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Primary Care Prescribing

Aneurin Bevan Health Board

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The team who delivered the work comprised Philip Jones and Deirdre Dwyer.

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Summary report

Introduction

1. The prescribing of drugs is the most common form of treatment 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 per population head in 2012 (£196) is higher than England (£169) and Scotland (£168). In addition, the number of items prescribed for each person is the highest in the UK at 24 items which has increased from 15 in 2002.

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

3. Aneurin Bevan Health Board (the Health Board) covers a mixed rural and urban part of South Wales. It delivers acute, community and mental health services to a catchment population of 600,000 people. It has organised its services into six divisions, two Scheduled Care and Unscheduled Care, Mental Health, Family and Therapies, Community Services, and Primary Care and Networks. This structure is in line with the Health Board's vision noted in the 2012/13 Annual Plan – to integrate and connect community and secondary care services more closely.

4. The Divisional Director of Primary Care and Networks is the accountable officer for Medicines Management services, those services being part of that division. The Clinical Director of Pharmacy is also accountable and responsible for pharmacy services and medicines management across all sectors of the Health Board. The annual expenditure on drugs in primary care was forecast to be in the region of £104 million for 2012-13, compared to £108 million for 2011-12.

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 within primary care.

Our main findings

7. Our main conclusion is that the Health Board is heavily focussed on short-term cost savings in primary care prescribing, and while it has integrated primary care prescribing resources, has exceeded its savings targets and performs well on a number of national performance indicators, it lacks a clear long-term prescribing strategy to sustain improvement over time.

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

Strategic planning arrangements
There is no long-term primary care prescribing strategy in place and up to recently plans for primary care prescribing focus heavily on short-term cost savings without taking the longer view. • **Setting the strategic direction:** in the past plans focused heavily on short-term cost savings in the year ahead, and on issues that need to be addressed immediately. This limited the primary care prescribing and medicines management teams' scope to work towards more sustainable improvements, including delivering longer-term corporate objectives. This approach is now changing and three long term plans have been identified based on the two highest areas of prescribing and the need to focus on the review of medicines. • **Use of evidence supporting strategy development:** The content of the primary care SIPP for 2012/13 identifies that priorities are based on national and local priorities as well as local intelligence. The primary care prescribing and medicines management team work plans are focused on ensuring appropriate use of particular drugs, following NICE and AWMSG guidance, and delivering the Health Board's 1000 Lives programme. • **Financial analysis used to support strategy development:** Prescribing expenditure and usage is monitored on a monthly basis by the finance team. The medicines management team sets the focus and priority areas and working closely with the finance team examines any trends to help focus their activity. • **Monitoring outcomes, delivery and performance:** the current medicines management monitoring arrangements are focused on achieving in year savings and much more needs to be done to develop broader outcome measures within a longer-term strategic framework. • **Stakeholder and patient engagement:** there is little evidence of stakeholder and patient engagement in developing the future direction of these services.

Structures, resources and managing the interface with secondary care

The Health Board has effective arrangements in place to support and develop primary care prescribing these include its medicines management committee and long standing formulary, however while existing interface management arrangements are working GPs have highlighted the scope to improve the quality of discharge letters to support more effective medicines management

- **Management arrangements:** The move to a single division for Primary Care and Networks has provided a basis for the Health Board to be able to manage its primary care prescribing costs more efficiently. While the overall medicines management organisational structure between primary and secondary care can lack clarity at times this has not affected staff management or service delivery performance.
- **Prescribing support to primary care:** The five locality primary care prescribing and medicines management teams have become increasingly integrated on a day-to-day basis and work well together. They are led by three senior locality pharmacists, each of whom has an additional cross-cutting responsibility, which reinforces an integrated approach. These arrangements have been further strengthened through the establishment of the Prescribing Support Unit, led by the senior locality pharmacist responsible for prescribing support, and providing an analytical resource across the Health Board.
- **Health Board formulary:** An online formulary was introduced in early 2012 replacing previous pdf version. While the pdf version was regularly updated the online version is more readily available and accessible to prescribers and the public.
- **Medicines and Therapeutics Committee (MTC):** A new MTC was established in 2012, replacing the Gwent joint primary and secondary care committee which had been in place since 2004. Membership of the current Committee, reflects an appropriate balance of stakeholders and the appraisal process for new drugs is clearly set out and decisions are well communicated.
- **Interface working:** Currently the Health Board has 24 shared care protocols reflecting current prescribing practice. These protocols meet accepted good practice and are readily available online clearly identifying prescribing responsibilities.

Delivering safe, effective and economical prescribing

The Health Board exceeded its 2012-13 plans to reduce expenditure on drugs in primary care and is one of the better performers on a number of national performance indicators, although there is still scope to improve the quality of prescribing and the economical use of some drugs.

- **Budget setting and financial performance:** The Health Board's primary care drugs forecast spend for 2012/13 was estimated to be £104 million, compared to £107 million for 2011/12. Overall medicines management savings for the year exceeded the target, contributed to by lower growth in the use of Dabigatran in primary care and appropriate prescribing of Atorvastatin.
- **Financial monitoring:** Monthly meetings take place between the finance business partners and the Heads of Prescribing and Medicines Management, to review the most recent performance and activity information. These meetings are used to help identify where additional focus is needed.

Delivering safe, effective and economical prescribing

- **Overall expenditure on primary care prescribing:** Health Board expenditure is above average in most areas (Appendix 2). For example, it has the highest spend and quantity prescribed of gastro intestinal drugs of all health boards. While this position, and other similar ones, may be justifiable, the reasons for the expenditure need to be understood as they present potential areas for improved prescribing and for further targeting of prescribing support activity.
- **Indicators of effective prescribing**
- We have estimated that by improving performance there is the potential to secure up to £1.96 million in savings without affecting patient care.
- The Health Board has the potential to improve generic prescribing which could secure around £600K in savings.
- While the Health Board has successfully reduced the volume of SIP feeds prescribed there could be opportunities to reduce the spend per item.
- The volume of antimicrobial dressings prescribed by GPs, as a proportion of all dressings, is relatively low because the Health Board has had a well-established formulary in place for some time for these dressings to support rationale prescribing.
- The Health Board spends £500,000 on incontinence appliances (20 per cent of expenditure in Wales), which suggests that there is potential to further improve the management of local continence services by working with specialists as part of a long term approach to rationale prescribing in this area.
- **National prescribing indicators**
- Health Board performance with national prescribing indicators is variable.
- In examining current performance against the 2012 Proton Pump Inhibitor (PPI) indicator the Health Board has one of the lowest prescribing rates of low acquisition cost PPI in Wales, revisiting the use of PPIs and esomeprazole could improve effective prescribing and has the potential to realise up to £350,000 in savings.
- The Health Board has one of the best prescribing rates for top nine antibacterial prescribing in Wales, but prescribes the fourth highest number of all antibacterial drugs across Wales suggesting there is more scope improving rational prescribing in this areas.
- GPs in the Health Board area are using more cephalophorin antibacterials than in other health board areas which is a quality issue and increases the risk of antibiotic resistance developing when the health board is already experiencing one of the comparatively higher levels of C. difficile in Wales.
- The Health Board's prescribing of dosulepin is currently the third highest in Wales this is recognised by the Health Board and as part of the CEPP GP practices are being targeted where there is potential to improve prescribing.
- The Health Board has a lower prescribing rate for hypnotics and anxiolytics than most other health boards which is good practice reflecting the work undertaken by GPs and the medicine management team and maintaining and improving this performance should feature in the Health Board's future medicines management strategy.
- **Adverse drug reaction reporting:** reporting has continued to fall and there is little evidence within the health Board's current approach that this performance will be reversed.
- **Drug wastage:** the Health Board is targeting drugs waste through various initiatives, although its relative success to date is unclear because monitoring, analysis and reporting are not well developed.

Recommendations

Strategic Planning Arrangements

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

- a medium to long-term vision and objectives for service provision;
- the direction for the further integration of prescribing and medicines management services;
- links to wider Health Board strategic objectives;
- links to national policies and initiatives such as 1000 Lives, and national service frameworks; and
- more effective ways to engage community pharmacists in Medicines Use Review schemes and minimising the level of wasted drugs.

R2 Establish clear prescribing and medicines management plans for the interface between secondary and primary care to:

- reinforce mechanisms to support GPs in their responses to secondary care recommendations, including robust challenge of secondary care clinicians;
- raise awareness amongst secondary care clinicians of the potential cost and wider impact of their prescribing recommendations on primary care;
- ensure ongoing routine monitoring and, where appropriate, robust challenge of, prescribing recommendations across the interface;
- improve the quality of discharge communications;
- ensure that prescribing and medicines management issues are included from the outset in service redesign initiatives, the development of care pathways, and other similar opportunities; and
- identify and pursue opportunities for medicines management staff, and clinicians more generally, to work across the interface to help reinforce effective prescribing and medicines management between secondary and primary care.

R3 Ensure that longer-term objectives are clearly prioritised within annual work programmes.

R4 Ensure that medium to long-term service strategy development reflects information on deprivation, health needs and public health issues.

R5 Identify and utilise capacity and capability for health economic analysis to underpin planning arrangements.

R6 Ensure that operational work plans prioritise the use of drugs which are currently generic.

R7 Ensure that meaningful patient and stakeholder engagement is an integral part of work to develop services.

R8 Ensure that the Board is periodically sighted of primary care prescribing performance indicators and other monitoring information.

Structures, resources and managing the interface with secondary care

R9 Clarify the respective responsibility and accountability of the Clinical Director for Pharmacy and the Divisional Director of Primary Care for primary care prescribing and medicines management staff.

R10 Ensure that prescribing support resources are used to best effect by:

- increasing the proportion of work taking place directly with individual prescribers and general practices;
- setting clear short and longer-term objectives for the work of prescribing support staff; and
- organise the activities of primary care prescribing and medicines management teams in such a way that they have capacity to undertake the most appropriate influencing techniques such as direct contact sessions with GPs.

R11 Strengthen the role of GP clinical directors in influencing their local colleagues on prescribing issues.

R12 Ensure that sufficient resources are available to:

- keep formulary information up-to-date; and
- monitor compliance with the formulary.

R13 Strengthen current arrangements for the MTC by developing a forward work programme for the year.

R14 Reinforce efforts to change prescribing behaviours amongst specialist clinicians.

Delivering safe, effective and economical prescribing

R15 Address each of the specific opportunities highlighted in this report to improve the quality, safety and economy of primary care prescribing.

R16 Review the reasons for the significant variation in GP prescribing of gastro intestinal drugs, to help focus efforts to improve the quality and economy of this prescribing.

R17 Develop an approach to improve adverse drug reaction reporting as part of the development of primary care prescribing strategy.

Detailed report

Strategic planning arrangements

9. There is no long-term primary care prescribing strategy in place and up to recently plans for primary care prescribing focus heavily on short-term cost savings without taking the longer view.

- **Setting the strategic direction:** In the past plans focused heavily on short-term cost savings in the year ahead, and on issues that need to be addressed immediately. This limited the primary care prescribing and medicines management teams' scope to work towards more sustainable improvements, including delivering longer-term corporate objectives. This approach is now changing and three long term plans have been identified based on the two highest areas of prescribing and the need to focus on the review of medicines.
- **Use of evidence supporting strategy development:** The content of the primary care SIPP for 2012/13 identifies that priorities are based on national and local priorities as well as local intelligence. The primary care prescribing and medicines management team work plans are focused on ensuring appropriate use of particular drugs, following NICE and AWMSG guidance, and delivering the Health Board's 1000 Lives programme.
- **Financial analysis used to support strategy development:** Prescribing expenditure and usage is monitored on a monthly basis by the finance team. The medicines management team sets the focus and priority areas and working closely with the finance team examines any trends to help focus their activity.
- **Monitoring outcomes, delivery and performance:** The current medicines management monitoring arrangements are focused on achieving in year savings and much more needs to be done to develop broader outcome measures within a longer-term strategic framework.

10. **Stakeholder and patient engagement:** There is little evidence of stakeholder and patient engagement in developing the future direction of these services. The following table summarises the findings supporting the conclusion.

Setting the strategic direction		
Expected practice	***In place?***	***Further information***
The LHB has an up-to-date to prescribing strategy covering a defined period of time (for example, three to five years), and associated delivery plans to support achievement of its strategic aims with prioritised actions.	✓/✗	Medicines Management was one of five work streams established by the Health Board in 2011/12 to help deliver the Health Board Financial Plan that year. It remains an area in which there is a high expectation of cost improvement. The service has an annual planning process that sets out the broad activities for the year. The emphasis is on improvement against prescribing indicators by targeting practices with the greatest potential for savings, and

Setting the strategic direction		
Expected practice	***In place?***	***Further information***
		reducing prescribing variation amongst the highest and lowest prescribing practices. Although there is no detailed medium to long term strategy is in place the Health Board has made good progress in developing three long term plans based on the two highest areas of prescribing (Diabetes and Respiratory) and the need to focus on the review of medicines (polypharmacy). The prescribing management team feel medicines management and medicines optimisation is embedding in wider service modernisation plans and now clearly features on the diabetes and respiratory plan and work streams. The Health Board recognises that many of the primary care prescribing quality and savings gains have been made and there needs to be an increasing focus on longer term sustained approaches if further improvements are to be delivered. If these improvements are to be delivered a long term medicines management strategy will need to be developed which identifies new priorities areas linked to local health improvement objectives which in turn should feed through into workforce development and deployment plans and operational delivery plans for the medicines management team.
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.	✓/✗	There has been organisational change to ensure that there is a more integrated approach to prescribing and medicines management across localities, although there is no clear integrated strategic approach across primary and secondary care. Some of the foundations for such an approach have been developed. For example, a joint formulary and shared care protocols are all readily available to prescribers online.
The strategic approach should link to the Health Board's other strategic aims, for example, its Public Health Strategy.	✓/✗	The work of the primary care prescribing and medicines management teams contributes to a number of initiatives set out in the Health Board's Service Delivery Plan and Public Health goals for 2012/13, particularly in relation to improving health outcomes, reducing health inequalities, and moving services into the community. Better medicines

Setting the strategic direction		
Expected practice	***In place?***	***Further information***
		management is a specific area of focus in the Health Board's Annual Plan for 2012/13. However, the lack of a longer-term prescribing strategy which integrates with these public health goals may hinder or prevent the realisation of these objectives.
Planning arrangements address service redesign, including workforce developments and training.	✓/✗	The Health Board is willing to take actions that have longer-term impact on quality and savings. For example, the appointment of several dieticians to 'invest to save' posts, has improved dietary advice to care homes and reduced prescribing levels of supplementary feeds. The scheme resulted in savings of £220,000 in 2011/12 with carry forward savings of £236,000 for the 2012/13 plan. However, wider plans for service redesign lack focus in the absence of a long-term strategic view for the service.
Planning arrangements address effective use of community pharmacy contract to deliver national and local priorities for example local enhanced services.	✓/✗	The primary care prescribing and medicines management teams have been highly instrumental in driving forward engagement with community pharmacists, particularly on the development and implementation of Local Enhanced Services. There is an annual self-assessment process in which all community pharmacists take part, and each one is visited once every three years. This development process is a significant undertaking. Technicians have contributed significantly to the professional visits, and this is seen as a positive extension of their role. Uptake of the Local Enhanced Service scheme for community pharmacists varies across the localities, although this is improving. The Health Board has appointed a member of staff in the Primary Care and Networks Division to provide a focus for, and carry out work in relation to, the Community Pharmacy Contract. The intention is to reduce the burden of the primary care prescribing and medicines management teams, by shifting responsibility for the development of service level agreements and standard operating procedures. Each locality has designated local community pharmacy lead which is a generic post working across ABUHB and

Setting the strategic direction		
Expected practice	***In place?***	***Further information***
		takes advantage of local knowledge and professional aspects of the contract.
The strategy addresses the reduction of waste for example through promoting practice medicine reviews, repeat prescription management and working with community pharmacists.	✓/✗	The Health Board is taking part in a joint campaign with other health boards to raise patient and public awareness of the considerable waste that occurs with prescribed medicines, alongside initiatives in primary care to improve medicines management and prevent patterns of prescribing that increase waste. A more detailed review of the Health Board's approach is discussed in Section 3 of this report.

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.	✓/✗	The primary care SIPP for 2012/13 suggests that priorities are based on national and local priorities as well as local intelligence. There is general acknowledgement that it is not always easy to influence GPs and patients to change their prescribing behaviour. The primary care prescribing and medicines management teams focus on trying to achieve regular visits to practices to gain agreement. However, a more concerted approach to identifying other options could also help achieve better results in the long-term. For example, specific training and development opportunities for GPs and other groups; using the influence of neighbourhood GP leads; facilitating open sharing of practice prescribing performance data amongst groups of GPs.
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.	✓	The work plan is focused on the reduction in use of certain drugs, NICE and AWMSG guidance is referenced throughout.
Strategy development aligns with 1000 lives and national service	✓	The Health Board is active in promoting 1000 lives and the medicines management

Use of evidence supporting strategy development		
Expected practice	*In place?*	*Further information*
frameworks (NSF guidance).		approach and initiatives align with this programme. In particular, the medicines management team has undertaken a significant amount of work on warfarin management and NSAID use.
The strategy has been prepared with input from key stakeholders such as GPs, hospital consultants and patient representatives.	✓	Workshops are used to assist the development of annual work plans, and partners such as secondary care consultants and patient groups are invited to participate. This type of engagement needs to be extended, as a key part of the development of a long-term prescribing strategy.

Financial analysis used to support strategy development		
Expected practice	In place?	Further information
Strategy development includes a financial analysis and is based on the following:	✓	Prescribing expenditure and usage is monitored on a monthly basis by the finance team, which works closely with the primary care prescribing and medicines management teams to examine any trends, including usage by month over a period of years. This information is held on a shared drive, making it accessible to all members of the teams. However, there is recognition of the need for more robust health economic analysis to underpin governance arrangements and identification of the capacity and capabilities necessary to carry out that work.
Generic prescribing and the use of branded drugs;	✓/✗	The primary care prescribing and medicines management teams have been encouraging GPs to use generic drugs for some years. However, while this work continues to some extent, the focus of the teams is shifting to other areas of prescribing practice, in part because many GPs are seen to be using generic drugs in most situations. However, our analysis of generic prescribing rates (see Section 3, below) shows that opportunities still exist for improvement. Achieving further improvement in this area may require a strategic refocusing of the use of Medicines Management resources.

Financial analysis used to support strategy development		
Expected practice	In place?	Further information
Contingency arrangements for unplanned developments.	✓/✗	The current financial planning arrangements do not explicitly set out contingency arrangements for any unplanned developments, however the Health Board has a track record of managing new and emerging issues such as the H1N1 flu outbreak in 2009 within its existing planning and service delivery arrangements.

Monitoring outcomes delivery and performance		
Expected practice	*In place?*	*Further information*
There are clear strategic aims, outcomes and SMART objectives to measure performance.	✓	There are milestones attached to the reduction in use of specific drugs. The associated performance information is coded red, amber, or green. Green indicates that the savings expected will occur, with amber and red coding suggesting decreasing likelihood of the savings being achieved. Green targets are treated as the highest priority for the year. Progress is monitored by the finance team.
The framework for monitoring delivery includes reporting to the Board and appropriate committees.	✓	Formal reporting of prescribing performance against key performance indicators (KPIs) is through the Quality and Patient Safety Committee, although this has tended to be an ad hoc process. In November 2012 reporting arrangements were placed on a firmer footing, and the Committee received a comprehensive report on national prescribing indicators for the first time. Most regular reporting of performance and progress toward meeting performance milestones is through the Medicines Management Board, where there is representation from one non-executive director. Medicines management is a key element in the Board's Delivery and Change Programme. There is some potential for the Board to lose sight of prescribing performance. It should ensure that it does not.

Structures, resources and managing the interface with secondary care

11. The Health Board has effective arrangements in place to support and develop primary care prescribing these include its medicines management committee and long standing formulary, however while existing interface management arrangements are working GPs have highlighted the scope to improve the quality of discharge letters to support more effective medicines management.

- **Management arrangements:** The move to a single division for Primary Care and Networks has provided a basis for the Health Board to be able to manage its primary care prescribing costs more efficiently. While the overall medicines management organisational structure between primary and secondary care can lack clarity at times this has not affected staff management or service delivery performance.
- **Prescribing support to primary care:** The five locality primary care prescribing and medicines management teams have become increasingly integrated on a day-to-day basis and work well together. They are led by three senior locality pharmacists, each of whom has an additional cross-cutting responsibility, which reinforces an integrated approach. These arrangements have been further strengthened through the establishment of the Prescribing Support Unit, led by the senior locality pharmacist responsible for prescribing support, and providing an analytical resource across the Health Board.
- **Health Board formulary:** An online formulary was introduced in early 2012 replacing previous pdf versions. While the pdf version was regularly updated the online version is more readily available and accessible to prescribers and the public.
- **Medicines and Therapeutics Committee (MTC):** A new MTC was established in 2012, replacing the Gwent joint primary and secondary care committee which had been in place since 2004. Membership of the current Committee, reflects an appropriate balance of stakeholders and the appraisal process for new drugs is clearly set out and decisions are well communicated.

12. **Interface working:** Currently the Health Board has 24 shared care protocols reflecting current prescribing practice. These protocols meet accepted good practice and are readily available online clearly identifying prescribing responsibilities. The following table summarises our findings supporting the conclusions.

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.	✓	While the Clinical Director for Pharmacy has professional and managerial responsibility for the Primary Care Medicines Management Team, budgetary responsibility rests with the Divisional Director of Primary Care and Networks. The move to a single division for Primary Care and Networks was, in part, to strengthen locality accountability for prescribing costs and the need for the Health Board to be able to direct its resources more efficiently. The Divisional Director is responsible to the Chief Operating Officer who chairs the Medicines Management Programme Board (MMPB). The Pharmacy Clinical Director provides update reports to the MMPB on a monthly basis covering spend forecasts, saving plan performance and delivery of medicines management work streams. While the organisational structure can lack clarity there has been no impact on staff management and service delivery.

Prescribing support to primary care		
Expected practice	*In place?*	*Further information*
Primary care prescribing support and advice roles are clearly defined.	✓	There are three senior locality pharmacists for prescribing in primary care. Each one takes an area of cross-cutting responsibility, to help reinforce service integration, including: • prescribing support; • medicines governance; and • community and primary care services. Each of the five primary care prescribing and medicines management teams reports to a designated senior locality pharmacist. These arrangements work well. Staff appointed to the recently established Prescribing Support Unit (PSU), report to the senior locality pharmacist for prescribing support. They provide an analytical resource for primary care prescribing across the Health Board. While there has been a period of

Prescribing support to primary care		
Expected practice	*In place?*	*Further information*
		adjustment as staff have adapted to working flexibly across the Health Board, these arrangements work well. GPs consistently told us that they have very good working relationships with local pharmacists and technicians. They said that they value and generally respond to the suggestions and advice given.
Performance and compliance is monitored and prescribing team resources are directed towards priority and high impact areas.	✓	The primary care prescribing and medicines management teams carry out detailed analyses of information and use this to target interventions on practices where there is room for improvement, and also on prescribing outliers. In particular, the medicines management teams identify variation in prescribing for each GP practice using: • annual prescribing costs • cost per 1000PU • items per 1000PU • indicator scores. Following this analysis, targeted action planning has been taken place with all practices, with a particular focus on outliers. Technicians and pharmacists are each assigned to a number of practices. Technicians have responsibility for undertaking audits and searches, and support the pharmacists who provide advice and help to GPs on individual and practice prescribing. Pharmacists carry out an annual review and prepare a formal report for each practice. Changes in locality arrangements, following the establishment of the Health Board have increased the extent of integration of primary care prescribing support by enabling staff to work across localities when needed. The level of staff resources in four out of the five localities is broadly consistent. Caerphilly locality has historically had a higher level of staff resource, and this capacity is now used in other localities when appropriate. As Neighbourhood Community Networks mature, GP clinical directors should play an increasing role in influencing their local colleagues on prescribing issues. The comparative use of prescribing data between

Prescribing support to primary care		
Expected practice	*In place?*	*Further information*
		neighbourhood practices will be an important tool in this respect. We carried out a diary exercise of prescribing support activity in each board (Appendix 6). For the Health Board it has shown that: • less than 30 per cent of the work of locality prescribing primary care prescribing and medicines management teams is directly with GP practices; • the majority of prescribing advice time is spent on wider supporting activities; and • relatively little time is spent working with the wider community or with the acute sector. This suggests that there is an opportunity to consider how these resources could be used effectively, by focussing more time on working directly with practices and prescribers, in the community, and with secondary care. Consideration should be given, as part of medium to long-term strategic planning, to the need for more effective allocation and organisation of activities and responsibilities within and across the teams.
Supporting information systems are in place to support prescribing advice.	✓	The Health Board's MTC website makes a comprehensive range of information readily available online, including: • traffic light prescribing information; • formularies; • prescribing guidelines; • shared care protocols; • access to the Decline to Accept Prescribing Form; and • Yellow Card online reporting; and • agendas, minutes and papers associated with MTC meetings. The primary care prescribing and medicines management teams maintain a shared drive which holds information on the top fifty most common locally used drugs in primary care, to help target work on poorly performing practices. This includes details of the nature of practice spend on these drugs, and any increase or decrease in use. The information is updated monthly using data from HSW. Practices can also access the data for

Prescribing support to primary care		
Expected practice	*In place?*	*Further information*
		information. The primary care prescribing and medicines management teams also provide a quarterly update to practices, giving a comparative view across Wales. At the time of our review, the finance team indicated that they wanted to broaden data comparisons beyond Wales by using data from the North East of England. We provided a contact to assist them in taking that forward.

ABHB 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. This formulary should identify 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 adviser advice is obtained and the	✓	A joint formulary has been in place since 2003, based on a red/amber/green (RAG) system to indicate which drugs are considered suitable for specialist prescribing only, specialist-initiation only or suitable for initiation by all prescribers. An electronic online formulary, using the NHS Wales formulary management system (INFORM), was introduced in 2012 and is available to all prescribers. It is accessible via the MTC website. This is an important step forward in that it should help to overcome problems with the use of out-of-date hard copy versions of the formulary used by some prescribers.

ABHB formulary		
Expected practice	*In place?*	*Further information*
reasons for the prescribing are recorded.		
Formulary compliance is monitored and action taken when breaches are found.	✓/✗	RAG list compliance was last formally reviewed in 2010 and did not identify any particular pattern or trends. More recently, GPs have been able to use a 'decline to prescribe' form when they are concerned that secondary care clinicians are prescribing outside formulary parameters. The decline to prescribe forms are continually monitored and issues picked up and managed. There is now much better liaison with clinical directors through the divisional pharmacist. This is an effective arrangement and GPs feel empowered by this approach as it provides them with a mechanism to deal with their concerns quickly. However, there is also a view that it has not, always helped to change prescribing behaviour in secondary care as some GPs are still experiencing requests to prescribe outside of the formulary arrangements. The MTC, and the Clinical Director need to consider how to speed up change in this high risk area. They should also review whether there are sufficient resources at the interface to help ensure ongoing monitoring of the formulary.

ABHB Medicines and Therapeutics Committee (MTC)		
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 represents all the stakeholders including lay members.	✓	A new MTC was established in late 2012, replacing the single joint primary and secondary care committee that had previously existed since 2004. The terms of reference determine that, to maintain a balance between sectors, membership should include: • six clinician representatives from key areas of secondary care including Unscheduled Care, Scheduled Care and Family & Therapy Services; and • six clinician representatives from the

ABHB Medicines and Therapeutics Committee (MTC)		
Expected practice	*In place?*	*Further information*
		Primary Care/Networks Division, including Neighbourhood Care Network GP Lead and Prescribing Lead representation. The terms of reference also determine that the Chair can represent either primary or secondary care, but that the Vice Chair should always be from the other care sector. GP attendance and participation in this committee is good which suggests these arrangements are working well. There is one, non-voting, lay person representative from the Aneurin Bevan Community Health Council. Although the representative makes a highly valued contribution, the Committee should consider whether there is scope to increase patient representative participation.
The membership covers a wide range of specialties in terms of medical expertise.	✓	In addition to the above, a range of members across all key stakeholder areas is intended to help ensure effective representation, including: • a prescribing representative from the Community Division; • a prescribing representative from the Mental Health Division; • the Clinical Director of Pharmacy. • the Principal Pharmacist Interface/Formulary; • four ABHB Pharmacist members; • a representative from ABHB Finance; • one representative each from: – Public Health Wales – Gwent Local Medical Committee Ltd (Primary Care) – Community Pharmacy Wales (Primary Care); and • a representative non medical prescriber (from primary or secondary care). There was good participation by members at the session we observed.
The forward plan sets out a work programme for the year.	✓/✗	The broad scope of work of the MTC, is clearly set out in its terms of reference under five broad headings: • safety of medicines;

ABHB Medicines and Therapeutics Committee (MTC)		
Expected practice	*In place?*	*Further information*
		• cost-effectiveness and formulary development; • medicine and chronic conditions pathway development; • integration of primary and secondary care; and • education. The main items on the agenda of each meeting are grouped together under the following key headings: • items for information (with or without decision); • evidence appraisals (including formulary applications and non-formulary exceptional approvals); and • items for discussion (including standard operating procedures, local guidelines, NICE and AWMSG statutory guidance, drug safety). Currently, the Committee does not have a detailed forward work programme although a number of planned items are included in its annual report. A more defined work programme can have its place when addressing issues that cover the medium to long term for example changing secondary care prescribing behaviours and their influence on primary. The committee should periodically review the need for a more detailed work plan should strategic approaches change.
The MTC utilises the full range of information sources available to inform decision-making	✓	The MTC uses a wide range of data sources to inform its decision making. It is required to maintain close links with a range of committees and sub-groups to help inform its decision making. These include the: • ABHB Neighbourhood Care Networks; • Gwent Local Medical Committee; • ABHB Clinical Standards & Policy Group; • ABHB IPTR panel; • ABHB NICE Implementation and Consent Group; • ABHB's Antimicrobial Working Group; • ABHB Quality and Patient Safety Committee;

ABHB Medicines and Therapeutics Committee (MTC)		
Expected practice	*In place?*	*Further information*
		• Medical Gas Committee; and the • Local Intelligence Network, see network framework. It also acts as the initial referral point for medicines or prescribing issues arising from the Locality Prescribing Leads/Advisory Groups, and directorate groups e.g. the Mental Health Division's Medicines & Therapeutics Group.
The MTC has a robust, systematic and transparent process for decision-making as part of its overall governance framework.	✓	Clinicians expressing an interest are invited to present an application for the introduction of a new drug to the formulary, and for exceptional use of a drug outside of the formulary. All decision making is evidence-based and clear guidance is available on the MTC website to assist applicants in this process. After an applicant has made a presentation, MTC members vote in private as to whether or not they accept the evidence. This process works well and applicants are quickly informed of the outcome.
All prescribing decisions take into account the impact of loss leaders in secondary care on primary care.	✓	Consideration of the impact of loss leaders in secondary care on primary care prescribing is a consideration which staff said is one of the foundations of the local joint formulary.
The MTC decisions are communicated in a timely way.	✓	MTC decisions are quickly communicated through newsletters and in the minutes on the MTC website. The minutes of the MTC are submitted to the Quality and Patient Safety Committee and to a number of other Health Board committees, for information.

Interface working		
Expected practice	*In place?*	*Further information*

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. To facilitate this the Health Board has a policy or working protocols which ensures safe transfer of medicines and information across the primary care secondary care interface.	✓	There are 24 shared care protocols, each being for a specific drug. All are available online through the MTC website, making them readily available in one place to anyone who wishes to access them. Ten are enhanced service protocols, the majority of which are drugs used in the treatment of types of arthritis. Other share care protocols are for drugs used in the treatment of Attention Deficit/Hyperactivity Disorder, growth hormone deficiencies, Amylotrophic Leteral Sclerosis, Parkinson's Disease, cystic fibrosis. All include information about consultant and primary care responsibilities. Most follow a standard format, which clearly sets out for the user important information such as contraindications, dosage regimen, drug interactions, adverse drug reactions, baseline investigations and monitoring.
Timely discharge letters are sent to GPs, containing clear and relevant information to help support prescribing decisions in primary care These 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.	✓/✗	Even though electronic discharge arrangements have been introduced, GPs still expressed concern about the lack of prescribing information provided in discharge letters, the amount of time it takes for discharge letters to be received, and the lack of information for patients about the drugs they have been discharged with. Which suggests there is still scope to understand how effectively electronic discharge is working and where improvements are needed. Some GPs were also concerned about the continued number of requests for specialist prescribing of non-formulary drugs and 'red' traffic light drugs by consultants for continuation in primary care. The MTC should ensure that there is routine monitoring, and follow up as appropriate, of the prescribing of non-formulary and 'red' traffic light drugs to be continued in primary care.

Delivering safe, effective and economical prescribing

13. The Health Board exceeded its 2012-13 plans to reduce expenditure on drugs in primary care and is one of the better performers on a number of national performance indicators, although there is still scope to improve the quality of prescribing and the economical use of some drugs. We came to this conclusion because:

- **Budget setting and financial performance:** The Health Board's primary care drugs forecast spend for 2012/13 was estimated to be £104 million, compared to £107 million for 2011/12. Overall medicines management savings for the year exceeded the target, contributed to by lower growth in the use of Dabigatran in primary care and appropriate prescribing of Atorvastatin.
- **Financial monitoring:** Monthly meetings take place between the finance business partners and the Heads of Prescribing and Medicines Management, to review the most recent performance and activity information. These meetings are used to help identify where additional focus is needed.
- **Overall expenditure on primary care prescribing:** Health Board expenditure is above average in most areas (Appendix 2). For example, it has the highest spend and quantity prescribed of gastro intestinal drugs of all health boards. While this position, and other similar ones, may be justifiable, the reasons for the expenditure need to be understood as they present potential areas for improved prescribing and for further targeting of prescribing support activity.
- **Indicators of effective prescribing**
- We have estimated that by improving performance there is the potential to secure up to £1.96 million in savings without affecting patient care.
- The Health Board has the potential to improve generic prescribing which could secure around £600K in savings.
- While the Health Board has successfully reduced the volume of SIP feeds prescribed there could be opportunities to reduce the spend per item.
- The volume of antimicrobial dressings prescribed by GPs, as a proportion of all dressings, is relatively low because Health Board has had a well-established formulary in place for some time for these dressings to support rationale prescribing.
- The Health Board spends £500,000 on incontinence appliances (20 per cent of expenditure in Wales), which suggests that there is potential to further improve the management of local continence services by working with specialists as part of a long term approach to rationale prescribing in this area.
- **National prescribing indicators**
- Health Board performance against national prescribing indicators is variable.
- In examining current performances against the 2012 PPI indicator the Health Board has one of the lowest prescribing rates of low acquisition cost PPI in Wales, revisiting the use of PPIs and esomeprazole could improve effective prescribing and has the potential to realise up to £350,000 in savings.

- The Health Board has one of the best prescribing rates for top nine antibacterial prescribing in Wales, but prescribes the fourth highest number of all antibacterial drugs across Wales suggesting there is more scope improving rational prescribing in this areas.
- GPs in the Health Board area are using more cephalophorin antibacterials than in other health board areas which is a quality issue and increases the risk of antibiotic resistance developing when the health board is already experiencing one of the comparatively higher levels of C. difficile in Wales.
- The Health Board's prescribing of dosulepin is currently the third highest in Wales this is recognised by the Health Board and as part of the CEPP GP practices are being targeted where there is potential to improve prescribing.
- The Health Board has a lower prescribing rate for hypnotics and anxiolytics than most other health boards which is good practice reflecting the work undertaken by GPs and the medicine management team and maintaining and improving this performance should feature in the Health Board's future medicines management strategy.
- **Adverse drug reaction reporting:** Reporting has continued to fall and there is little evidence within the health Board's current approach that this performance will be reversed.

14. **Drug wastage:** The Health Board is targeting drugs waste through various initiatives, although its relative success to date is unclear because monitoring, analysis and reporting are not well developed. The following table summarises the findings supporting the conclusion.

Budget setting and financial performance		
Expected practice	***In place?***	***Further information***
There needs to be clear approach to primary care prescribing budget setting which: • is fair and adequate to meet the clinical needs of patients; • takes into account increases in prescribing that will be required for improvements in the clinical aspects of prescribing; • takes into account improvements in the cost-effectiveness of prescribing that need to be made; • uses an open and transparent methodology.	✓/✗	The prescribing budget is based on a rollover of the previous year's budget. Although a number of drugs have recently come off patent, the budget was expected to remain the same as the previous year.
Expenditure on primary care prescribing remains within budget and savings targets are attained.	✓	Overall spending on primary care prescribing remained within budget, and savings targets were exceeded. A substantial part of that success was due to the impact of the effort of

Budget setting and financial performance		
Expected practice	***In place?***	***Further information***
		the primary care prescribing and medicines management teams to lower than anticipated growth in the prescribing of dabigatran and appropriate prescribing of Atorvastatin.
Financial monitoring takes places at team level and action is taken if targets are not being met.	✓	Monthly meetings take place between the finance business partners and the primary care prescribing and medicines management teams to review recent performance and activity information. These meetings are used to help identify where additional focus is needed.
Financial monitoring takes place at board level.	✓	The Medicines Management Board receives monthly prescribing financial reports. The Chief Executive leads Support and Challenge sessions, to which divisions must attend to present their current performance position in relation to cost improvement targets. Primary care prescribing and medicines management teams representatives attended these sessions on a fortnightly basis for a period of time. As a result of the progress being made towards targets, including savings from drugs which came off patent, they were required to attend less frequently.

Overall expenditure on primary care prescribing		
Expected practice	*In place?*	*Further information*
The reasons for the current Health Board expenditure on primary care prescribing are known and understood.	✓/✗	We carried out an analysis of expenditure and prescribing trends between health boards, organised by the 15 BNF Chapter headings and adjusted by population (see Appendix 2 for expenditure analysis). The top six areas of high expenditure in Wales are: • gastro intestinal drugs; • cardiovascular drugs; • respiratory drugs; • central nervous system drugs; • endocrine drugs; and • nutrition and blood drugs. Health Board the level of prescribing and

Overall expenditure on primary care prescribing		
Expected practice	*In place?*	*Further information*
		expenditure is above average in four of these areas (Appendix 2) and is already providing the focus for activity and deployment of resources. Other areas have yet to be addressed including gastro intestinal prescribing which could provide a focus for future activity and gains.

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

Indicators of effective prescribing	
Expected practice	*Further information*
The Health Board can generate further savings by matching overall prescribing within the best quartile of GP practices.	We estimate that the Health Board could make additional annual savings of up to £2.0 million without affecting patient care (see Appendix 1 for details). Realising all or some of these savings will require sustained action over the medium term.
The Health Board has high levels of generic prescribing matching best GP quartile performance (85 per cent) which reflects high quality prescribing including lower error rates and costs. To reduce the impact of variation a basket of commonly prescribed drugs with generic equivalents has been developed (Appendix 3) to identify realisable savings through improved generic prescribing.	If the basket was to be prescribed generically this would realise a £667,000 savings 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 £328,000 on these preparations (Appendix 3: Exhibit 10). This suggests the Health Board has both quality and savings opportunities of up to £164,000 if improvements were delivered in this area. The Medicines Management team is examining potential to improve prescribing in this area and vitamin B prescribing has already been identified for potential action.
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	The Health Board performs well in this area, which suggests local arrangements are working well (Appendix 3: Exhibit 11).

Indicators of effective prescribing	
Expected practice	*Further information*
Health Board could realise savings.	
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 within primary care prescribing.	Currently the Health Board spends £25,000 (Appendix 3: Exhibit 12). Which suggests although there are some rational prescribing issues there are few quality and financial savings opportunities.

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 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 £2.3 million on wound dressings and 4.1 per cent of all the dressings prescribed in the Health Board area are antimicrobial dressings, which is relatively low compared to other health boards, because Health Board has had a well-established formulary in place for some time for these dressings to support rationale prescribing. This performance provides few opportunities to deliver additional improvements or any substantial savings (see Appendix 3: Exhibit 13).
Food supplements The evidence base for oral nutritional supplements was assessed by the NICE and this review concluded that until further evidence is available, people with weight loss secondary to illness should either be managed by referral to a dietician, or by staff using protocols drawn up by dieticians, with referral as necessary. Evidence gained during the Wales Audit Office hospital catering study suggested nutritional supplements are poorly managed in the community; costs are high as is wastage. If the item cost were reduced to the lowest average cost in Wales the Health Board could release savings. Further savings may be forthcoming if the quantity of items is	Currently the Health Board spends £415,888 on food supplements at an average cost of £34.88 per item (see Appendix 3: Exhibit 14). Our analysis of BNF chapter spending (Appendix 2) shows higher than average use in this area. The Health Board has successfully reduced the volume of food supplements used across the localities through implementing a scheme, using dieticians to work with care homes on better nutrition for older people. Average costs per item are higher than some health boards which may provide a focus for new work.

[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*
reduced.	
Incontinence and stoma products A 2010 national audit of incontinence found the great majority of continence services are poorly integrated across acute, medical, surgical, primary, care home and community settings, resulting in disjointed care for patients and carers. In primary care incontinence and stoma appliances are usually provided to patients by a prescription written by their GP or a nurse prescriber. This prescription is then dispensed by one of the following a dispensing appliance contractor, a pharmacy contractor or a dispensing doctor. A focused approach to improve quality and quantity of prescribing incontinence and stoma products can realise cost savings.	Currently the Health Board spends £3.4 million on stoma appliances (20 per cent of expenditure in Wales) and £500,000 on incontinence appliances (20 per cent of expenditure in Wales) (see Appendix 3: Exhibit 15). While the expenditure for incontinence products is average the expenditure on stoma products is high suggesting there is scope to work with specialists to review care in this area.

Performance against the national prescribing indicators 2011-12	
Expected practice	*Further information*
ACE inhibitor prescribing 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 has the third best performance in Wales against this indicator (see Appendix 3: Exhibit 16). If the Health Board was able to achieve best quartile performance this would realise a £82,000 saving (Appendix 3: Exhibit 17). This performance suggests that there is still 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	The Health Board is one of the lowest prescribers of low acquisition cost PPIs in Wales (see Appendix 3: Exhibit 18). Increasing their use as a proportion of PPIs would provide the Health Board with potential savings, and if performance matched the best quartile this would amount to £350,000 (see Appendix 3: Exhibit 19). This savings potential is a further reflection of the relative position held by the Health Board in relation to overall prescribing levels

Performance against the national prescribing indicators 2011-12	
Expected practice	*Further information*
would potentially realise savings.	and expenditure on gastro intestinal drugs (see Appendix 2).

Performance against the national prescribing indicators 2013-13	
Expected practice	*Further information*
Ibuprofen and naproxen non-steroidal anti-inflammatory drugs (NSAIDs) NSAIDs are a medication 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.	The Health Board has one of the best performance levels in Wales (see Appendix 3: Exhibit 20). Maintaining the focus on improving prescribing in this area not only improves the quality of care but has the potential to release a small amount of savings (see Appendix 3: Exhibit 21).
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 is performing well compared to other health boards which reflects the priority given to improving performance in this area by the primary care prescribing team (see Appendix 3: Exhibit 22). The Health Board needs to maintain the focus on improved prescribing if it is to achieve best GP quartile performance. The cost difference between current prescribing rates and matching the best performance is £298,000 (see Appendix 3: Exhibit 23).
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. 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.	Currently the Health Board has one of the best prescribing rates in Wales reflecting the work undertaken by the medicines management team in this area (see Appendix 3: Exhibit 24 and Exhibit 25) The Health Board is maintaining the focus on improving care which is good practice.
Opioids for pain relief Opioids have a well-established role in the	Currently, the Health Board has the fourth highest level of morphine prescribing as a percentage of strong opioid items in Wales (see Appendix 3: Exhibit

Performance against the national prescribing indicators 2013-13	
Expected practice	*Further information*
management of acute pain following trauma (including surgery), and in the management of pain associated with terminal illness. Matching the best performing GP quartile would potentially realise savings.	26). This is average performance. If the Health Board could achieve best performance this has the potential to release £240,000 in savings (see Appendix 3: Exhibit 27).
Antibacterial prescribing – top nine items The Health Protection Agency guidance 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 antibiotics (for example co-amoxiclav, quinolones and cephalosporins) reduce the risk resistant bacteria pose now and for the future. Target is 83.58 per cent for top nine antibacterials as a percentage of antibacterial items.	The Health Board has one of the best performance rates for top nine antibacterial prescribing in Wales (see Appendix 3: Exhibit 28). Because of the risks associate with high antibacterial prescribing the Health Board needs to maintain a focus on this area and minimise their use generally.
Antibacterial prescribing – overall prescribing rate Antimicrobial Resistance Programme in Wales supports and promotes the prudent use of antimicrobials. The development of a structured programme to reduce antibiotic prescribing by GPs could minimise the potential for antibiotic resistance developing locally. Target is 329 items per 1,000 STAR-PUs.	The Health Board prescribes the fourth highest number of all antibacterial drugs in Wales (Appendix 3: Exhibit 29).
The use of 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	GPs in the Health Board area are using more of the broad spectrum Cephalosporins (see Appendix 3: Exhibit 30) than many of their colleagues in other health board areas. This suggests there is some scope to improve the quality of prescribing in this area and that more could be done strategically, to reduce any future antibacterial resistance particularly as the Health Board is already experiencing one of the higher rates of C. difficile hospital infections.

Performance against the national prescribing indicators 2013-13	
Expected practice	*Further information*
antibiotics which are used for the treatment of septicaemia, pneumonia, meningitis, biliary-tract infections, peritonitis, and UTIs. Their use should be restricted to specific indications in order to reduce the risk of potential antimicrobial resistance. Targets have been set as a percentage of all antibacterials prescribed: • cephalosporins 3.14 per cent; • co-amoxiclav 2.99 per cent; and • quinolones 1.42 per cent.	
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. Target is 52.15 DDD per 1000 PUs.	The Health Board's prescribing of Dosulepin is currently the third highest in Wales, suggesting that more could be to be done in this area to improve rational prescribing through targeted action (see Appendix 3: Exhibit 32). To meet NICE guidance the medicines management team primary care prescribing and medicines management teams should target this area for reduction jointly with mental health staff.
Hypnotics and anxiolytics There has been concern over the high volume of anxiolytic and hypnotic prescribing within Wales. It is recognised that some prescribing may be inappropriate and contribute to the problem of addiction and masking underlying depression. There are also whole system consequences of the additional costs of providing addiction services to manage dependency. A focused approach to reduce prescribing of hypnotics and anxiolytics should improve the quality of care and reduce the risk to patients. Target 1402 DDD per 1000 PUs.	The Health Board prescribes fewer hypnotics and anxiolytics per 1000 patients than most of the other health boards in Wales, which reflects sustained activity by the primary care prescribing team in this area (see Appendix 3: Exhibit 33). It is important that the focus remains in this area because of the whole system costs associated with managing dependency.

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 adverse drug reactions (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. Appendix 4: Exhibit 37 identifies good practice in promoting and improving reporting.	✘	Appendix 4: Exhibit 34 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 35). Appendix 4: Exhibit 36 shows the number of ADR reports per 100,000 population from community-based sources, by health board. As part of its strategic approach to improving primary care prescribing the Health Board will need to improve ADR reporting.

Drug wastage		
Expected practice	*In place?*	*Further information*
The Welsh Government has estimated that the cost of wasted drugs amounts £50 million each year. The Health Board could reduce wastage by up to 50 per cent.	✘	Assuming the levels are consistent across Wales we estimate that the cost of wasted drugs is £9.6 million. If the Health Board could reduce this by 50 per cent, up to £4.8 million could be saved (Appendix 5: Exhibit 37).
The Health Board has information on medicine wastage levels for example audits have been undertaken.	✓/✘	The Health Board has a broad based approach to waste management. It uses a framework which maps out the ways in which medicines waste can arise, and potential responses. It is unclear how far this has been used to date in order to drive down waste.

Drug wastage		
Expected practice	*In place?*	*Further information*
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 over time, using the community pharmacy contract, to help reduce waste e.g. medicines use reviews; Enhanced Pharmacy Service – Waste Reduction Scheme. There is little evidence of sustained impact to date. GPs and staff members had mixed views about the value of Medicines Use Reviews (MURs) by community pharmacists. Historically, the savings achieved from these reviews were not ring fenced, reducing the incentive to pharmacists to engage in such schemes. Pharmacists have also suggested a need to target the engagement of community pharmacists in MURs e.g. reviews of inhaler usage by respiratory patients to reduce admissions and improve adherence to the medication; and also, the targeting of MURs for chronic conditions schemes.
Local medicine wastage campaigns are in place and their effectiveness is monitored.	✓/✗	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 are taking part in reviews of repeat prescribing, as part of the Clinical Effectiveness Prescribing Programme (CEPP).

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 realise 85 per cent levels of generic prescribing. Some branded drugs (such as Ventolin and Zapain) which are prescribed in large quantities and are currently cheaper than generic equivalents. Depending on 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 them based on 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 habits.
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	The savings have been calculated on health boards achieving the best quartile GP practice performance.

Summary of potential savings

Area	Savings
Improved generic prescribing	£667,000
Drugs less suitable for prescribing	£165,000
NICE non recommended drug basket	£25,000
Wound management and food supplements	
Antimicrobial wound dressing	£22,000
Food supplements	£160,000
National prescribing indicators	
Improved ACE inhibitor prescribing	£82,000
Proton pump inhibitors	£207,000*
NSAIDs	£68,000
Low acquisition statins	£318,000*
Long acting Insulin	£0
Opioid prescribing	£241,000
Total	£1,958,000

Adjusted for potential overlap with generic savings

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

[2] Prescribing Units (PU) 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 1.

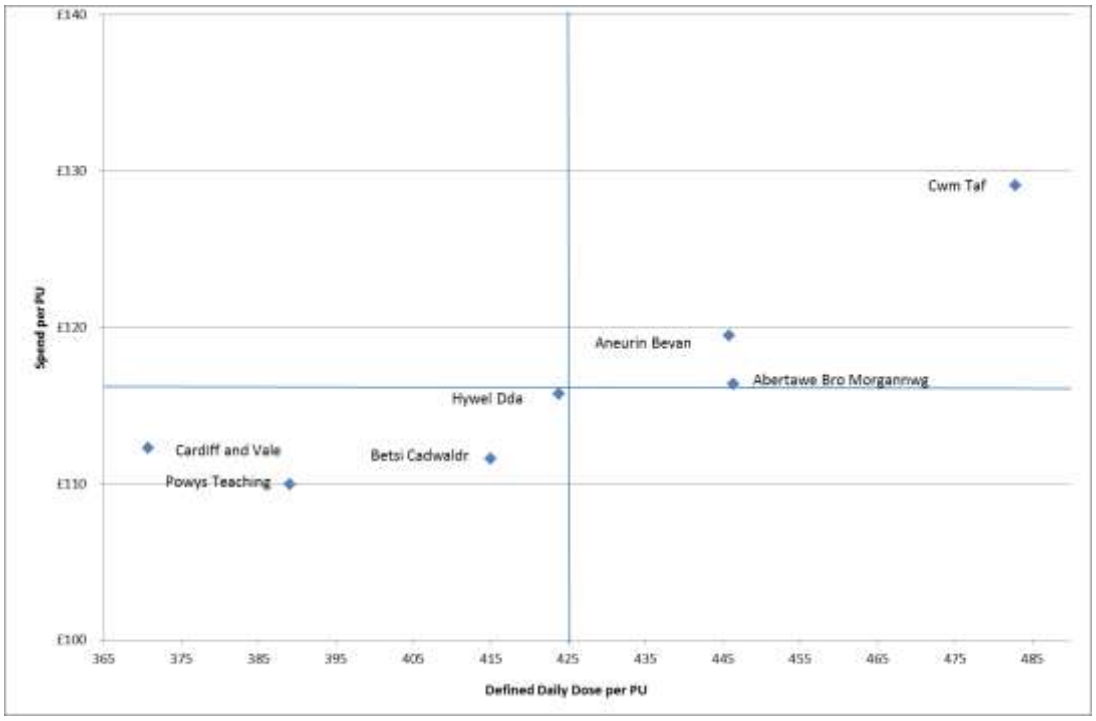
	Abertawe Bro Morg-annwg Uni	Aneurin Bevan	Betsi Cadwaladr Uni	Cardiff and Vale Uni	Cwm Taf	Hywel Dda	Powys Teaching
Joint Diseases							
Eye	£2,155	£1,783	£2,108	£2,004	£2,310	£2,385	£2,151
Ear, Nose & Oropharynx	£1,307	£1,225	£1,199	£1,433	£1,330	£986	£1,237
Skin	£4,117	£4,177	£4,109	£4,743	£4,230	£3,502	£3,630
Immuno-logical Products & 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 1000 PU	£116,021	£119,564	£111,262	£111,868	£128,649	£115,458	£109,588
Other Drugs & 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 spend and quantity of drugs prescribing per weighted head of population by PU June 2012 to May 2013

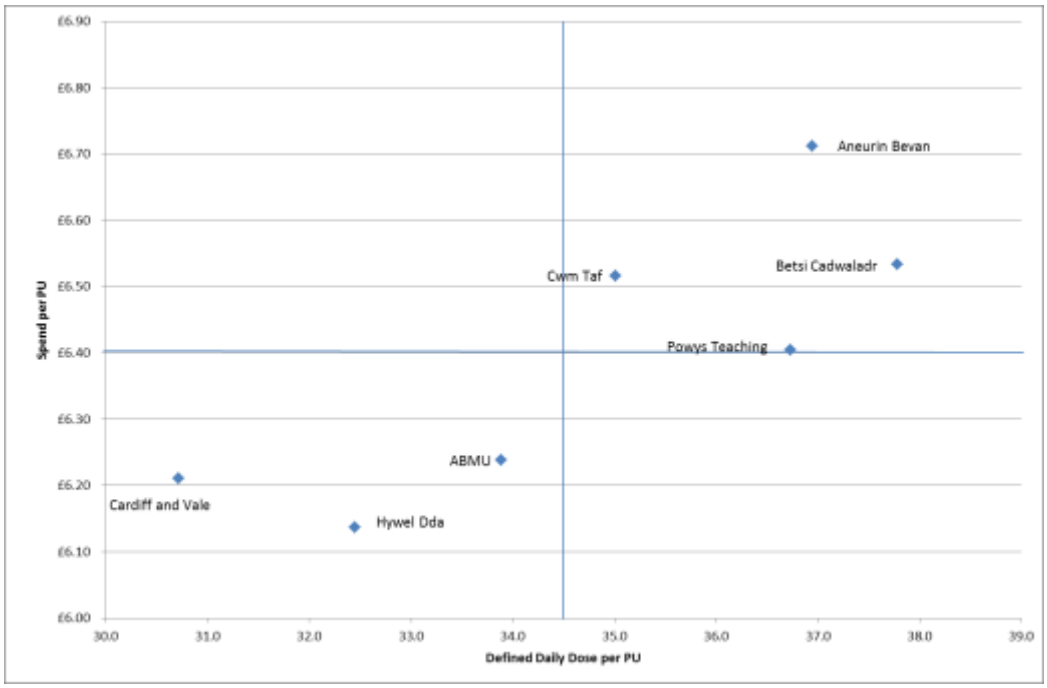


Source: Wales Audit Office analysis of CASPA.net data

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 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.

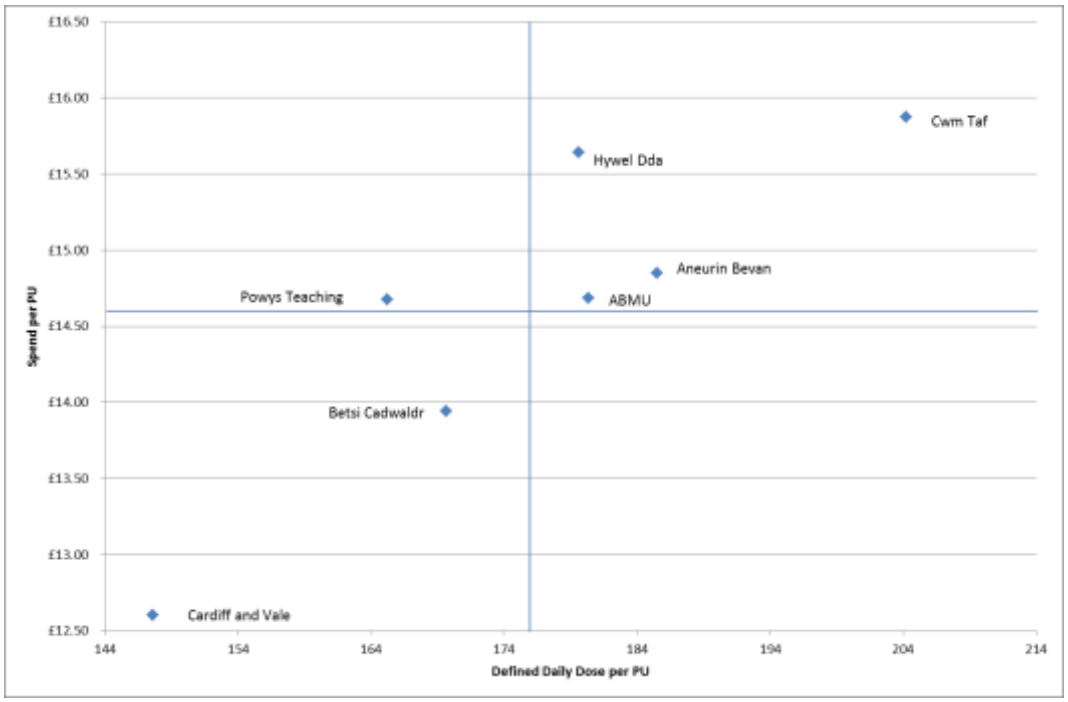
Charts for each of the six highest levels of prescribing are set out below. For four out the six areas, both expenditure and quantity of items prescribed are higher than the average. These areas of high expenditure need to be understood in order to develop possible target areas for improved prescribing and targeting prescribing support activity.

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



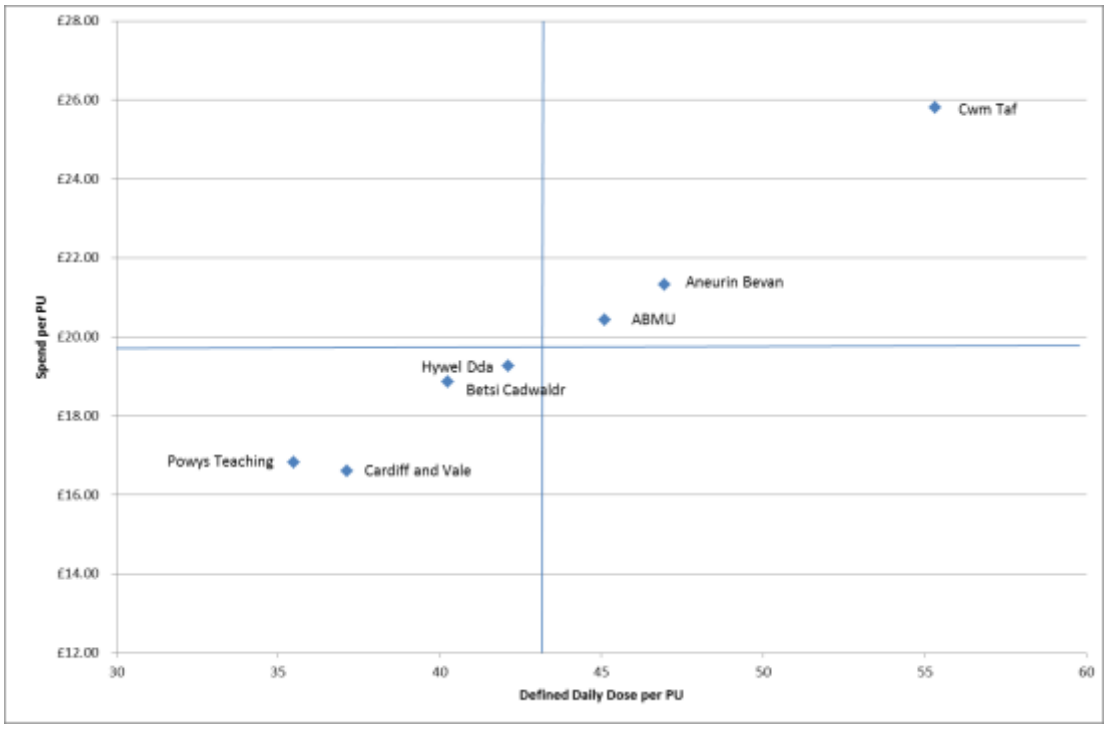
Source: Wales Audit Office analysis of CASPA.net

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



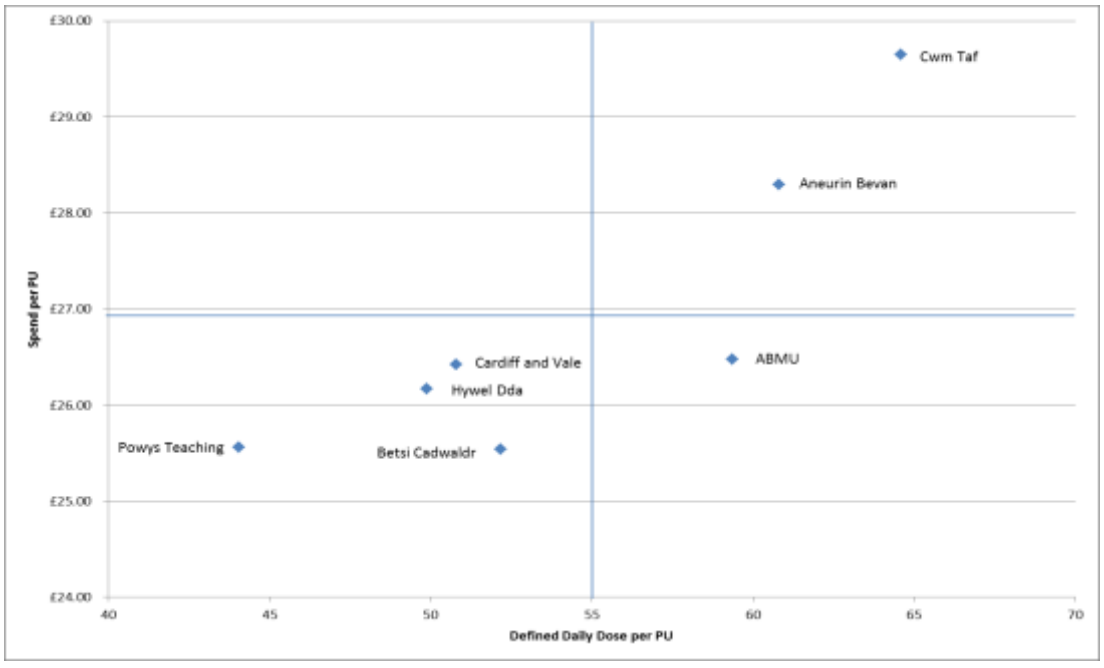
Source: Wales Audit Office analysis of CASPA.net

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



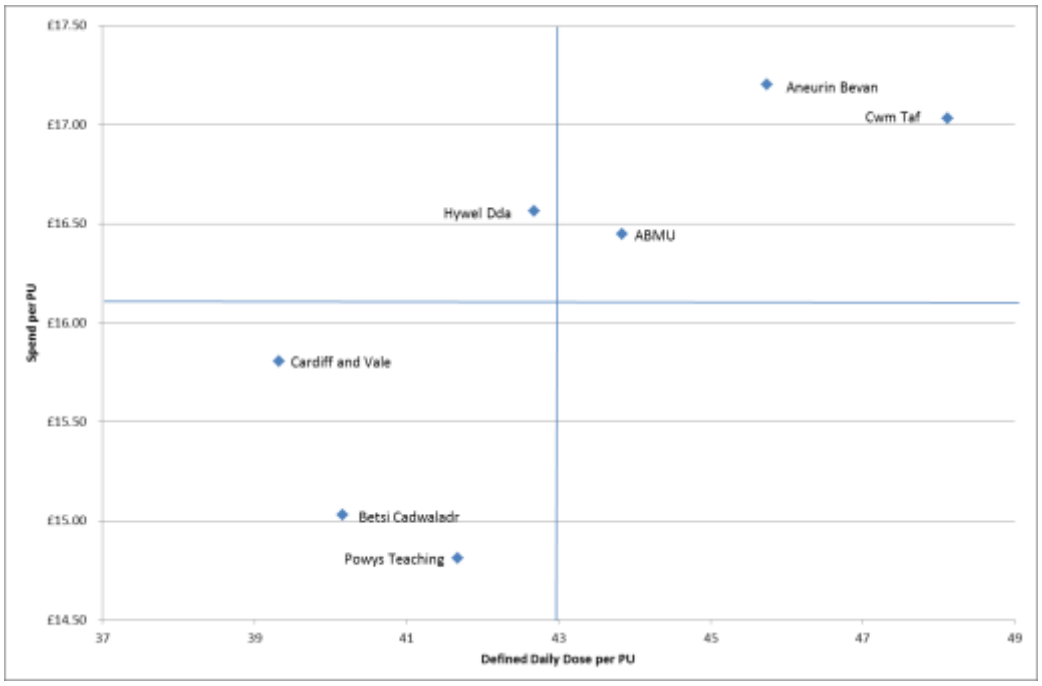
Source: Wales Audit Office analysis of CASPA.net

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



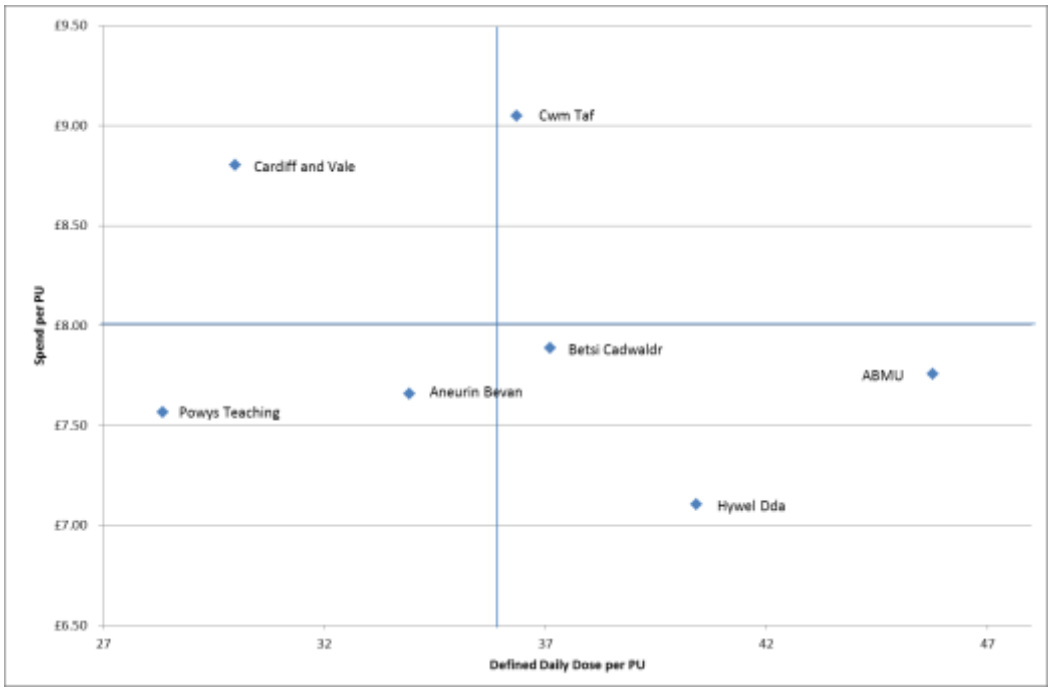
Source: Wales Audit Office analysis of CASPA.net

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



Source: Wales Audit Office analysis of CASPA.net

Exhibit 8: Total health board spend and quantity of nutrition and blood drugs prescribing per weighted head of population by PU 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 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 Mar 13 – May 2013

Health Board	Total expenditure	Potentials 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 analysi:s 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 Mar 13 – May 2013

Health Board	Total expenditure	Potentials 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 Mar 13 – 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 per cent 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 Mar 13 – May 2013

Health Board	Expenditure (Mar 13 – May 13)	Items prescribed (Mar 13 – May 13)	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

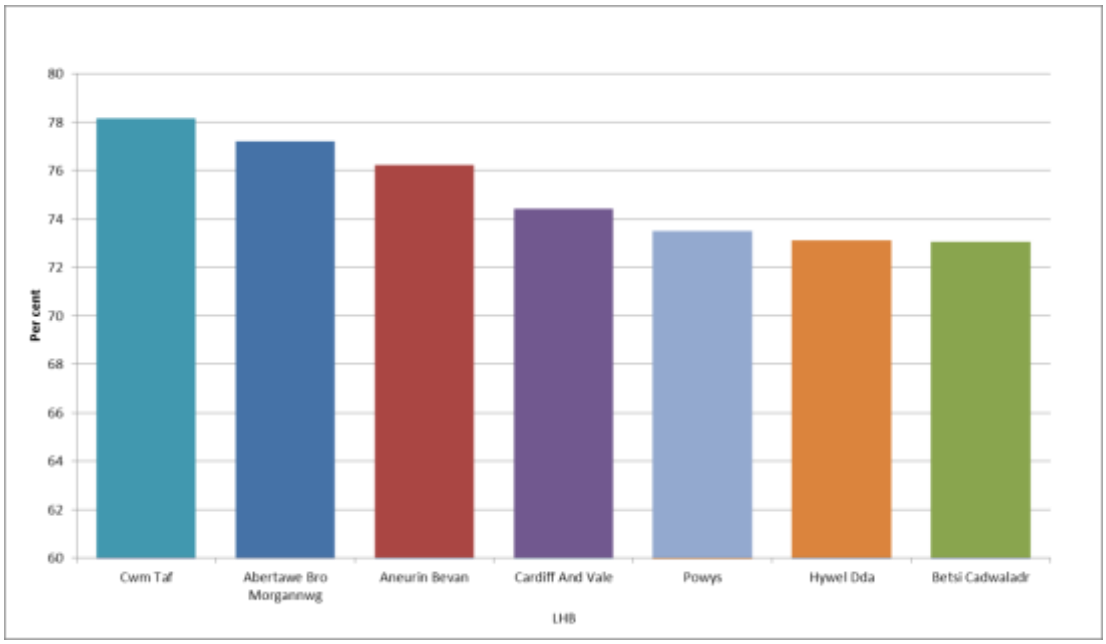
Exhibit 15: Expenditure on incontinence and stoma care prescribing June 2012 – May 2013

Health Board	Incontinence appliances total expenditure	Incontinence appliances per 1000 prescribing units	Stoma appliances total expenditure	Stoma appliances per 1000 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: Mar 13 - May 13



Better performance is: Higher.

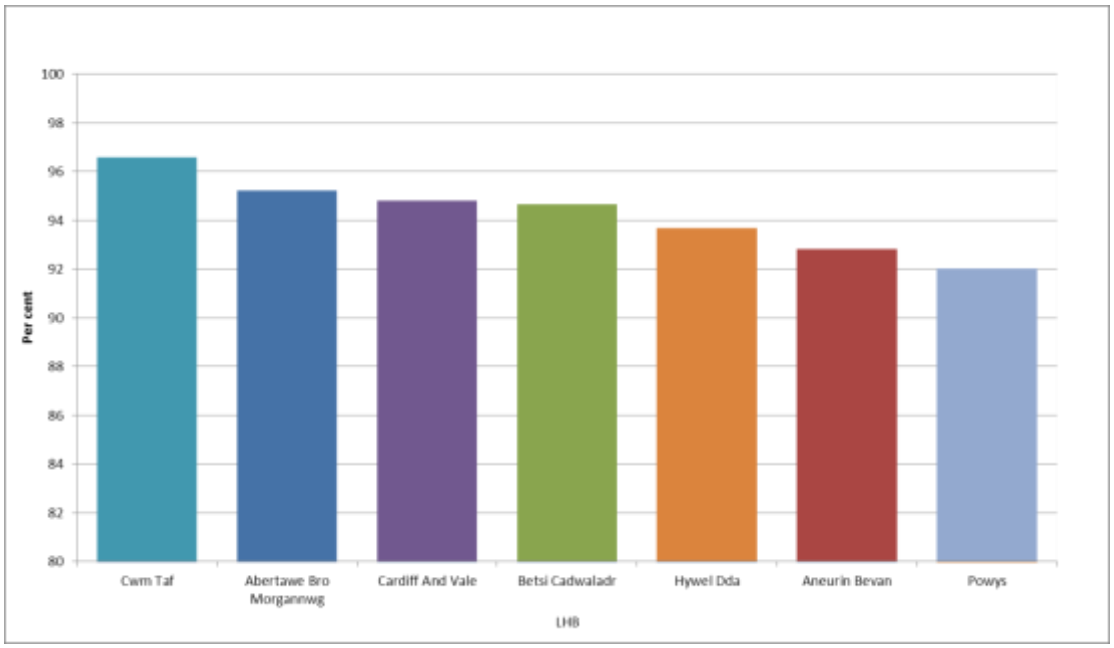
Source: Wales Audit Office analysis of CASPA.net

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 PPI: Mar 13 - May 13



Better performance is: Higher

Source: Wales Audit Office analysis of CASPA.net

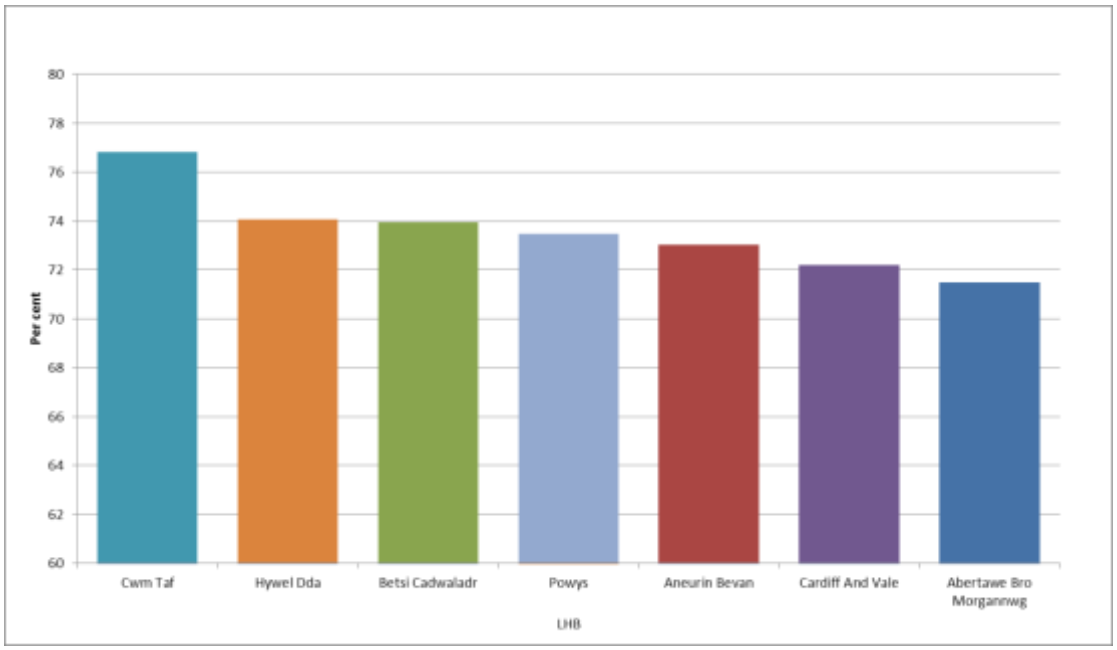
Exhibit 19: Potential annual savings from improved PPI prescribing

Health Board	Potential savings if LHB 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 per cent of all NSAIDs: Mar 13 - May 13



Better performance is: Higher

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

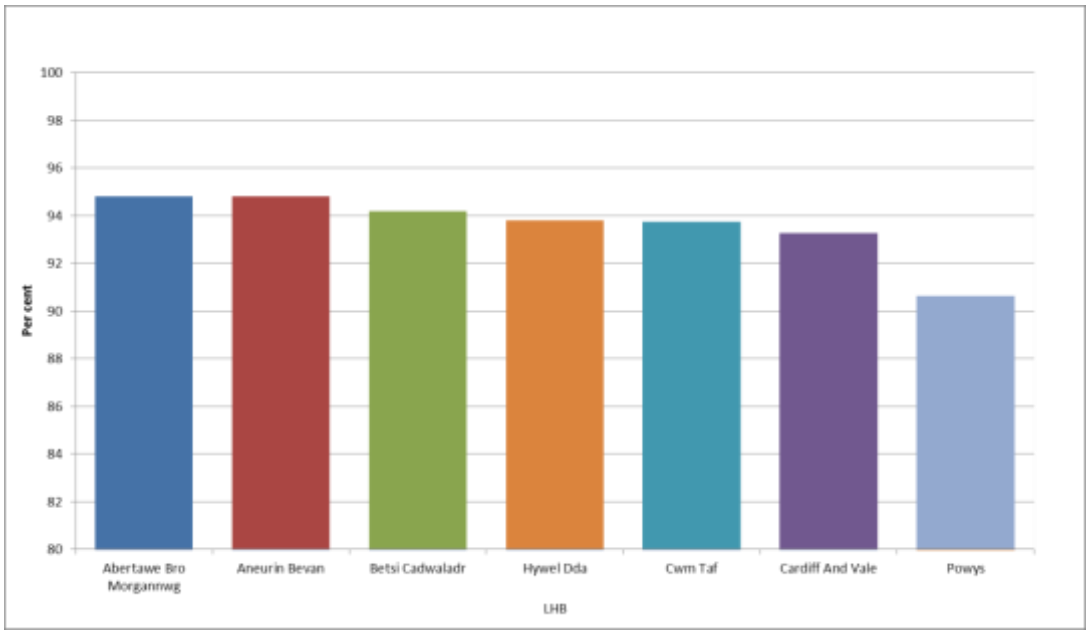
Source: Wales Audit Office Analysis of CASPA.net

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

Health Board	Potential savings if LHB 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: Low acquisition statin items as a percentage of all statins (including ezetimibe and ezetimibe combination products): Mar 13 – May 13



Better performance is: Higher

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

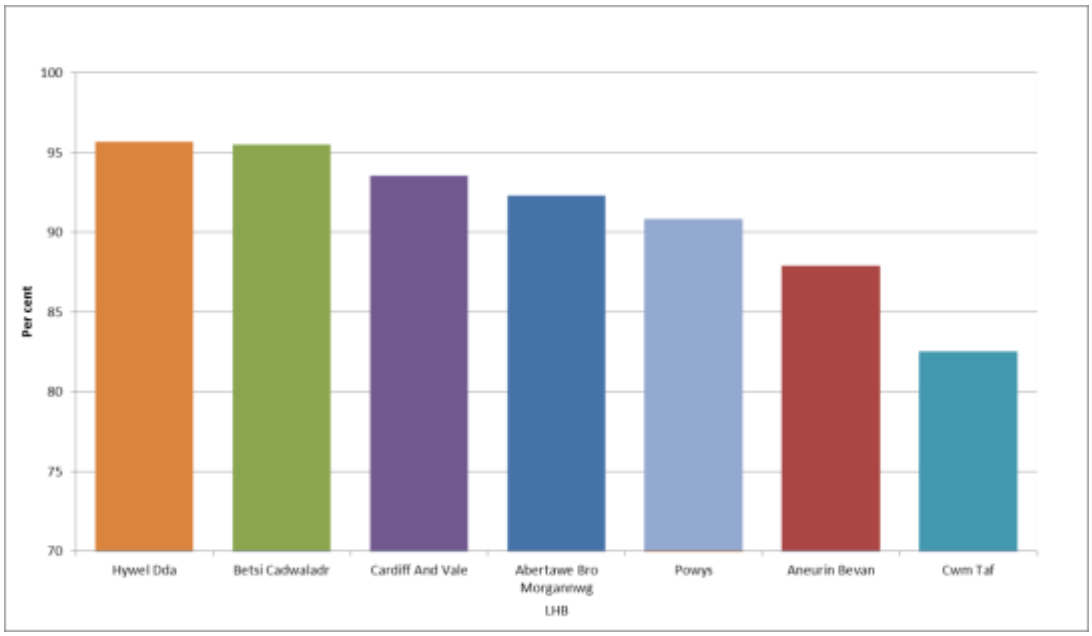
Source: Wales Audit Office analysis of CASPA.net

Exhibit 23: Potential annual savings on low acquisition statins

Health Board	Potential savings if LHB 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 24: Long acting insulin items as percentage of long/interim acting insulin: Jun 12 - Aug 12



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

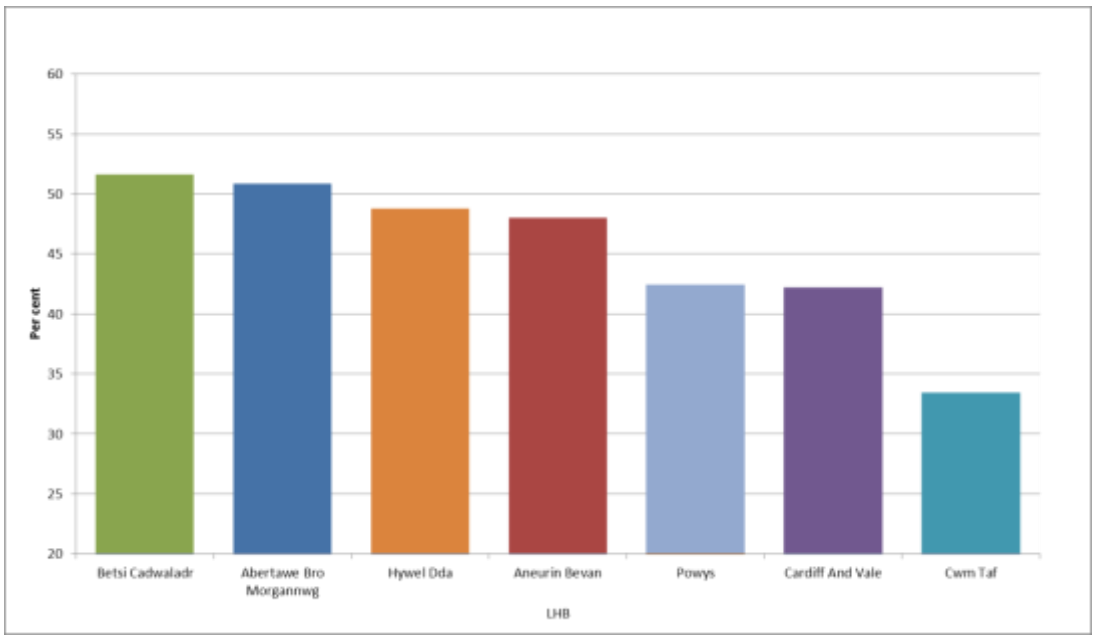
Source: Wales Audit Office Analysis of CASPA.net

Exhibit 25: Potential savings on long acting insulin prescribing

Health Board	Potential savings if LHB 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 26: Morphine items as percentage of strong opioid items: Mar 13 – May 13



Better performance is: Higher

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

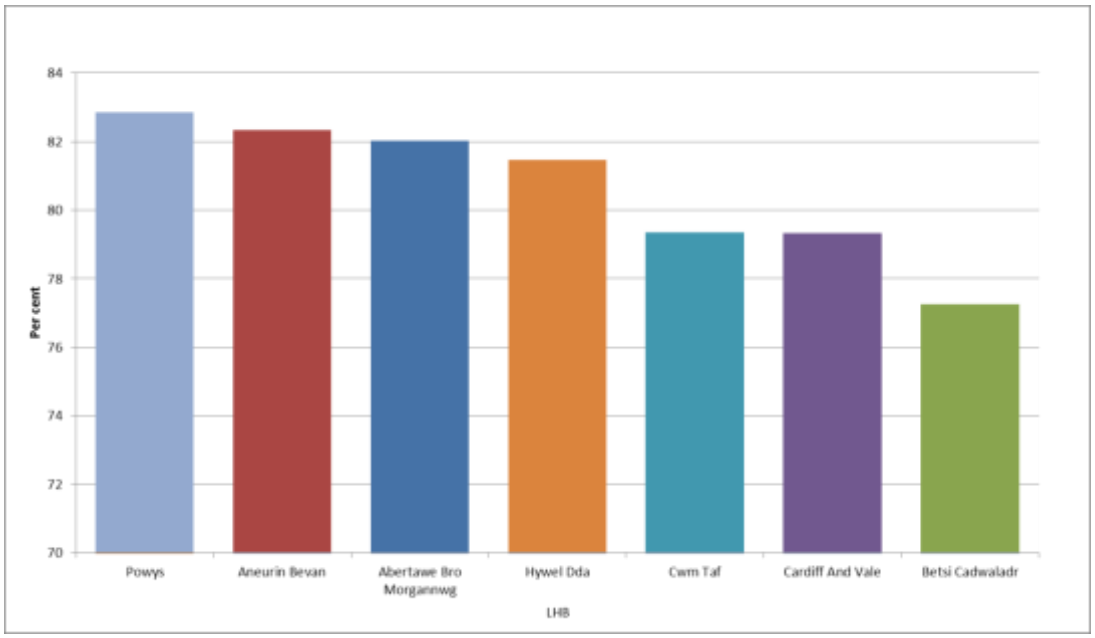
Source: Wales Audit Office analysis of CASPA.net

Exhibit 27: Potential annual savings from improved opioid prescribing

Health Board	Potential savings if LHB 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

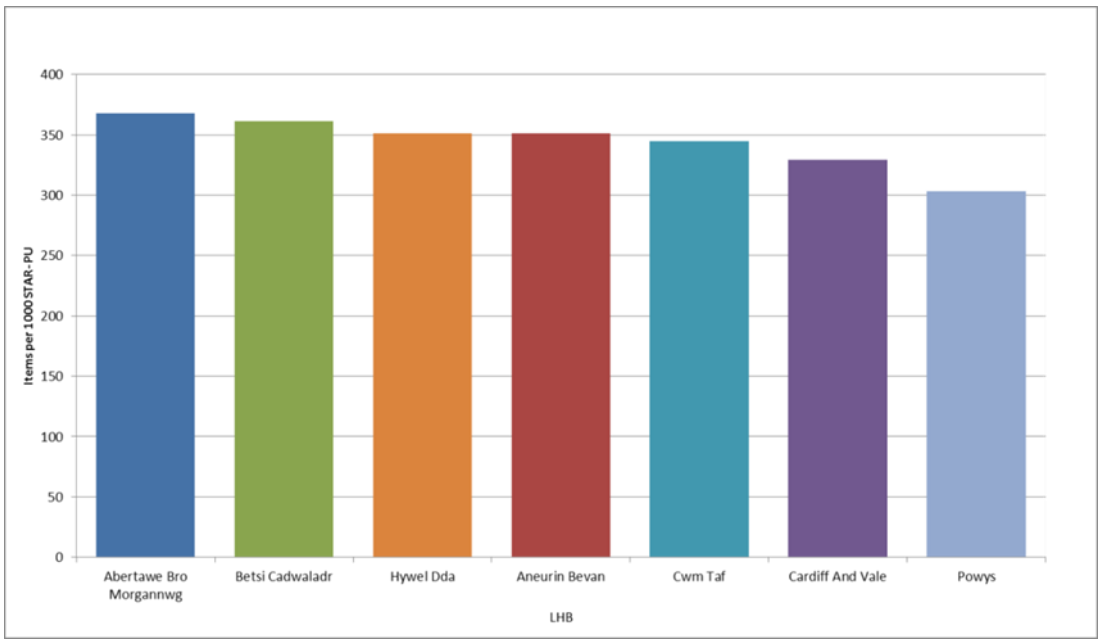
Exhibit 28: Top nine antibacterial as a percentage of antibacterial items: Mar 13 – May 13



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

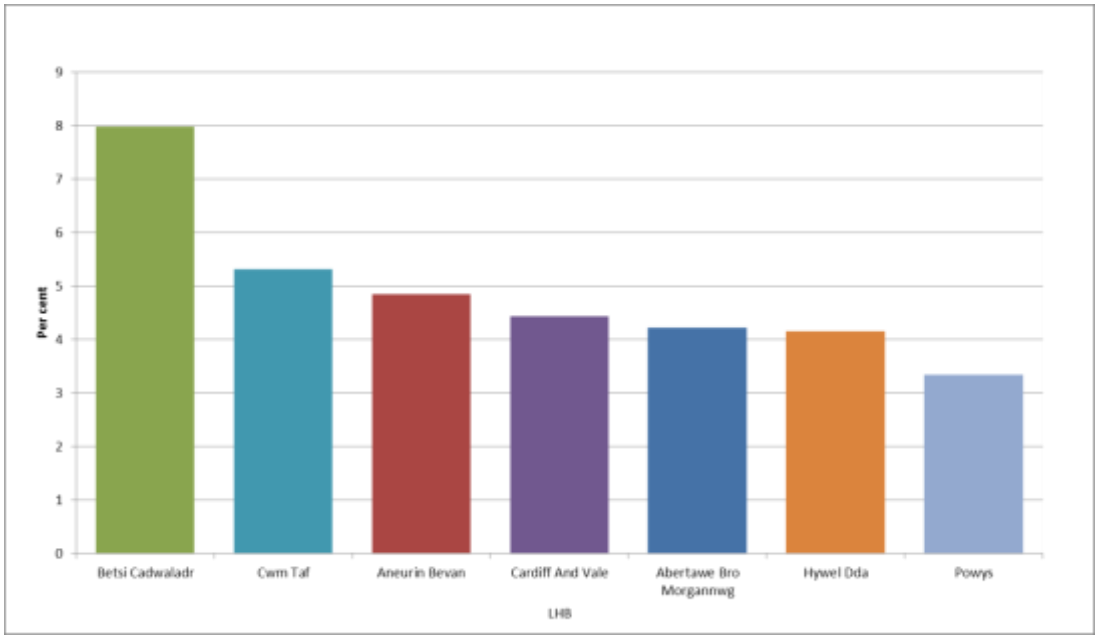
Exhibit 29: Antibacterial Items per 1000 STAR- PU: Mar 13 – May 13



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

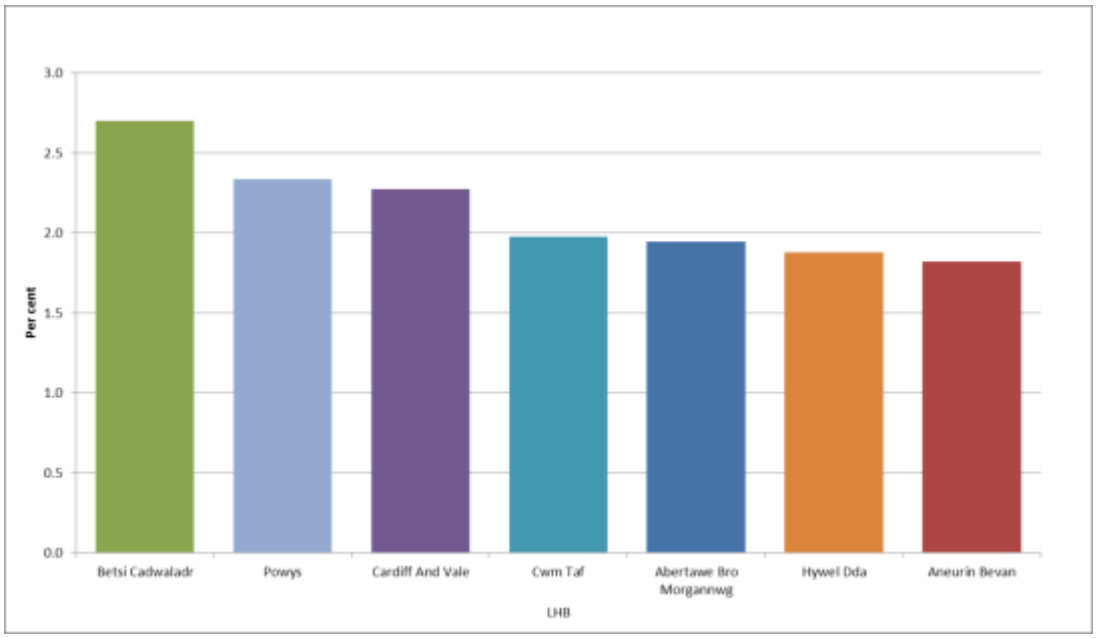
Source: Wales Audit Office analysis of CASPA.net

Exhibit 30: Cephalosporin items as a percentage of antibacterial items by health board



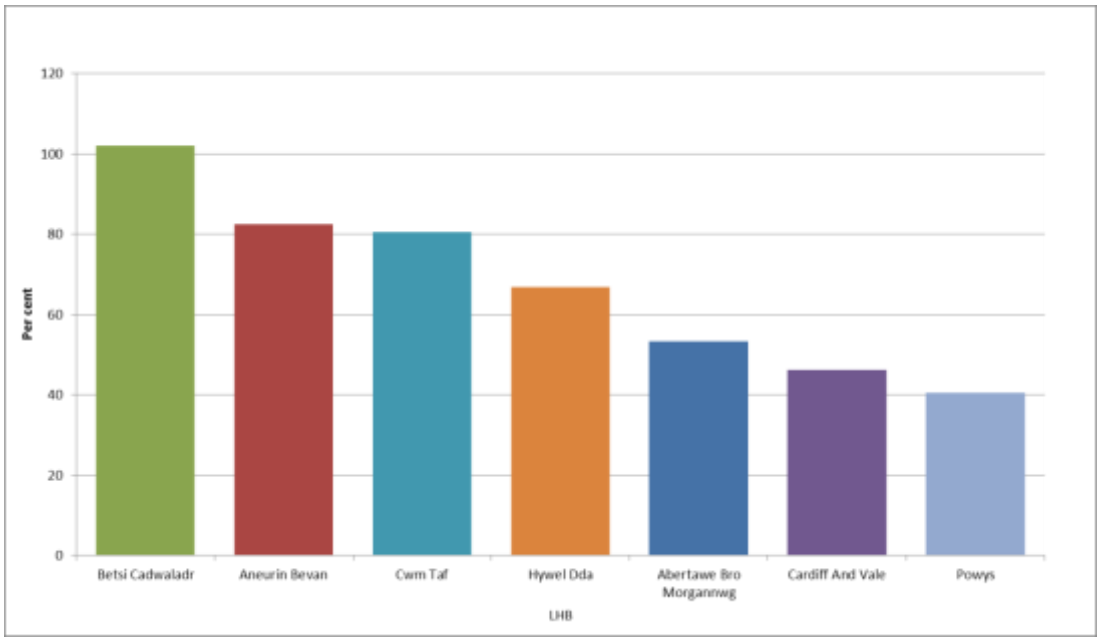
Better performance is: Lower
Source: CASPA.Net

Exhibit 31: Quinolone items as a percentage of antibacterial items by health board



Source: CASPA.Net

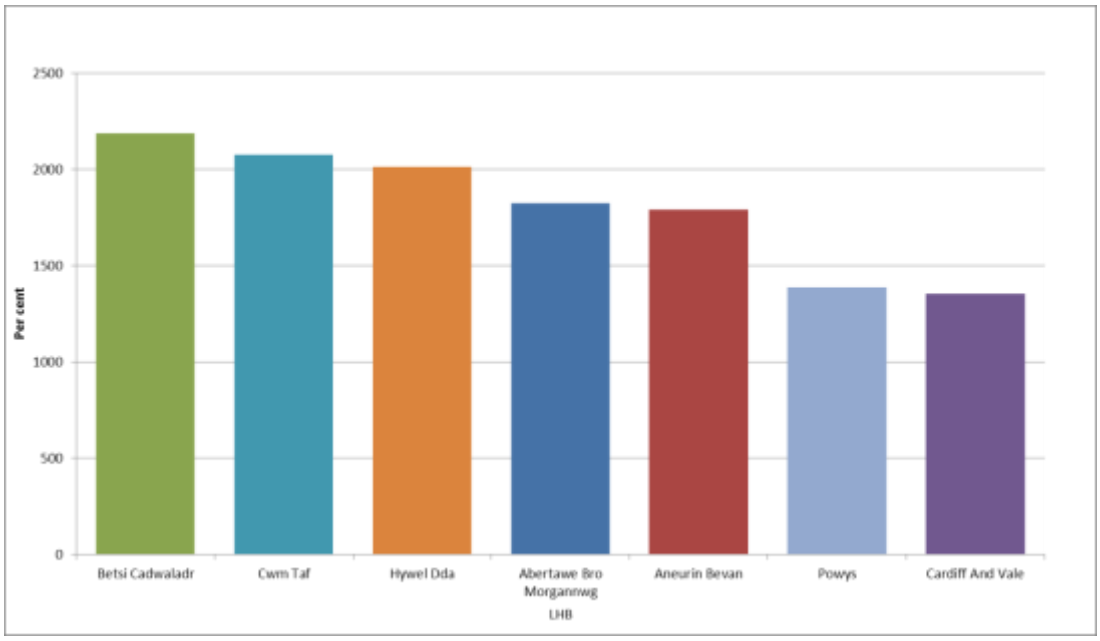
Exhibit 32: Dosulepin daily defined dosage (DDD) quantity per 1000 PUs: Mar 13 – May 13



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 33: Hypnotics and anxiolytics DDD quantity per 1000 patients: Mar 13 – May 13



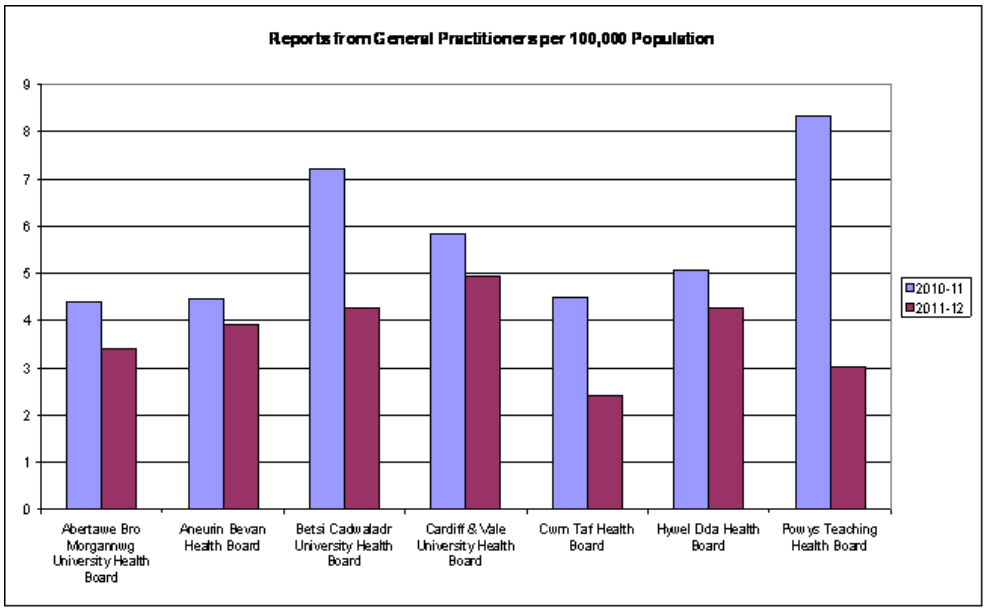
Better performance is: Lower
Target: Maintain performance levels within the lower quartile, or show a reduction towards the quartile below

Source: Wales Audit Office analysis of CASPA.net

Appendix 4

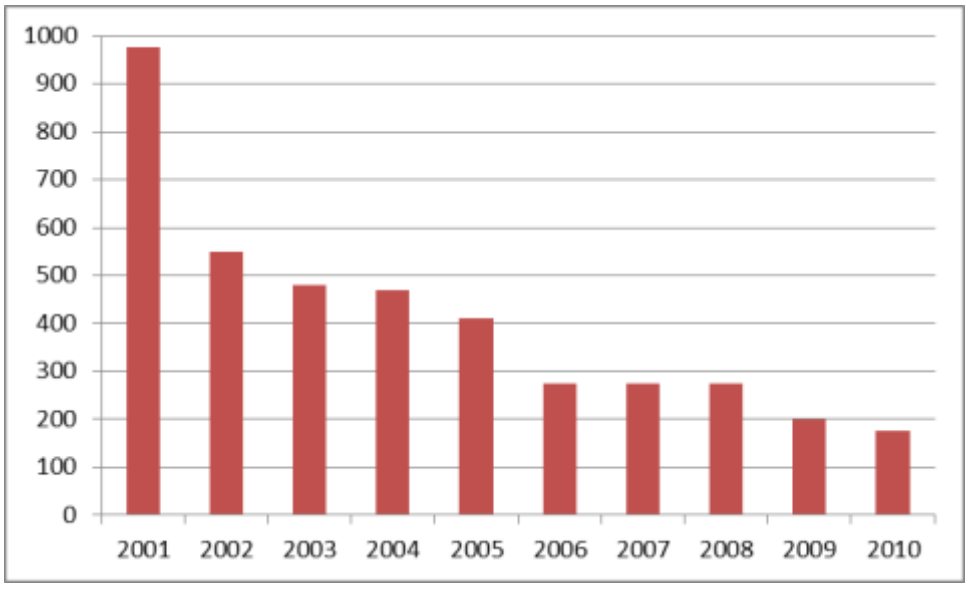
Reducing adverse drug reactions

Exhibit 34: Adverse drug reaction reports per 100,000 population



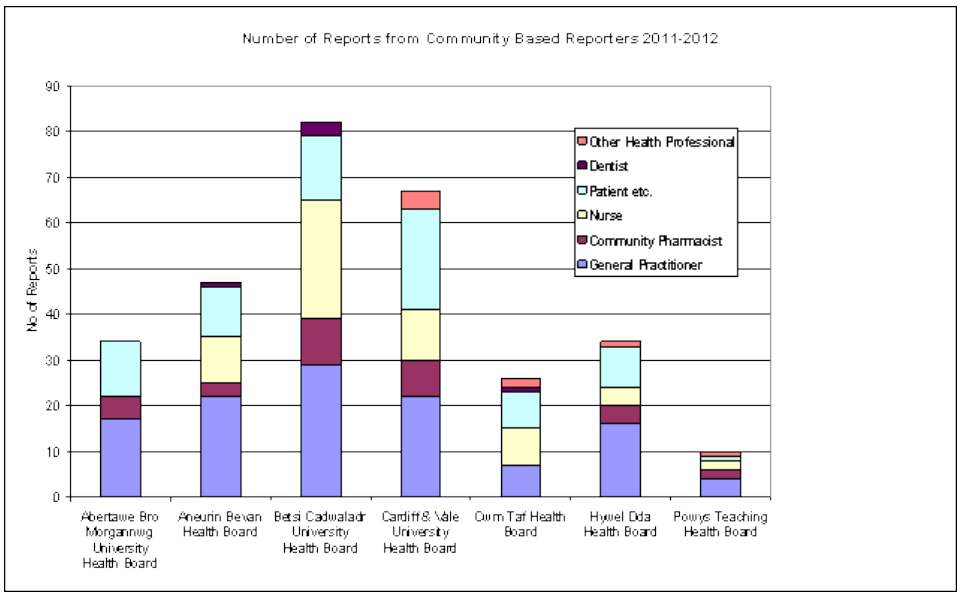
Source: Yellow Card Centre Wales

Exhibit 35: Decline in GP Yellow Card reporting across Wales



Source: Yellow Card Centre Wales

Exhibit 36: ADR report sources 2011-12



Source: Yellow Card Centre Wales

Exhibit 37: Good practice for ADR prevention and reporting

ADR prevention and reporting
Training in primary care
• Promotion of distance learning packages, for example The Wales Centre for Pharmacy Professional Education (WCPPE) packages, Adverse Drug Reactions – 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 £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 patient and changes in treatment.

Exhibit 38: Potential cost of wasted drugs

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

Source: Wales Audit Office

Appendix 6

Primary care prescribing team diary exercise findings

Commercial sales organisations in particular focus on optimising a return on investment, by ensuring their limited resources are put to the best use. Targeting is integral to the process of optimisation and relies on understanding the market place and understanding where there is the most impact. The same principle applies to health boards in providing prescribing advice in primary care.

Not all GP practices can be seen every week about every improvement opportunity. Some practices are performing better than others and so there is a need to prioritise and optimise activity. However, targeting is not just about the impact that can be achieved in absolute terms; it is also about understanding where there are barriers within each practice such as a lack of willingness, or ability, to change. These factors can increase the amount of effort required to bring about change, and also reduce the potential to make a return.

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

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

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

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

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

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

- As part of this audit the Wales Audit Office undertook an activity analysis of the Health Board's five locality-based primary care prescribing and medicines management 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 39. A detailed analysis of the findings by activity, across the four categories, is provided in Exhibit 42.

Exhibit 39: Analysis of percentage of activity by locality prescribing team role across the four main categories of work

	Health board activities	Working with GP practices	Working in the community	Working with secondary care	Total time
Medicines Management Technician	58	35	8	0	100
Dietetic support worker	73	27	0	0	100
Dietician	55	33	9	2	100
Pharmacist	69	25	3	3	100
Pharmacist facilitator	75	14	9	2	100
Prescribing Advisor	79	13	7	2	100
Technician	57	37	6	1	100
Grand Total	65	28	6	2	100

Wales Audit Office analysis of prescribing team activity diary exercise

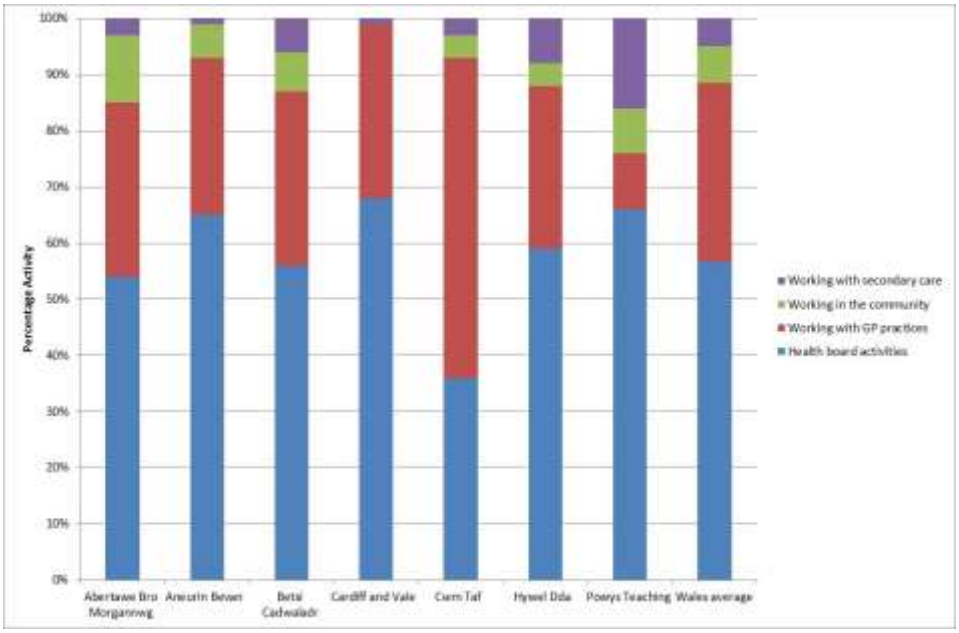
A relatively small amount of locality prescribing team time is spent working in the community and with secondary care. There is clearly a need to address prescribing patterns in the community, potentially through pharmacist involvement in the virtual ward approach, and particularly in settings such as nursing and care homes. There is also a substantial amount to be done to address issues at the prescribing interface between primary and secondary care. Nonetheless, while consideration should be given as whether the teams should spend more time in these areas, they are not the only resources that could be drawn upon in this respect. Secondary care pharmacists, specialist clinicians, community pharmacists and other clinicians in primary care, all could potentially provide various types of prescribing support. Such changes require considerable work to bring about and need to happen as part of service and workforce planning.

Most time is spent working on health board activities with four areas of work a accounting for a quarter of the time overall:

- attending meetings (six per cent);
- travelling time (six per cent); and
- administrative tasks (eight per cent).

Exhibit 40 compares the findings from this exercise at each health board in Wales. They show that the proportion of time spent by the primary care prescribing and medicines management teams on working directly with GP practices is broadly similar to the other health boards, with one exception. 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.

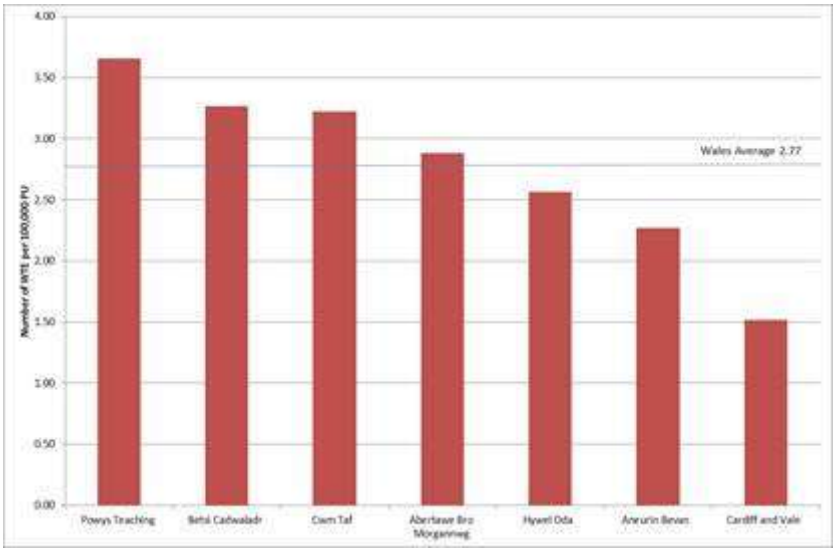
Exhibit 40: Analysis of Health Board prescribing advice activity



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

The number of whole time equivalents deployed to support primary care prescribing (when population adjusted) shows the Health Board has below average staffing levels for Wales (Exhibit 41). However, this is not to say whether the levels within the Health Board or Wales are either appropriate or not.

Exhibit 41: Total primary care medicines management staff wte by health board



Source: Wales Audit Office- analysis of prescribing activity

Exhibit 42: 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.	2.4
Supporting/managing the development and maintenance of the LHB formulary.	2.2
Providing summaries of MHRA and NPSA warnings that affect medicines for medical and nursing staff (including audit activity to identify compliance with guidance).	0.4
Development of tools to support the management of prescribing.	3.1
Development of Medicines Management Local Enhanced Services.	0.4
Support and audit relating to the GP contract QoF and Medicines Management Local Enhanced Services.	1.8

Activity profile	Percentage time
Liaison with other healthcare professionals on medicines management issues: • district nurses (e.g. wound dressings); • dieticians (e.g. patient nutrition); • local care homes (e.g. EMI, nursing and residential) to ensure safe and cost-effective prescribing of practice patients; • community pharmacists regarding patient's compliance, waste, prescribing changes and the management of repeat prescriptions.	4.4
Consultations with patients as a prescriber/non-prescriber within areas of competence e.g. diabetes, CVD, COPD/Asthma, pain, Care of the Elderly.	0.9
Domiciliary visits for medication review for house-bound patients.	0.1
Managing controlled drugs, for example: • controlled drug monitoring; and • witnessing destruction of controlled drugs.	2.4
Production of newsletters and information for patients/healthcare professionals.	1.7
Preparation and analysis of CASPA data.	3.2
Analysing financial information.	2
Horizon scanning.	0.6
Online script views.	1.7
Medicines information enquiries by GPs, nurses, community pharmacists, patients, locality colleagues, practice staff, MPs/FOI requests.	4.3
Attending meetings e.g. prescribing team meetings, DTC, LHB primary care support unit, clinical governance, incident reporting, Dispensing Services, locality meetings, council meetings etc.	5.9
Clinical governance related work.	0.8
Risk assessment work.	0
Training/Continuing professional development.	3.3
Managing staff.	1.6
Travelling time.	5.9
Administrative tasks.	8
Dealing with adverse drug reactions.	0
Other…Dealing with IT related issues.	0.1
Other…E-mails.	2.8
Other…Meeting with Auditors.	1.2

Activity profile	Percentage time
Other…Incident reporting.	0
Other…awards ceremony.	0.1
Other...Patient group directions.	0.6
Other...Team meetings.	0.9
Other...Report writing.	1.6
Total - Health board activities.	64.7 per cent
Working with GPs	
Reviewing and supporting the management of practices' prescribing budgets (including interrogation of prescribing data, CASPA).	2.7
Training and advising practice staff on: • local and national guidelines (NICE, NSF, D&T committee decisions; and • repeat prescribing systems - improving safety and reducing waste.	1.2
Supporting and undertaking clinical audit to identify compliance with guidance.	6.1
Supporting practices to manage drug withdrawals and discontinuations of benzodiazepines.	0.3
Promoting cost effective prescribing by utilising medication changes e.g. switches or lower cost equivalent identified under LES 2012-13.	8.9
Providing independent advice on the prescribing of novel medicines and sharing prescribing guidelines within the practice.	0.1
Supporting medication reviews in GP practices including: • removal of medicines that have not been issued in the past 12 months; • linking medicines to diagnosis and harmonize quantities so that all medicines fall due at the same time; and • compliance with LHB Medication Review standards.	1.3
Promoting and supporting practices to undertake any LHB/WAG initiatives. e.g. 1000 Patient Lives Campaign.	0.1
Supporting practices about interface prescribing issues.	1
Supporting the implementation or management of ScriptSwitch.	0.2
Training and advising dispensing staff in prescribing practices in completing and reviewing SOPs.	0
Other…..General liaison with practice staff regarding medicine management issues.	1
Other…Clinic support.	0
Other…Resolving prescribing coding issues.	0

Activity profile	Percentage time
Other…GP OOH support activities.	0
Other…Run GP practice meeting.	0
Other…admin.	1.7
Other…dietetic assessment.	1.7
Other…patient letters.	0.7
Other…drug mapping.	1
Other…patient enquiry.	0.1
Working with GP practices - TOTAL	28.1
Working in the community	
Supporting medication reviews: • within local care homes; and • for housebound patients.	0.3
Providing support to community staff e.g. community nurses, district nurses, heath visitors, case managers, on medicines management queries.	0.6
Attending multidisciplinary team meetings within the locality.	0.5
Meetings with community pharmacists and other healthcare professionals.	2
Providing support in care homes, for example: • training for carers; • prescription ordering and waste management; • MAR sheet completion; • controlled drug management; • care home medicines management assessment – targeted; and • Training and advising care home staff in completing and reviewing SOPs.	0.4
Providing training for social services staff.	0.3
Other…..Other Medicine Use Review activity.	0.1
Other…Development/support work relating to community pharmacists.	0.1
Other… writing reports.	0.4
Other…Domiciliary/Nursing home dietetic assessments.	0.9
Total - Working in the community.	
Working with secondary care.	
Organising a supply of a hospital-only drug e.g. acitretin, dronaderone, clozapine susp, mercaptopurine, daptomycin injection etc.	0.1

Activity profile	Percentage time
Answering queries from GPs regarding a TTO or an OPD letter – please also indicate who you liaised with e.g. consultant, specialist nurse, pharmacist, secretary.	0.5
Promoting and supporting LHB/WAG initiatives e.g. 1000 Patient Lives Campaign.	0
Supporting the safe transcription of medication from hospital: • discharge letters; and • targeting specific problem issues.	0.4
Developing shared care protocols.	0.4
Managing compliance with shared care protocols and RAG system.	0
Other…Liaison with/responding to secondary care staff queries/issues.	0
Other…Undertaking secondary care pharmacy advisory work.	0
Other…Preparation of report for MTL meeting.	0.1
Other...Develop standard letter for ONS requests.	0.1
Working with secondary care- TOTAL	1.7

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.

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 have resulted in concomitant decrease in antibiotic resistance.

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

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

There are patients with certain risk factors such as, for example, severe exacerbations of chronic obstructive pulmonary disease (COPD) with increased sputum production, for which 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's expectations.

Communicating with patients is key

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

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

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

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