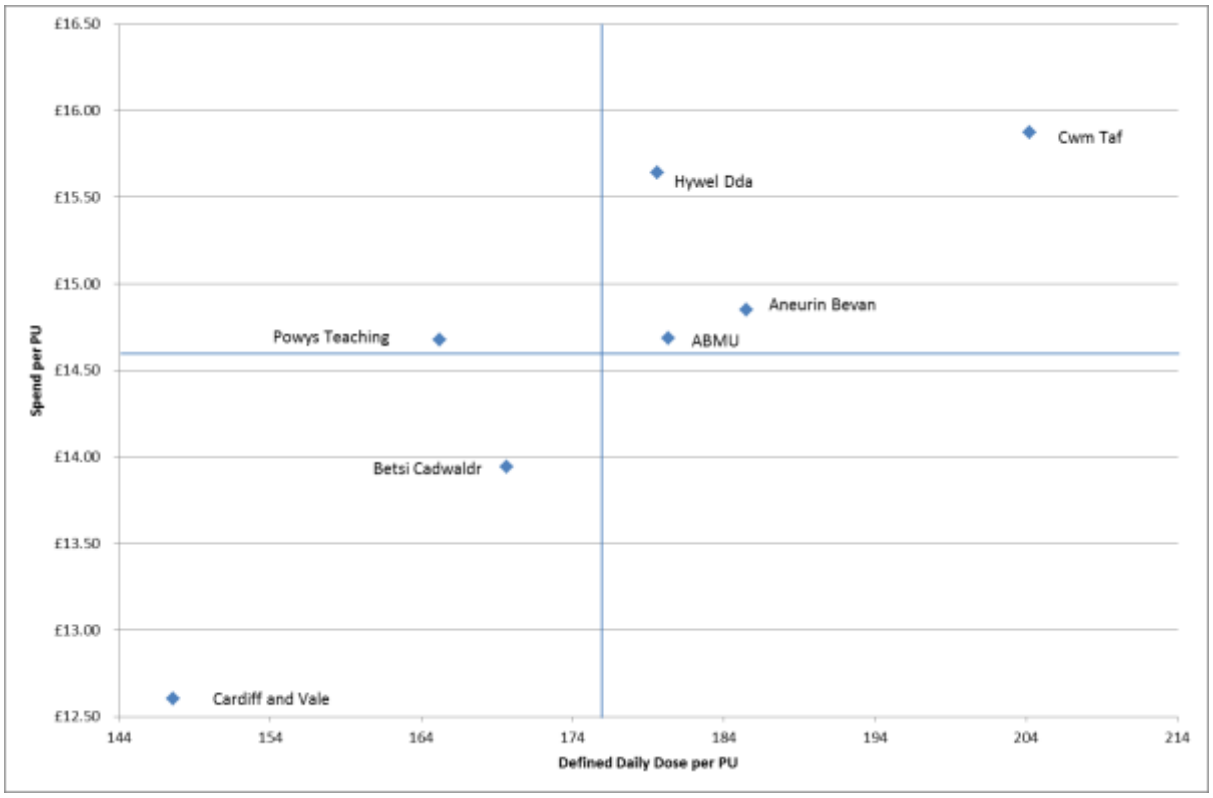
[3] Prescribing Units take account of the greater need of elderly patients for medication in reporting prescribing performance at both the practice and health authority level. Rather than compare the cost of prescribing or the number of items prescribed by patient, comparisons by PU would weigh the result 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.

Exhibit 3: Total health board spending and quantity of gastro-intestinal drugs prescribing per weighted head of population by PUs June 2012 to May 2013



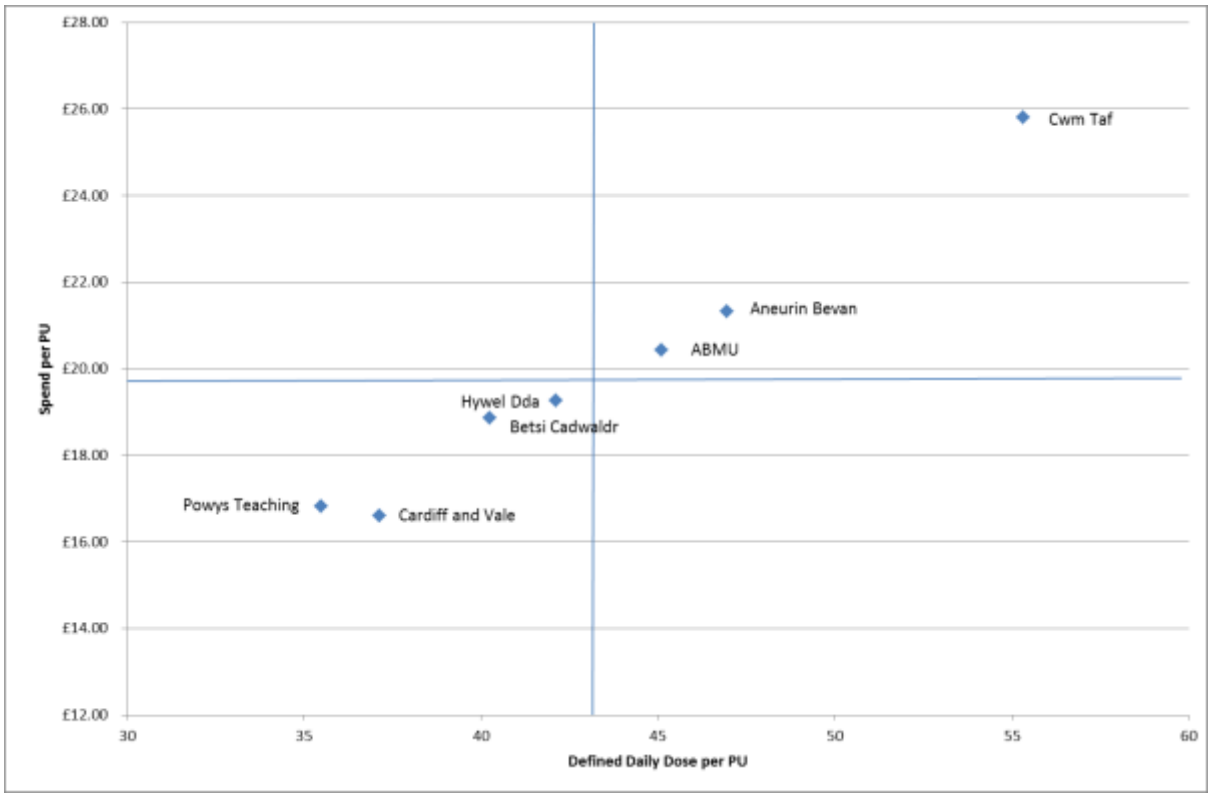
Source: Wales Audit Office analysis of CASPA.net

Exhibit 4: Total health board spending and quantity of cardiovascular drugs prescribing per weighted head of population by PUs June 2012 to May 2013



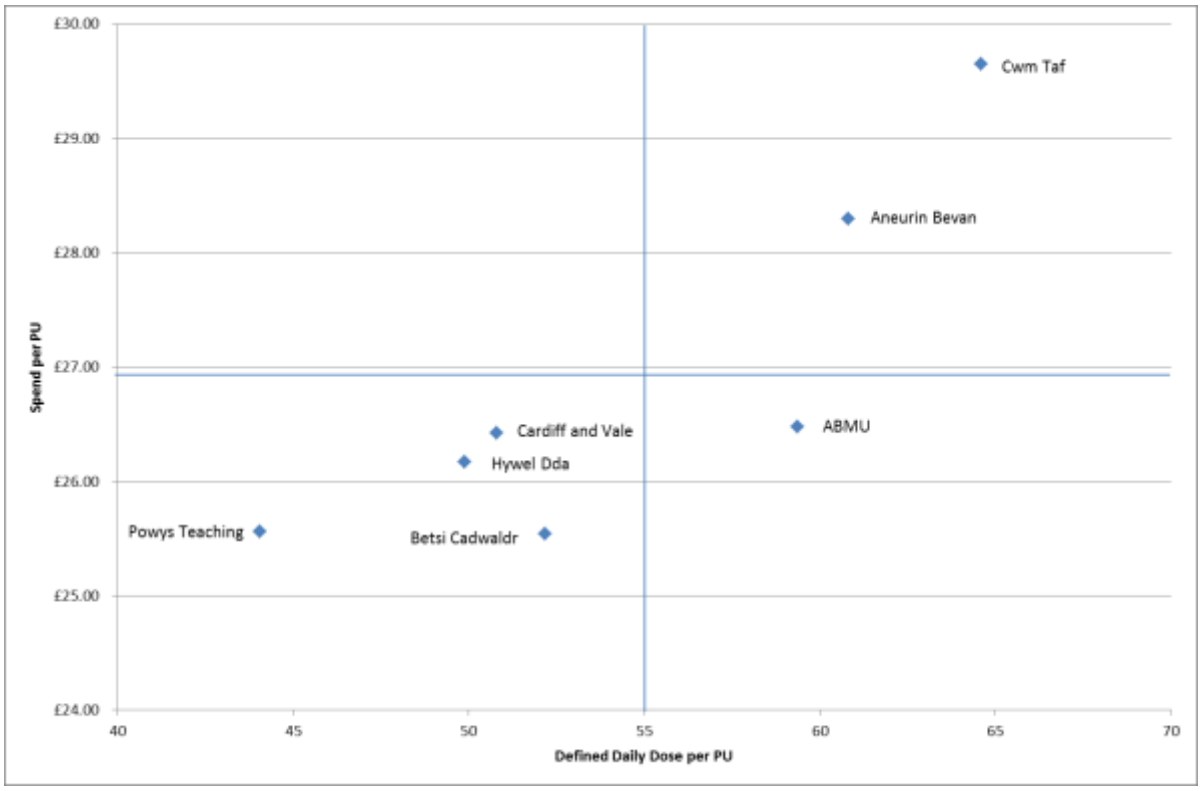
Source: Wales Audit Office analysis of CASPA.net

Exhibit 5: Total health board spending and quantity of respiratory drugs prescribing per weighted head of population by PUs June 2012 to May 2013



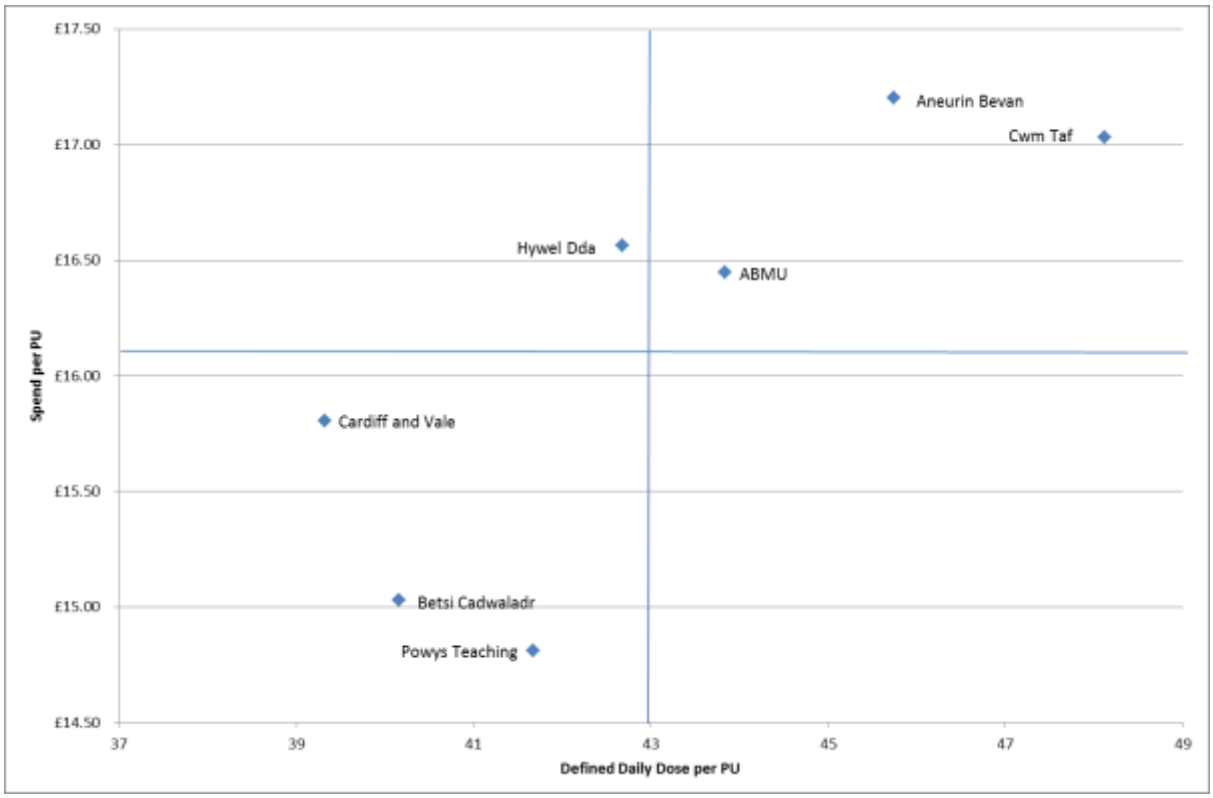
Source: Wales Audit Office analysis of CASPA.net

Exhibit 6: Total health board spending and quantity of central nervous system drugs prescribing per weighted head of population by PUs June 2012 to May 2013



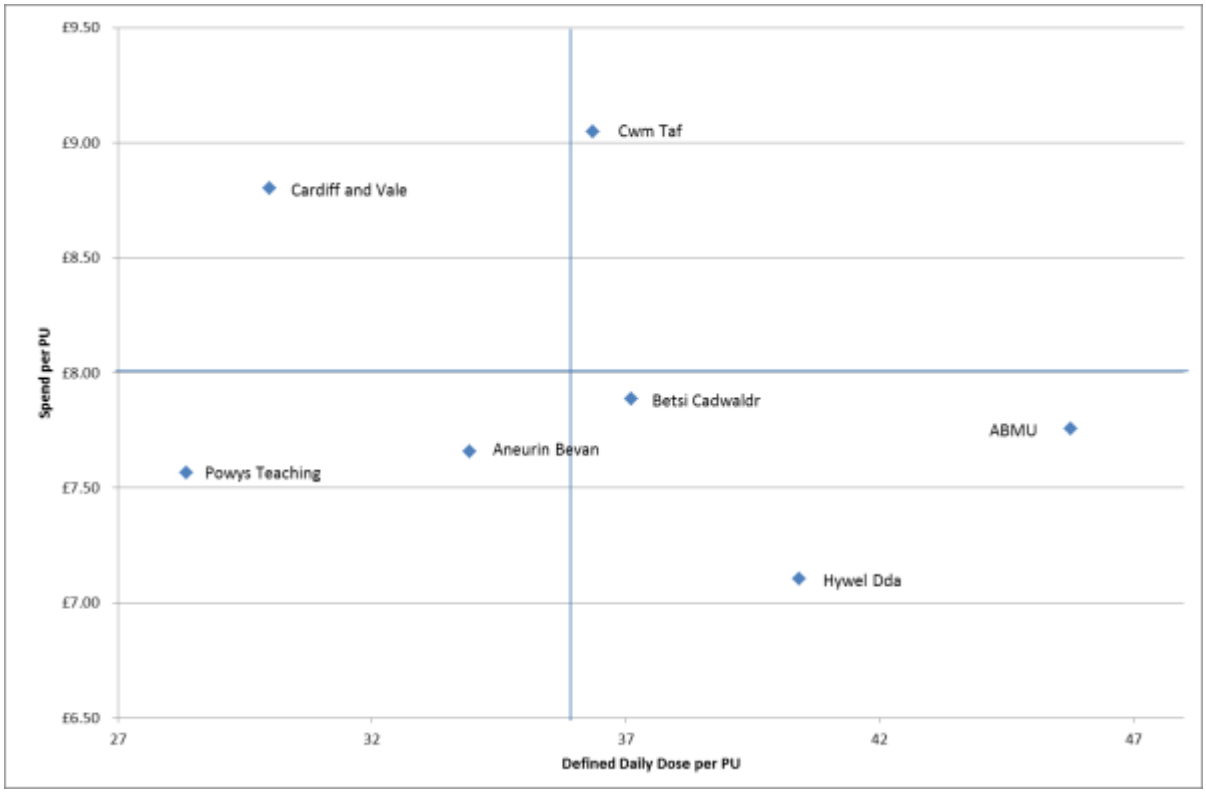
Source: Wales Audit Office analysis of CASPA.net

Exhibit 7: Total health board spending and quantity of endocrine drugs prescribing per weighted head of population by PUs June 2012 to May 2013



Source: Wales Audit Office analysis of CASPA.net

Exhibit 8: Total health board spending and quantity of nutrition and blood drugs prescribing per weighted head of population by PUs June 2012 to May 2013



Source: Wales Audit Office analysis of CASPA.net

Appendix 3

Analysis of prescribing indicators

Indicators of effective prescribing

Exhibit 9a: Generic prescribing rates

Health Board	Basket of potential savings
Abertawe Bro Morgannwg	£367,000
Aneurin Bevan	£667,000
Betsi Cadwaladr	£692,000
Cardiff and Vale	**£353,000**
Cwm Taf	£196,000
Hywel Dda	£473,000
Powys	£151,000

Exhibit 9b: 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
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_Eye Dps 50mcg/5ml/ml
Desmotabs_Tab 0.2mg	Naramig_Tab 2.5mg	Xalatan_Eye Dps 50mcg/ml
Detrusitol_Tab 2mg	Neoclarityn_Tab 5mg	Zestril_Tab 5mg, 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 10: Basket of drugs identified as less suitable for prescribing, excluding glucosamine, March 2013 to May 2013

Health Board	Total expenditure	Potential savings
Abertawe Bro Morgannwg	£404,000	£202,000
Aneurin Bevan	£328,000	£164,000
Betsi Cadwaladr	£511,000	£256,000
Cardiff and Vale	**£256,000**	**£128,000**
Cwm Taf	£159,000	£80,000
Hywel Dda	£224,000	£112,000
Powys	£68,000	£34,000
Total	**£1,950,000**	**£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 (Diphenox HCl/Atrop Sulph), Opium & Morphine, Loperamide Hydrochloride & Dimeticone,Liquid Paraffin,Liq Paraf & Mag Hydrox_Oral Emuls,Rowachol,Co-Flumactone (Hydroflumeth/Spironol),Spironolactone With Thiazides,Diuretics With Potassium Clonidine Hydrochloride,Guanethidine Monosulphate, 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, Gppe Tab_Triptafen, Gppe Tab_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, Maxolon Sr_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, Icaps Oad_Tab, Icaps Plus_Tab, Piroxicam, Methocarbamol, Kaolin Heavy, Freeze Sprays & Gels, Docusate Sodium, Cerumol, Isopropyl Alcohol, Urea Hydrogen Peroxide, Other Preparations, Ephedrine Hydrochloride, Borax, Glucose/Glycerol, Ipratropium Bromide, Phenylephrine Hydrochloride, Xylometazoline Hydrochloride, Fusafungine, Lozenges & 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 11: Glucosamine prescribing March 2013 to May 2013

Health Board	Total expenditure	Potential savings
Abertawe Bro Morgannwg	£6,000	£3,000
Aneurin Bevan	£3,000	£1,000
Betsi Cadwaladr	£15,000	£8,000
Cardiff and Vale	**£3,000**	**£1,000**
Cwm Taf	£2,000	£1,000
Hywel Dda	£6,000	£3,000
Powys	£1,000	£1,000
Total	**£36,000**	**£18,000**

Source: Wales Audit Office analysis of CASPA.net

Exhibit 12: NICE Basket of non-recommended drugs March 2013 to May 2013

Health Board	Total expenditure	Potential savings
Abertawe Bro Morgannwg	£109,000	£54,000
Aneurin Bevan	£50,000	£25,000
Betsi Cadwaladr	£82,000	£41,000
Cardiff and Vale	**£48,000**	**£24,000**
Cwm Taf	£33,000	£16,000
Hywel Dda	£73,000	£36,000
Powys	£8,000	£4,000
Total	**£402,000**	**£201,000**

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

Source: Wales Audit Office analysis of CASPA.net

Exhibit 13: Antimicrobial wound dressing prescribing

Health Board	Total wound dressings	Antimicrobial wound dressings	Antimicrobial wound dressings as a percentage of all wound dressings	Potential savings
	Cost	Cost		
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 14: Food supplement (Sip feed) prescribing March 2013 – May 2013

Health Board	Expenditure (March 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

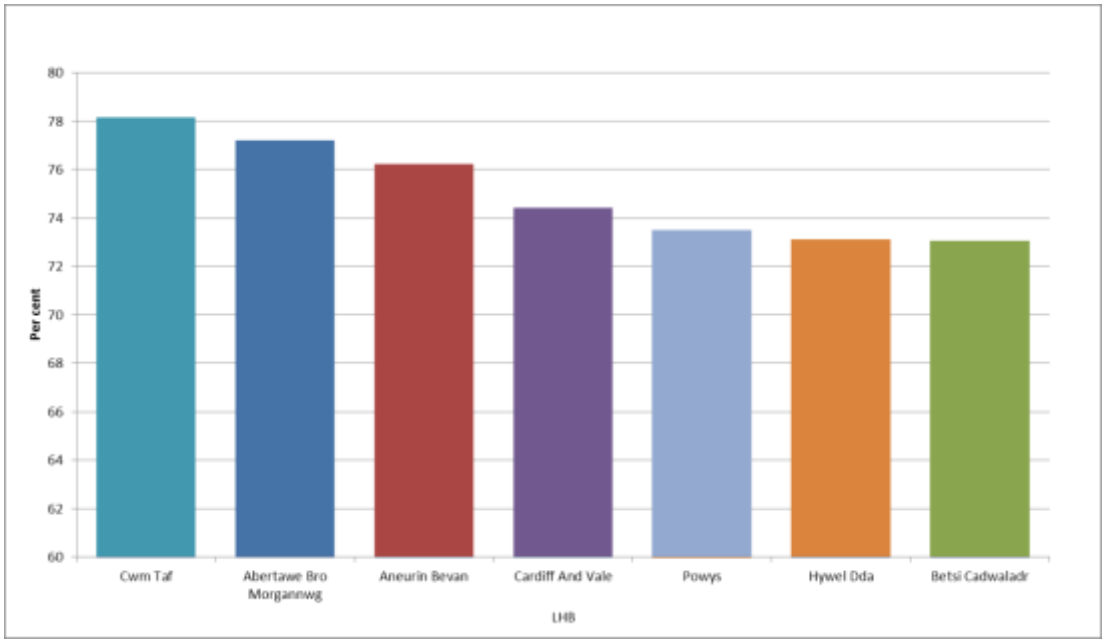
Exhibit 15: Expenditure on incontinence and stoma care prescribing June 2012 to May 2013

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

Current performance against two 2011-12 national prescribing indicators

Exhibit 16: Items of ACE inhibitors as a percentage of drugs affecting the renin-angiotensin system: March 2013 to May 2013



Better performance is: Higher

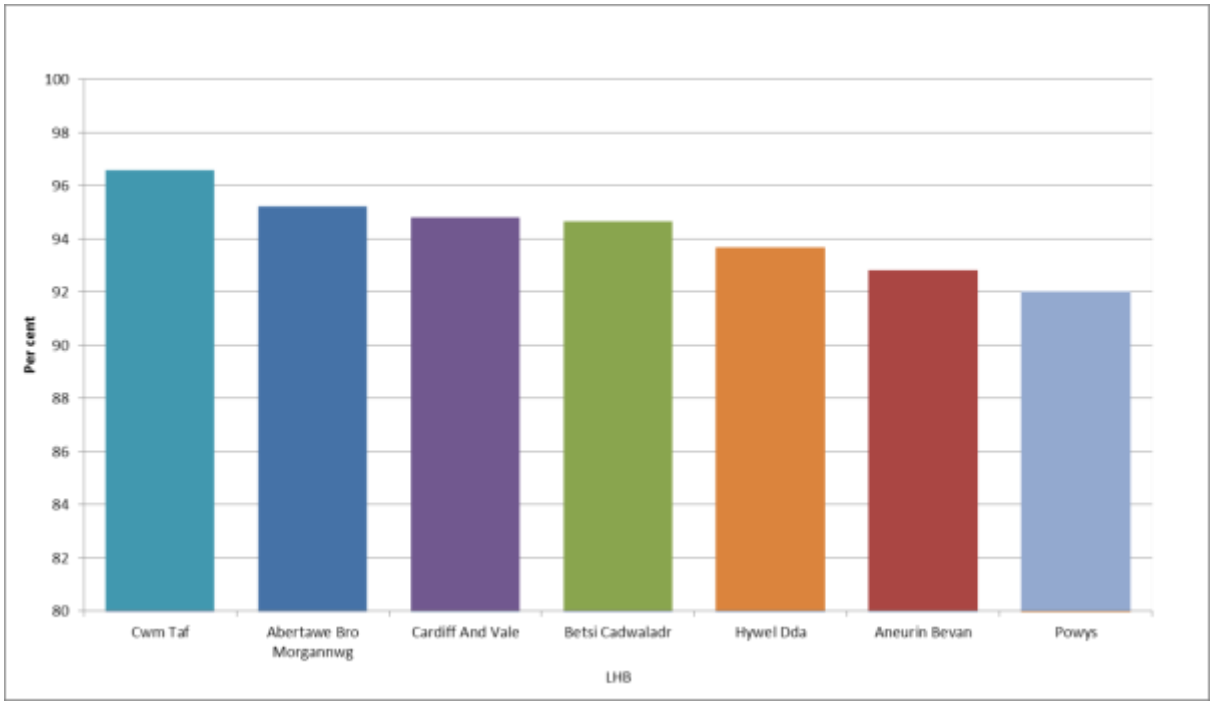
Source: Wales Audit Office analysis of CASPA.net

Exhibit 17: Potential annual savings from improved ACE inhibitor prescribing

Health Board	Potential savings
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 18: Proton pump inhibitor items of low acquisition cost as a percentage of all proton pump inhibitors: March 2013 to May 2013



Better performance is: Higher

Source: Wales Audit Office analysis of CASPA.net

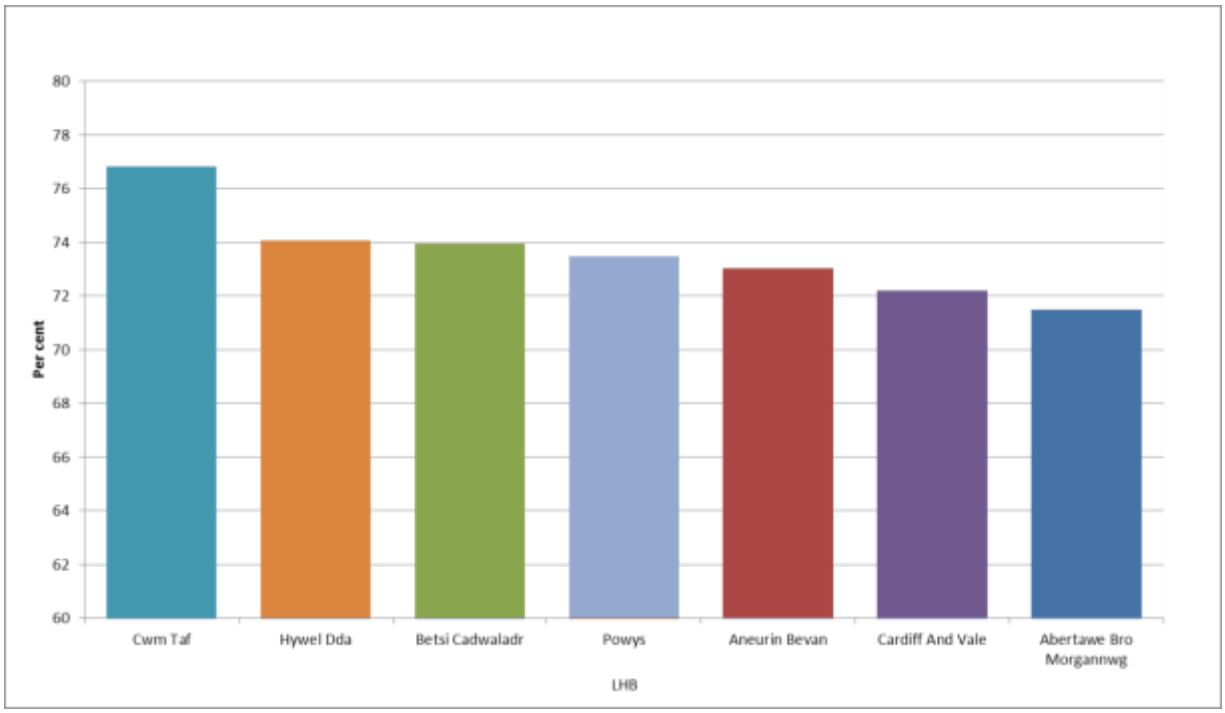
Exhibit 19: Potential annual savings from improved proton pump inhibitor prescribing

Health Board	Potential savings if 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 20: Ibuprofen and Naproxen as a percentage of all NSAIDs: 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.

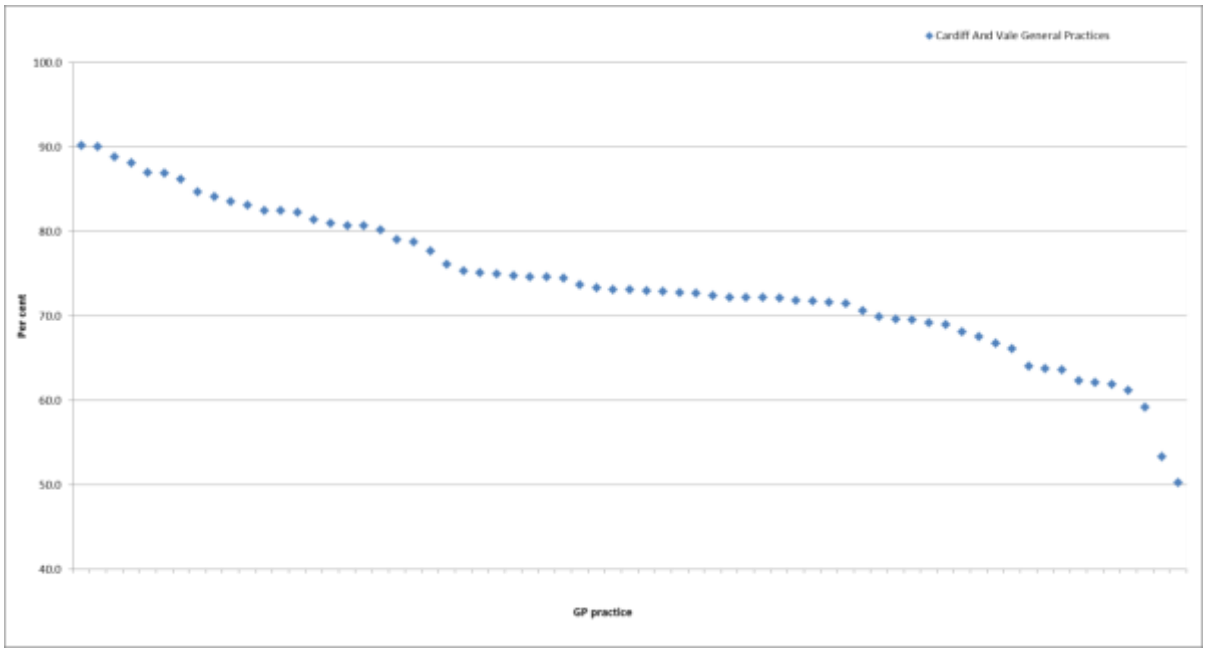
Source: Wales Audit Office Analysis of CASPA.net

Exhibit 21: Potential annual savings from improved prescribing of Ibuprofen and Naproxen as a percentage of all NSAIDs

Health Board	Potential savings if 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**

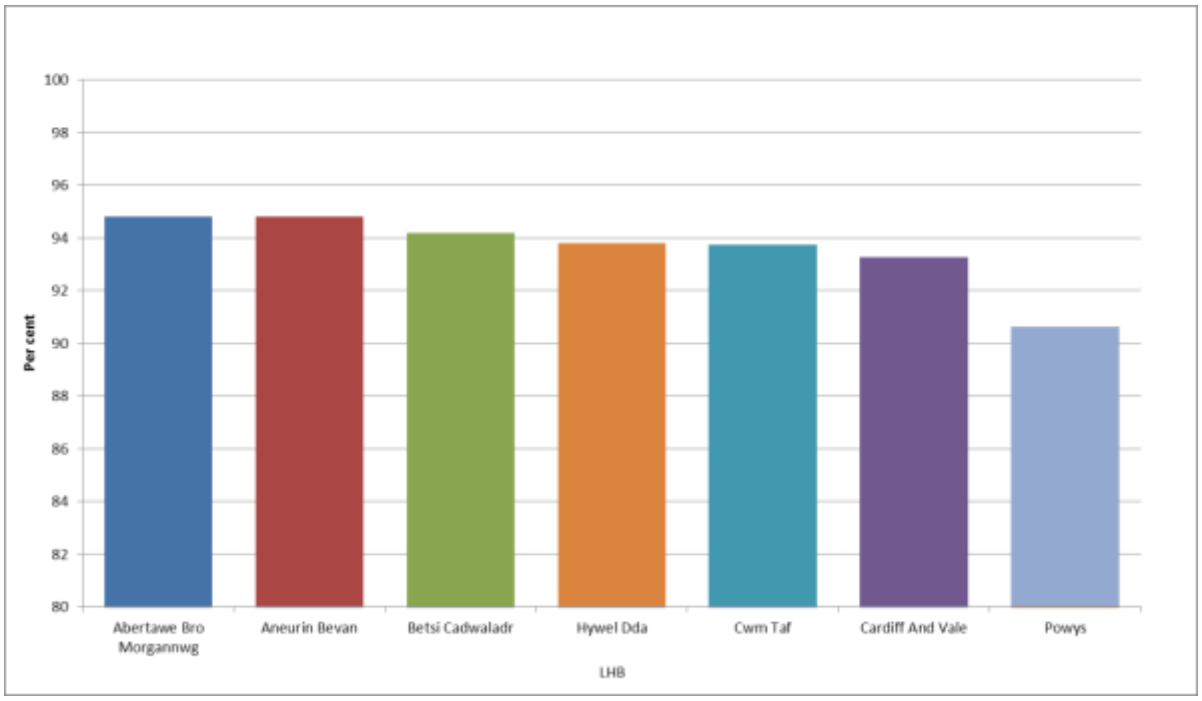
Source: Wales Audit Office analysis of CASPA.net

Exhibit 22: Ibuprofen and Naproxen as a percentage of all NSAIDs by GP practice: March 2013 to May 2013



Source: Wales Audit Office analysis of CASPA.net

Exhibit 23: 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.

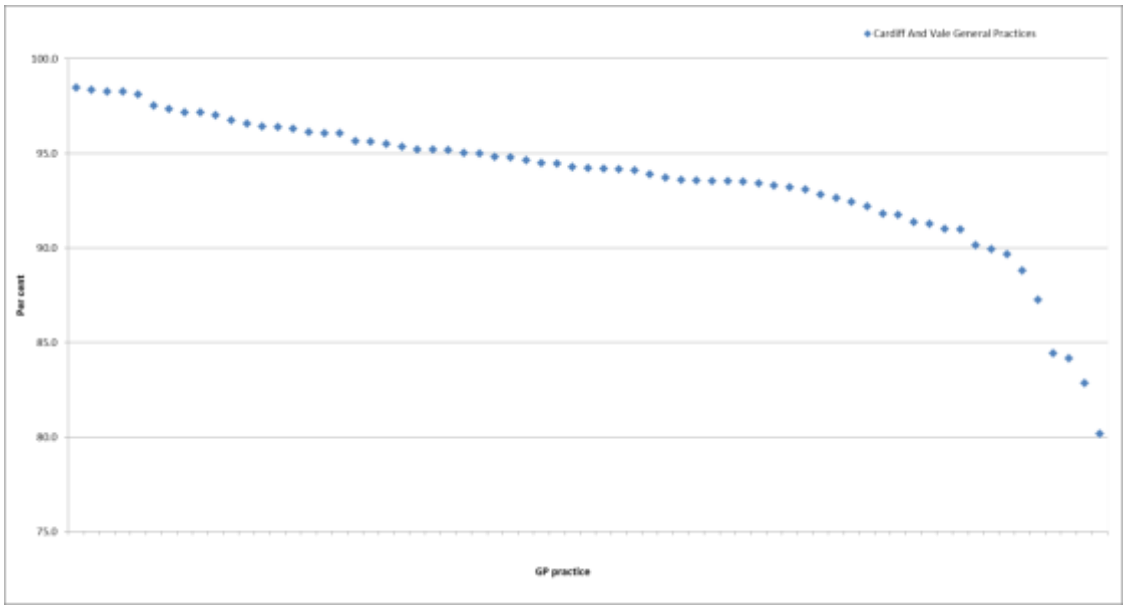
Source: Wales Audit Office analysis of CASPA.net

Exhibit 24: Potential annual savings on low acquisition statins

Health Board	Potential savings if 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**

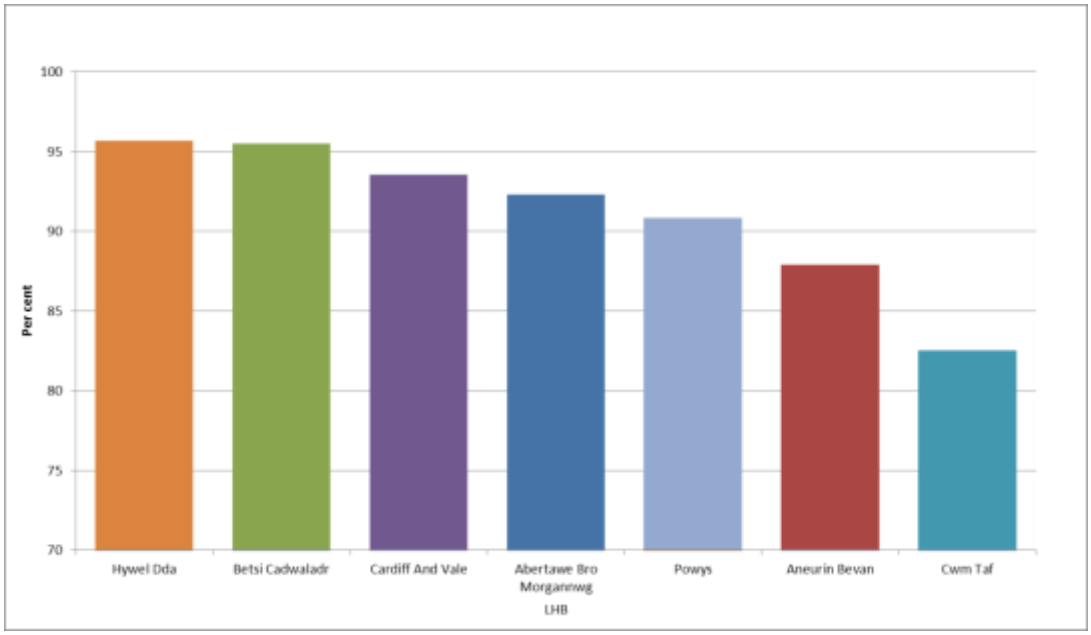
Source: Wales Audit Office analysis of CASPA.net

Exhibit 25: Low acquisition statin items as a percentage of all statins (including ezetimibe and ezetimibe combination products) by GP practice: March 2013 to May 2013



Source: Wales Audit Office analysis of CASPA.net

Exhibit 26: Long acting insulin items as a percentage of long/interim acting insulin: June 2012 to August 2012



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

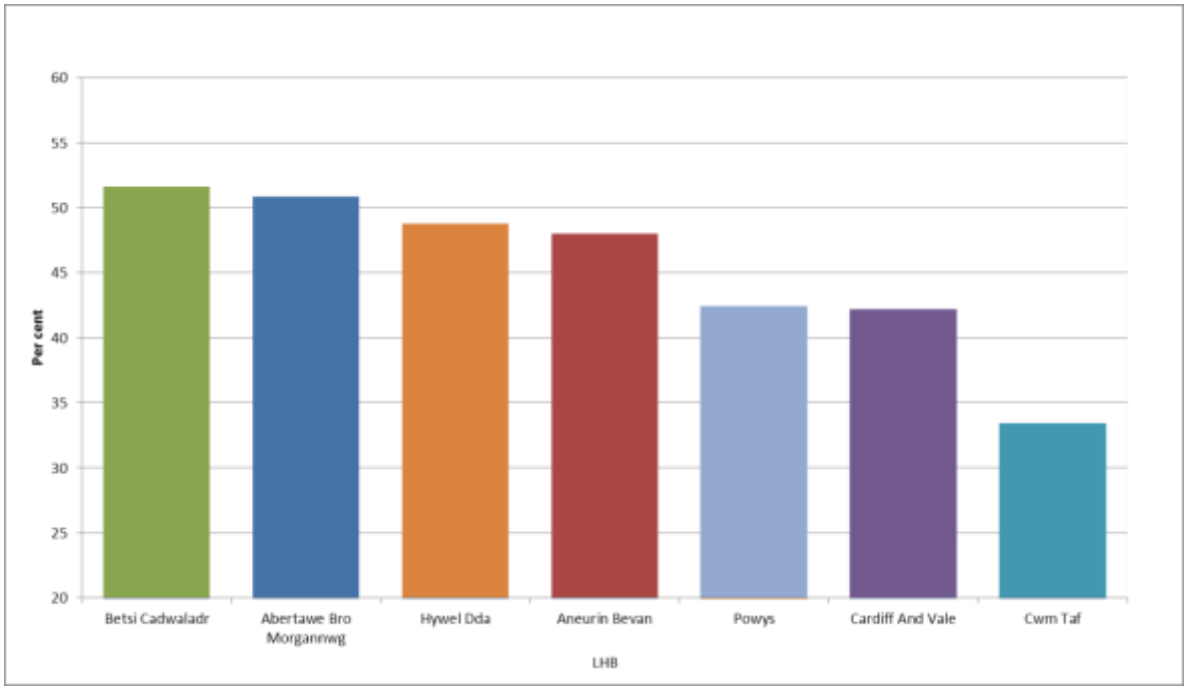
Source: Wales Audit Office Analysis of CASPA.net

Exhibit 27: Potential savings on long acting insulin prescribing

Health Board	Potential savings if 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 28: 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

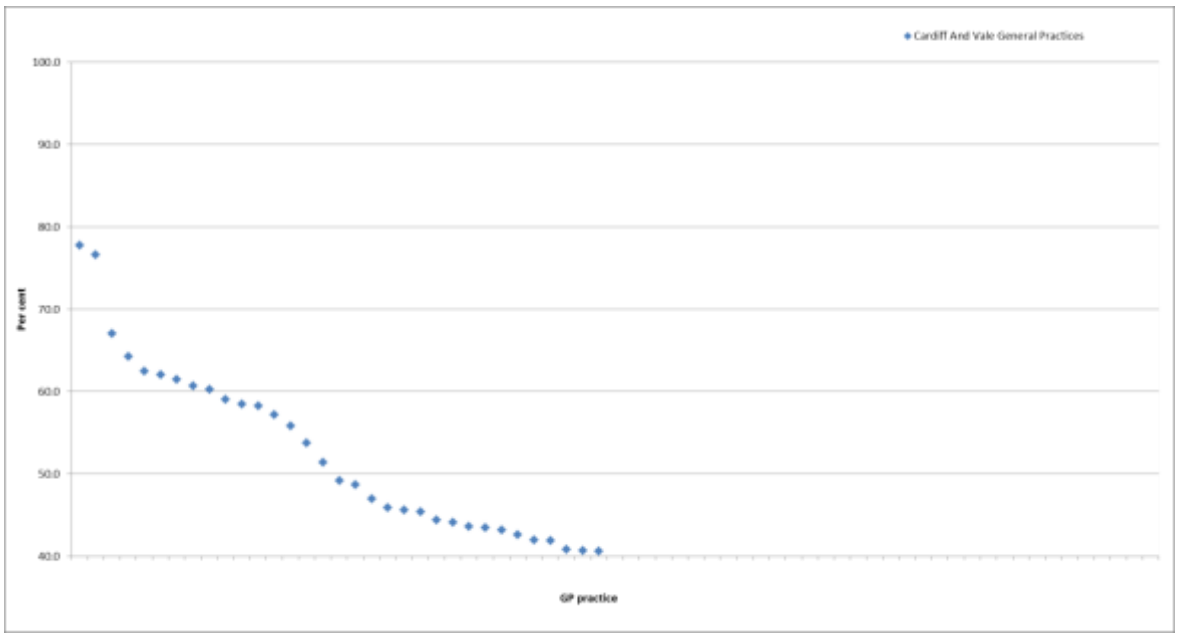
Source: Wales Audit Office analysis of CASPA.net

Exhibit 29: Potential annual savings from improved opioid prescribing

Health Board	Potential savings if 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**

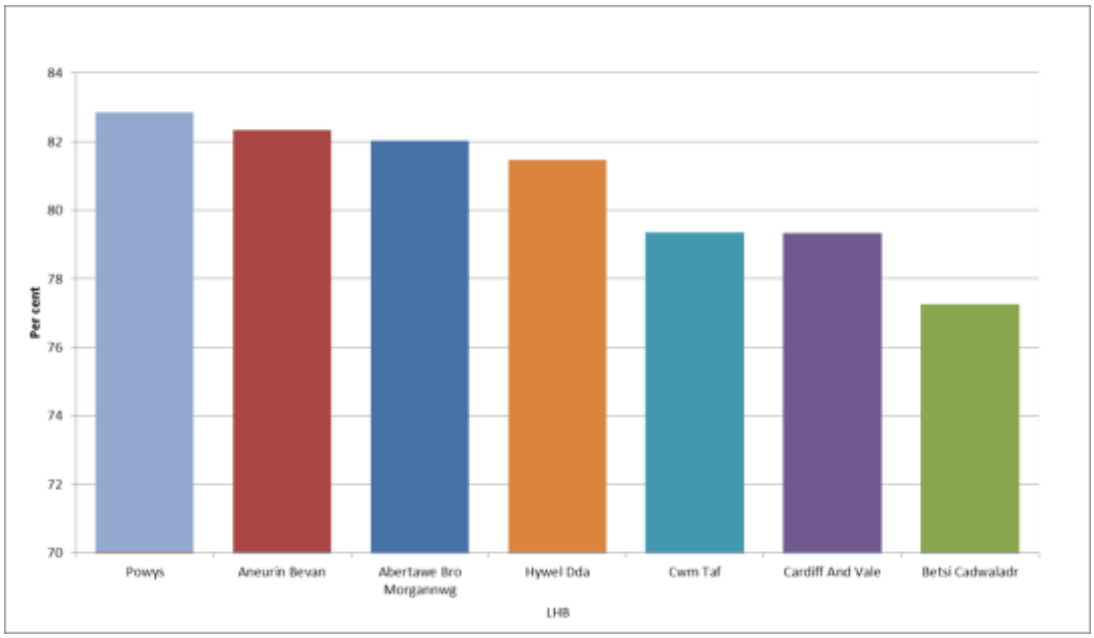
Source: Wales Audit Office Analysis of CASPA.net

Exhibit 30: Morphine items as a percentage of strong opioid items by GP Practice: March 2013 to May 2013



Source: Wales Audit Office analysis of CASPA.net

Exhibit 31: Top nine antibacterials as a percentage of antibacterial 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 32: Top nine antibacterials as a percentage of antibacterial items by GP practice: March 2013 to May 2013

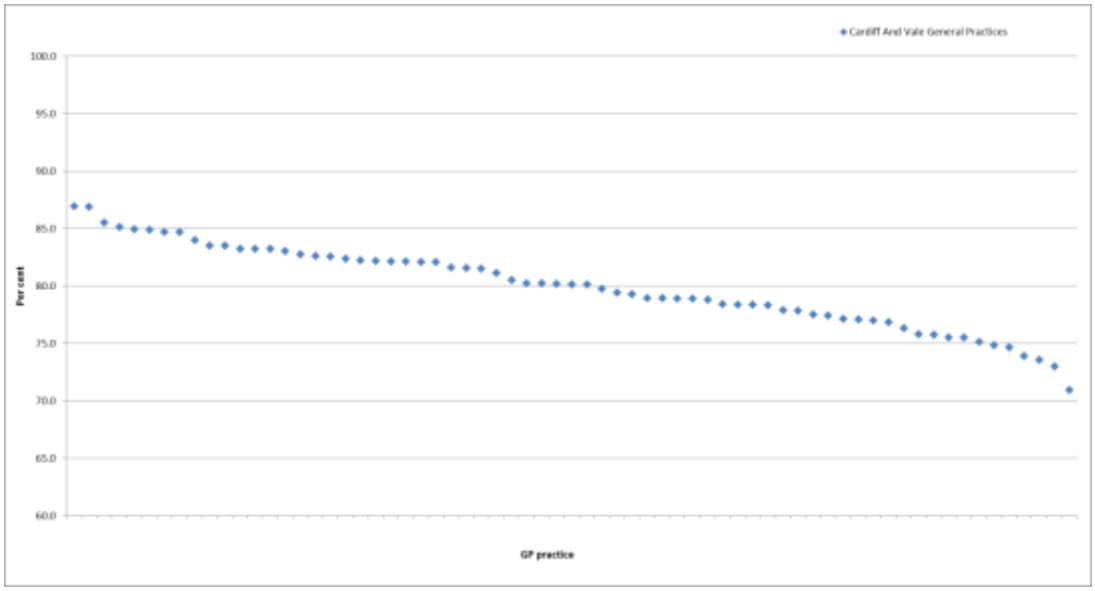
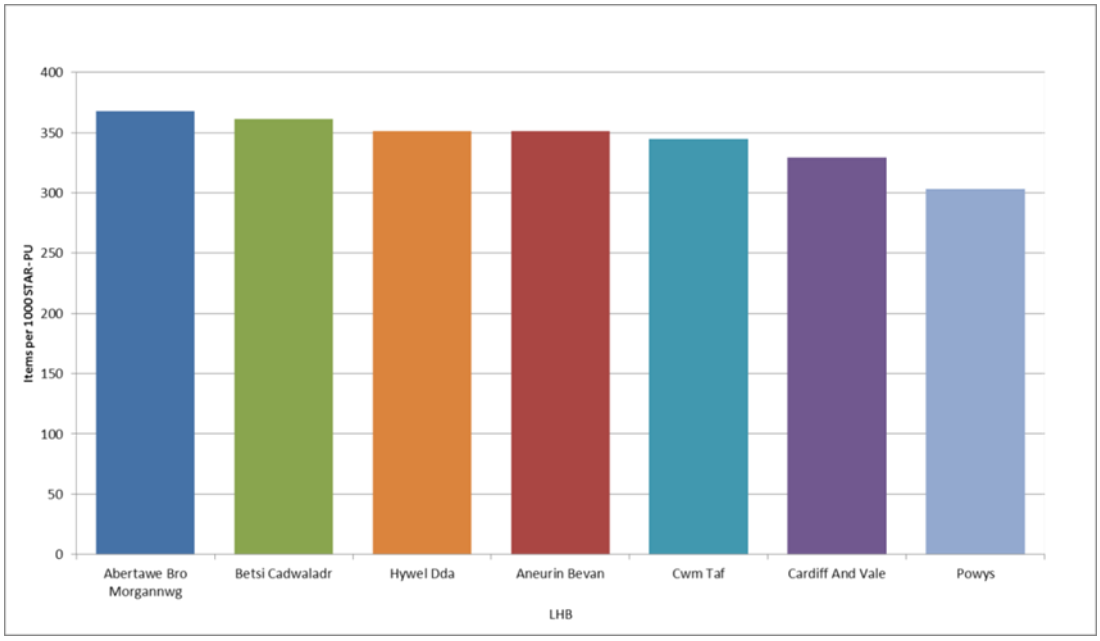


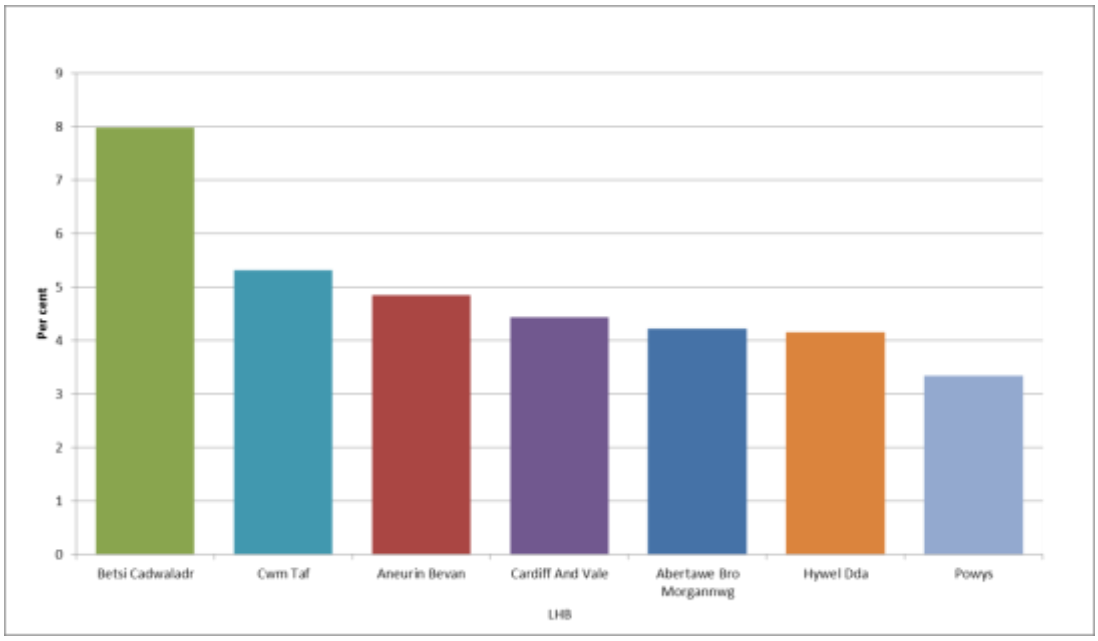
Exhibit 33: Antibacterial items per 1,000 STAR-PUs: March 2013 to May 2013



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

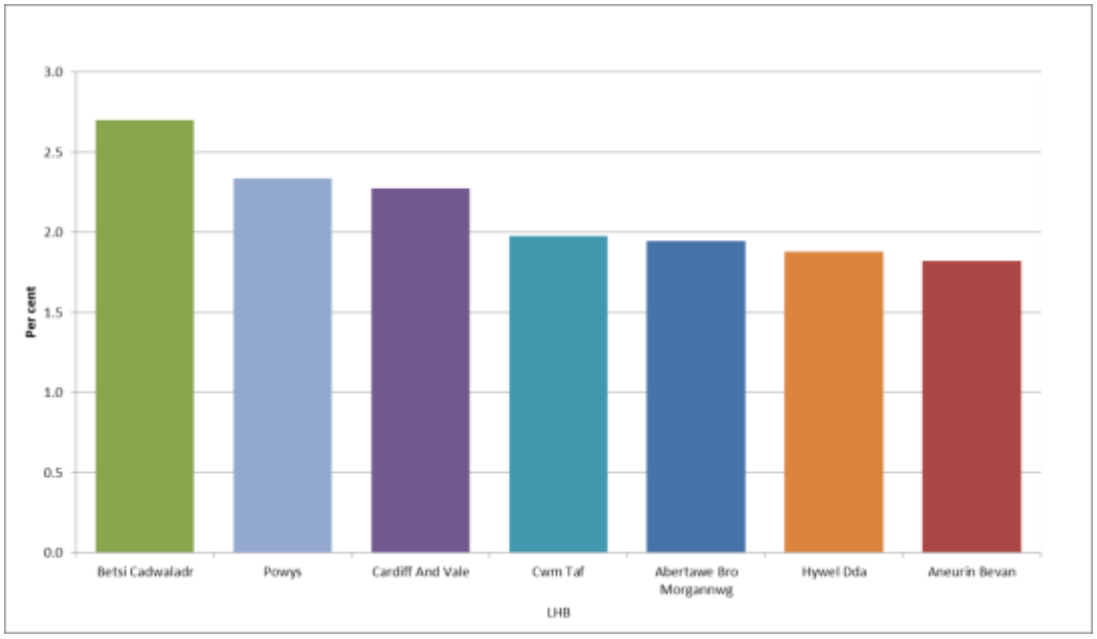
Exhibit 34: Cephalosporin items as a percentage of antibacterial items by health board



Better performance is: Lower

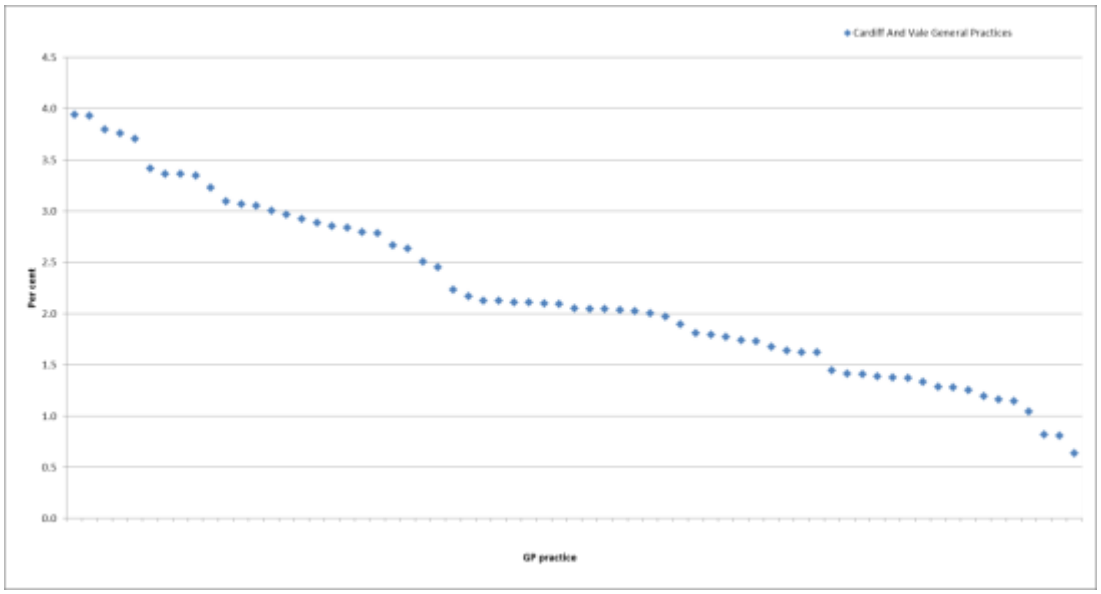
Source: CASPA.Net

Exhibit 35: Quinolone items as a percentage of antibacterial items by health board



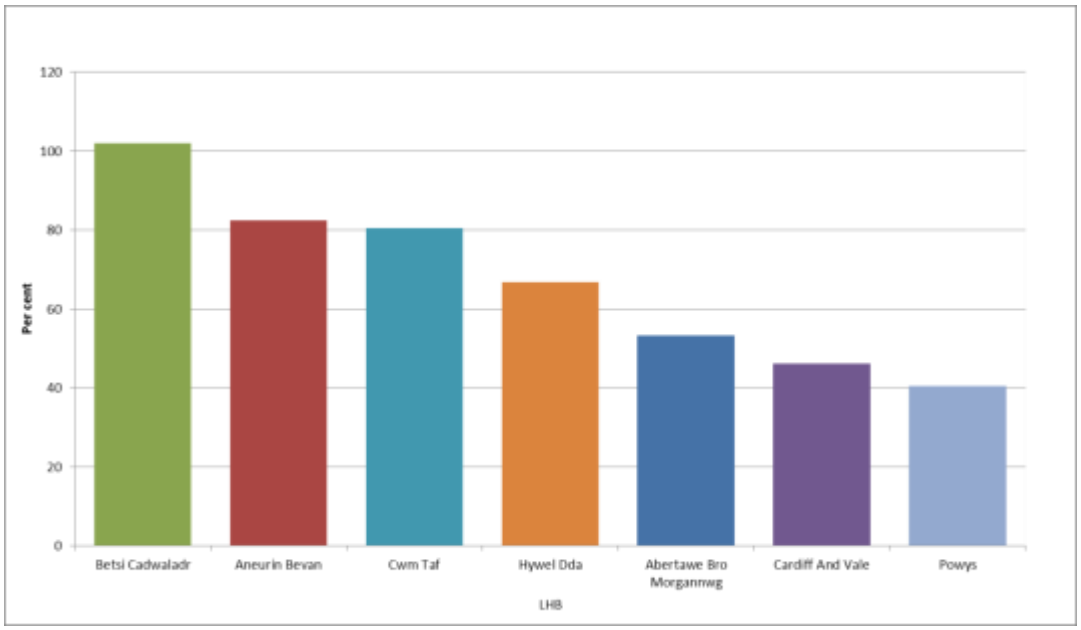
Source: CASPA.Net

Exhibit 36: Quinolone items as a percentage of antibacterial items by GP practice



Source: Wales Audit Office analysis of CASPA.net

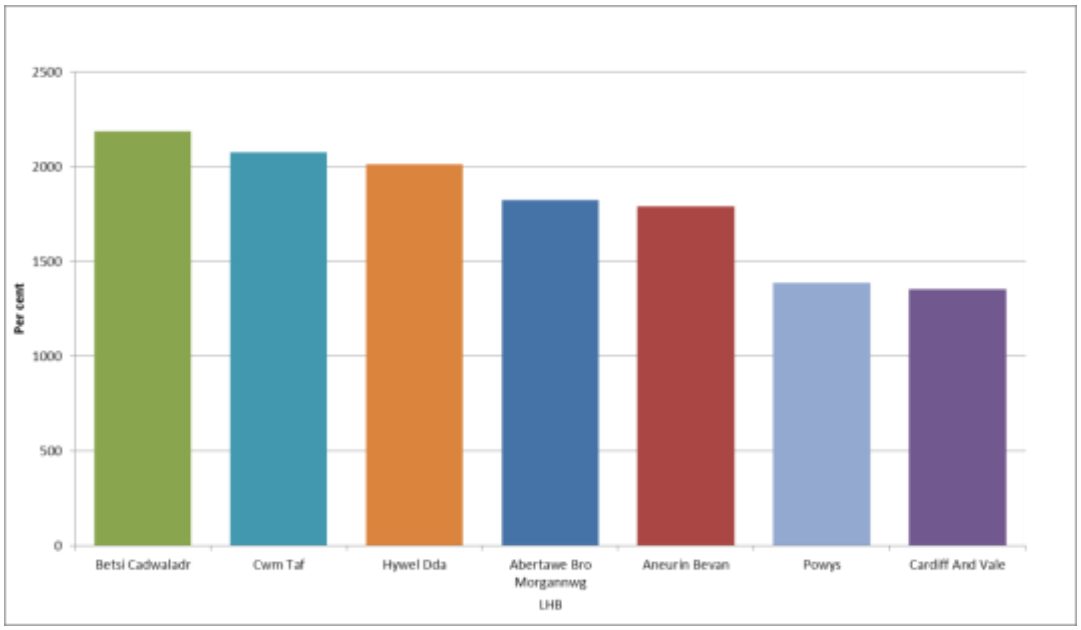
Exhibit 37: Dosulepin daily defined dosage (DDD) quantity per 1,000 PUs: March 2013 to May 2013



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 38: Hypnotics and anxiolytics daily defined dosage (DDD) quantity per 1,000 patients: March 2013 to May 2013



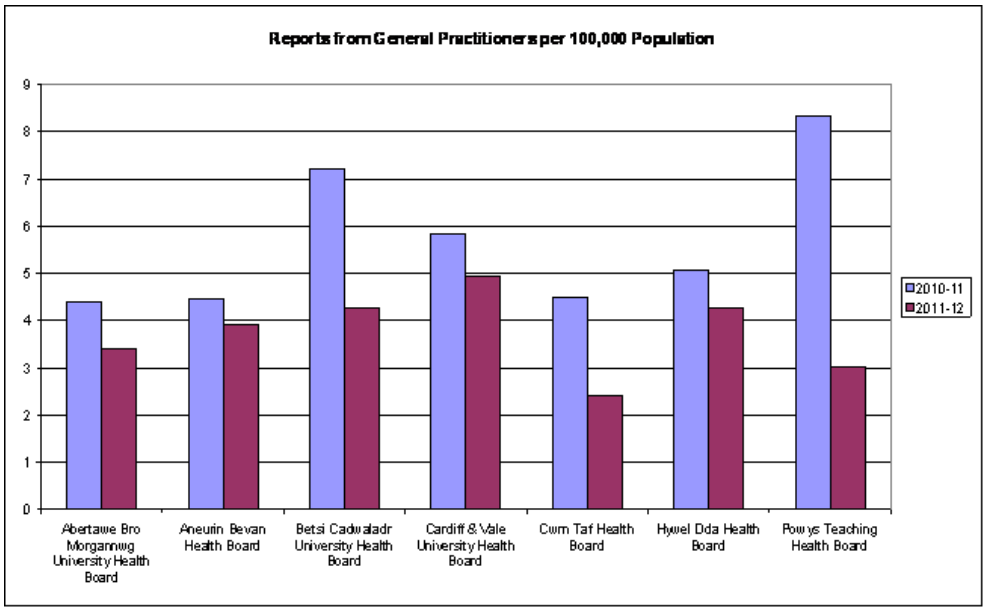
Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below

Source: Wales Audit Office analysis of CASPA.net

Appendix 4

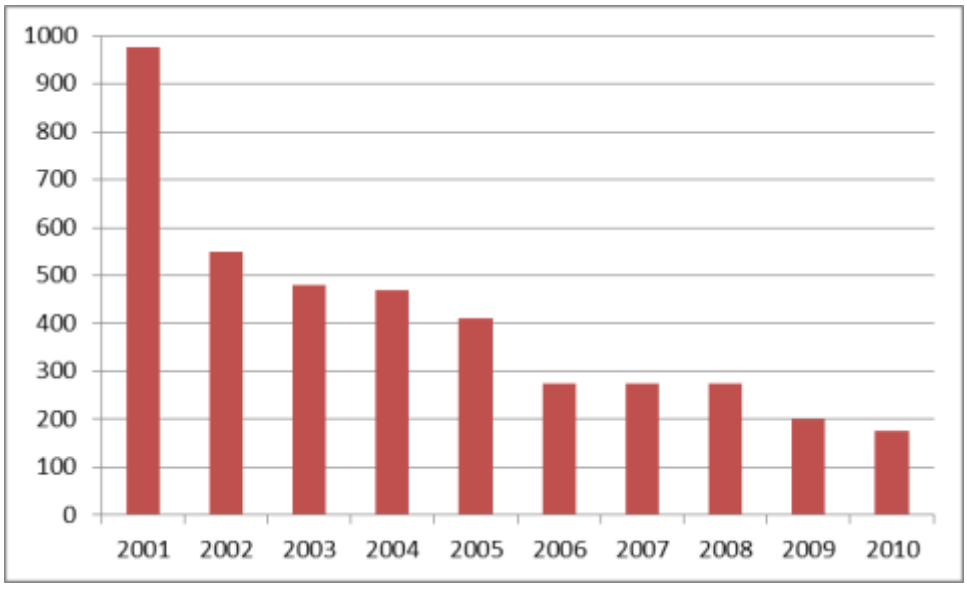
Reducing adverse drug reactions

Exhibit 39: Adverse drug reaction (ADR) reports per 100,000 population



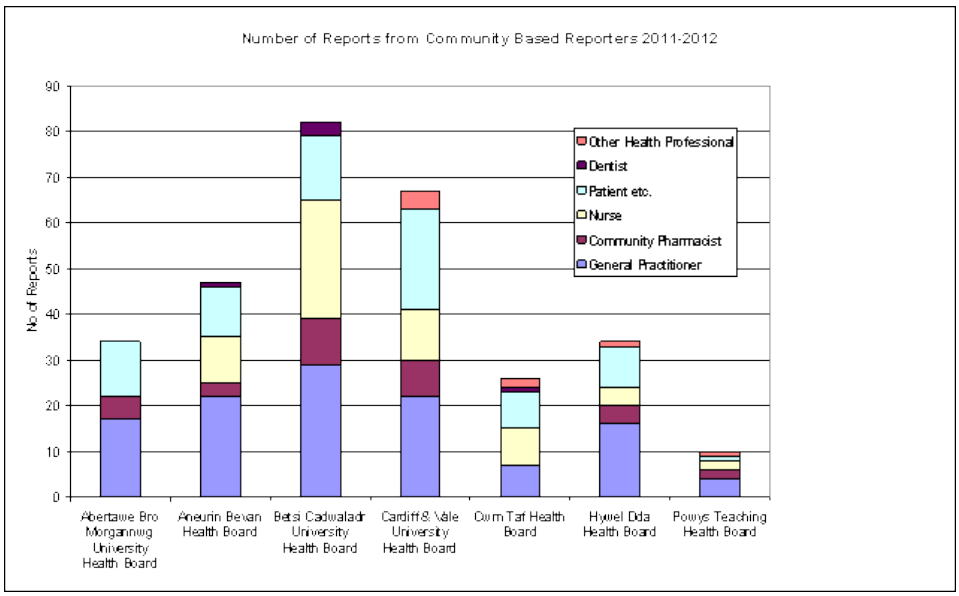
Source: Yellow Card Centre Wales

Exhibit 40: Decline in GP Yellow Card reporting across Wales



Source: Yellow Card Centre Wales

Exhibit 41: ADR report sources 2011-2012



Source: Yellow Card Centre Wales

Exhibit 42: Good practice for ADR prevention and reporting

Adverse drug reactions 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 patients and changes in treatment.

Exhibit 43: Potential cost of wasted drugs

Health Board	Potential wastage costs	Potential savings based on a 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 team diary exercise findings

Health boards have varying levels of primary care prescribing and medicines management 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 the quality and safety of primary care prescribing and to reduce 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 this audit the Wales Audit Office undertook an activity analysis of the Health Board's three locality-based 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 contract. 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 the exercise provides a snapshot of team activity.
Team members' activities may vary from week to week, and also because of other work cycles.

A summary of the analysis from this exercise, showing the findings by team role across four main categories of work, is given in Exhibit 47. Pharmacists and technicians spent around 50 per cent of their time working directly with practices, and those in senior roles worked almost entirely on health board activities. Subsequent discussions with staff suggest that some activities undertaken in the community and with the acute sector were recorded as health board activities. Although the diary exercise still provides a basis for health board discussions on how resources are best used. A detailed analysis of the findings by activity, across the four categories, is provided in Exhibit 47.

Exhibit 44: Analysis of percentage of activity by team role across the four main categories of work

Role	Health board activities (% time)	Working with GP practices (% time)	Working in the community (% time)	Working with secondary care (% time)
Admin Support Prescribing Team	100	0	0	0
Divisional Pharmacist (senior pharm)	100	0	0	0
Interim Locality Lead Pharmacist (senior pharm)	100	0	0	0
Medicines Management technician	91	9	0	0
Pharmacy Technician	54	46	0	0
Prescribing Advisor (one was a senior pharm)	45	53	0	2
Specialist Technician – Prescribing support	99	1	0	0
Total	**68**	**31**	**0**	**1**

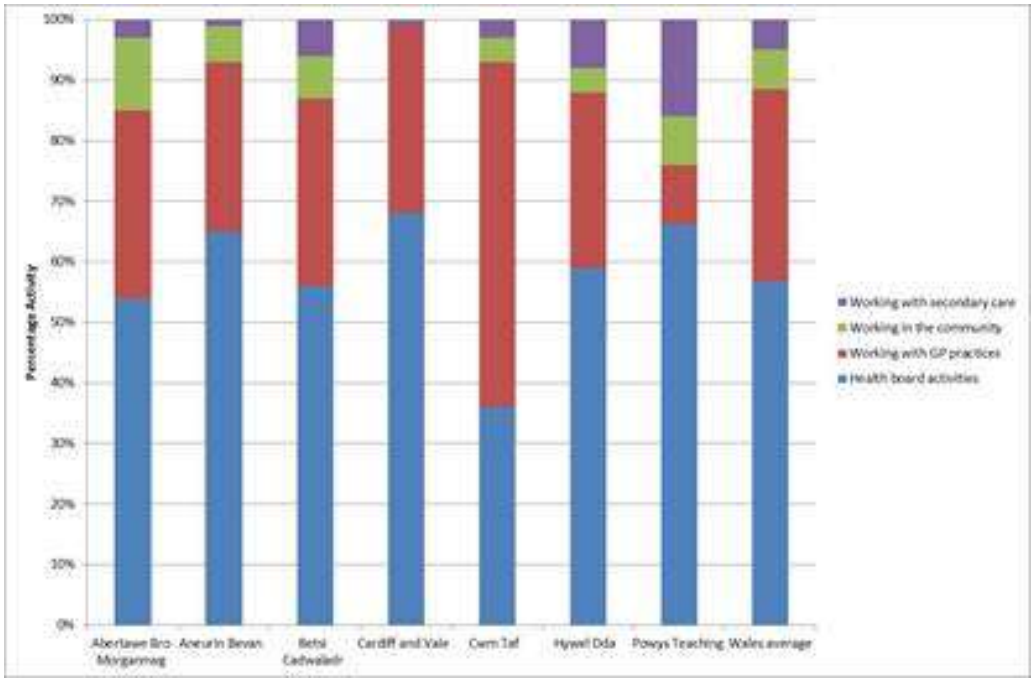
Wales Audit Office analysis of prescribing team activity diary exercise

The analysis found that, overall, the locality prescribing teams spend around 30 per cent of their time working directly with GP practices. The majority of their time is spent on health board activities in support of their direct work with practices. Only a very small amount of locality prescribing support team time is spent working with secondary care (around one per cent) according to the diary reports. During the period of the activity diary exercise the teams did not work on community-related activities.

There is clearly a need to address prescribing patterns in the community, in settings such as nursing homes. While GPs and community pharmacists may have a role too, it is nonetheless an area where prescribing adviser expertise can be deployed to good effect. There is also a substantial amount to be done to address issues at the prescribing interface between primary and secondary care, although again, prescribing teams are not the only resource that can be drawn upon. Secondary care pharmacists, specialist clinicians, community pharmacists and other clinicians in primary care, can all potentially provide types of prescribing support. Such changes require considerable work to bring about, and need to happen as part of longer-term service and workforce planning.

Exhibit 45 compares the findings from this exercise at each health board in Wales. They show that the proportion of time spent by the Health Board's primary care prescribing team on working directly with GP practices is broadly similar to the other health boards, with two exceptions. While the deployment of resources is comparable to other health boards it is not to say that the focus should not change or that resources cannot be used more effectively. In particular, our work suggests (see Section 3) that there is good reason to focus more activity directly with general practices to help improve the quality of prescribing and the economical use of some drugs.

Exhibit 45: Analysis of primary care prescribing team activity by health board

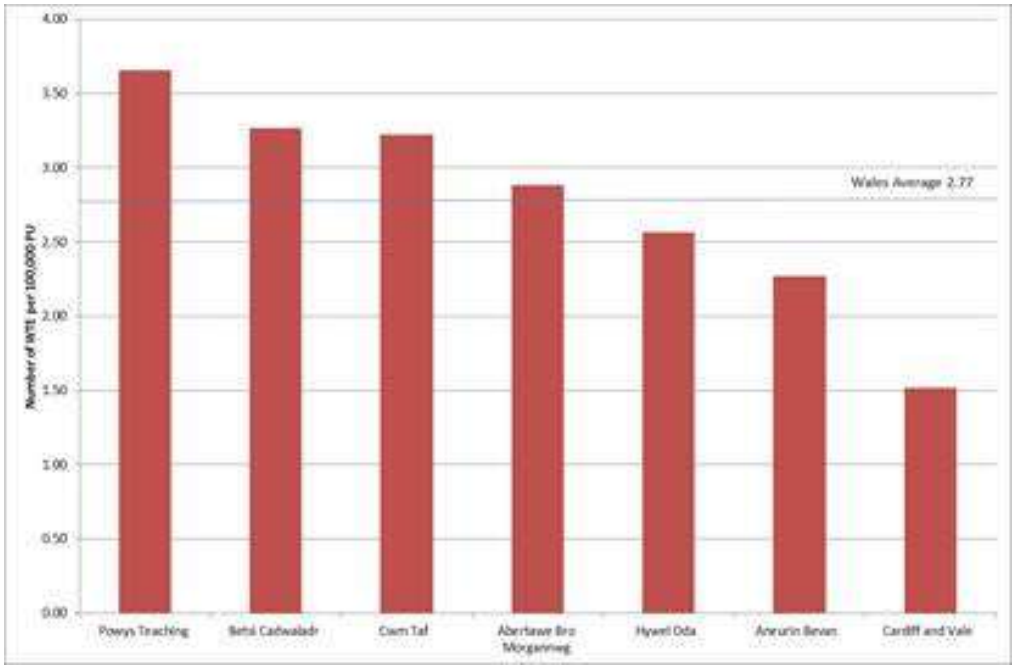


Source: Wales Audit Office – analysis of prescribing activity

The number of whole time equivalents deployed to support primary care prescribing (when population adjusted) shows the Health Board has the lowest average staffing levels in Wales (Exhibit 46), although this is not to say that the levels within the Health Board or across Wales are appropriate.

The Health Board should consider whether the current distribution of activities across the four main categories, and work on specific activities within categories, represents the best use of resources. Such consideration would be useful in the context of strategic planning for the medium to long-term direction of medicines management.

Exhibit 46: Total primary care medicines management staff whole-time equivalent by health board



Source: Wales Audit Office – analysis of prescribing activity

Exhibit 47: 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.	0.6%
Supporting/managing the development and maintenance of the Health Board formulary.	0.0%
Providing summaries of MHRA and NPSA warnings that affect medicines for medical and nursing staff (including audit activity to identify compliance with guidance).	0.0%
Development of tools to support the management of prescribing.	1.2%
Development of Medicines Management Local Enhanced Services.	0.0%
Support and audit relating to the GP contract QoF and Medicines Management Local Enhanced Services.	0.3%

Activity profile	Percentage time
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 patients' 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.	0.0%
Domiciliary visits for medication review for house-bound patients.	0.0%
Managing controlled drugs, for example: • controlled drug monitoring; and • witnessing destruction of controlled drugs.	3.6%
Production of newsletters and information for patients/healthcare professionals.	1.9%
Preparation and analysis of CASPA data.	4.4%
Analysing financial information.	1.6%
Horizon scanning.	0.3%
Online script views.	0.5%
Medicines information enquiries by GPs, nurses, community pharmacists, patients, locality colleagues, practice staff, MPs/FOI requests.	3.4%
Attending meetings eg, prescribing team meetings, DTC, Health Board primary care support unit, clinical governance, incident reporting, Dispensing Services, locality meetings, council meetings, etc.	9%
Clinical governance related work.	0.9%
Risk assessment work.	0.0%
Training/Continuing professional development.	2.8%
Managing staff.	1.9%
Travelling time.	3.9%
Administrative tasks	7.0%
Dealing with ADRs.	0.0%
Other…	20.3%

Activity profile	Percentage time
Working with GP practices	
Reviewing and supporting the management of practices' prescribing budgets (including interrogation of prescribing data, CASPA).	2.6%
Training and advising practice staff on: • local and national guidelines (NICE, NSF, MMG decisions); and • repeat prescribing systems – improving safety and reducing waste.	0.5%
Supporting and undertaking clinical audit to identify compliance with guidance.	1.8%
Supporting practices to manage drug withdrawals and discontinuations of benzodiazepines.	0.0%
Promoting cost effective prescribing by utilising medication changes eg, switches or lower cost equivalent identified under LES 2012-13.	22.3%
Providing independent advice on the prescribing of novel medicines and sharing prescribing guidelines within the practice.	0.0%
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 harmonise quantities so that all medicines fall due at the same time; and • compliance with Health Board Medication Review standards.	0.5%
Promoting and supporting practices to undertake any Health Board/Welsh Government initiatives, eg, 1,000 Patient Lives Campaign.	0.0%
Supporting practices about interface prescribing issues.	0.7%
Supporting the implementation or management of ScriptSwitch.	0.9%
Training and advising dispensing staff in prescribing practices in completing and reviewing SOPs.	0.4%
Other…	1.6%
Working in the community	
Supporting medication reviews: • within local care homes; and • for housebound patients.	0.0%
Providing support to community staff eg, community nurses, district nurses, health visitors, case managers, on medicines management queries.	0.0%
Attending multidisciplinary team meetings within the locality.	0.0%
Meetings with community pharmacists and other healthcare professionals.	0.0%

Activity profile	Percentage time
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.	0.0%
Providing training for social services staff.	0.0%
Other – Medicine Use Review activity.	0.0%
Other – Development/support work relating to community pharmacists.	0.0%
Working with secondary care	
Organising a supply of a hospital-only drug eg, acitretin, dronaderone, clozapine susp, mercaptopurine, daptomycin injection, etc.	0.0%
Answering queries from GPs regarding a TTO or an OPD letter – please also indicate who you liaised with eg, consultant, specialist nurse, pharmacist, secretary.	0.1%
Promoting and supporting Health Board/Welsh Government initiatives eg, 1,000 Patient Lives Campaign.	0.0%
Supporting the safe transcription of medication from hospital: • discharge letters; and • targeting specific problem issues.	0.2%
Developing shared care protocols.	0.8%
Managing compliance with shared care protocols and RAG system.	0.1%

Appendix 7

European Centre for Disease Prevention and Control (ECDC) 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 a 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 the prescribing of 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 to 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 on 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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