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Archwilydd Cyffredinol Cymru
Auditor General for Wales

Managing medicines in primary and secondary care



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SWYDDFA ARCHWILIO CYMRU



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Mae'r ddogfen hon hefyd ar gael yn Gymraeg.

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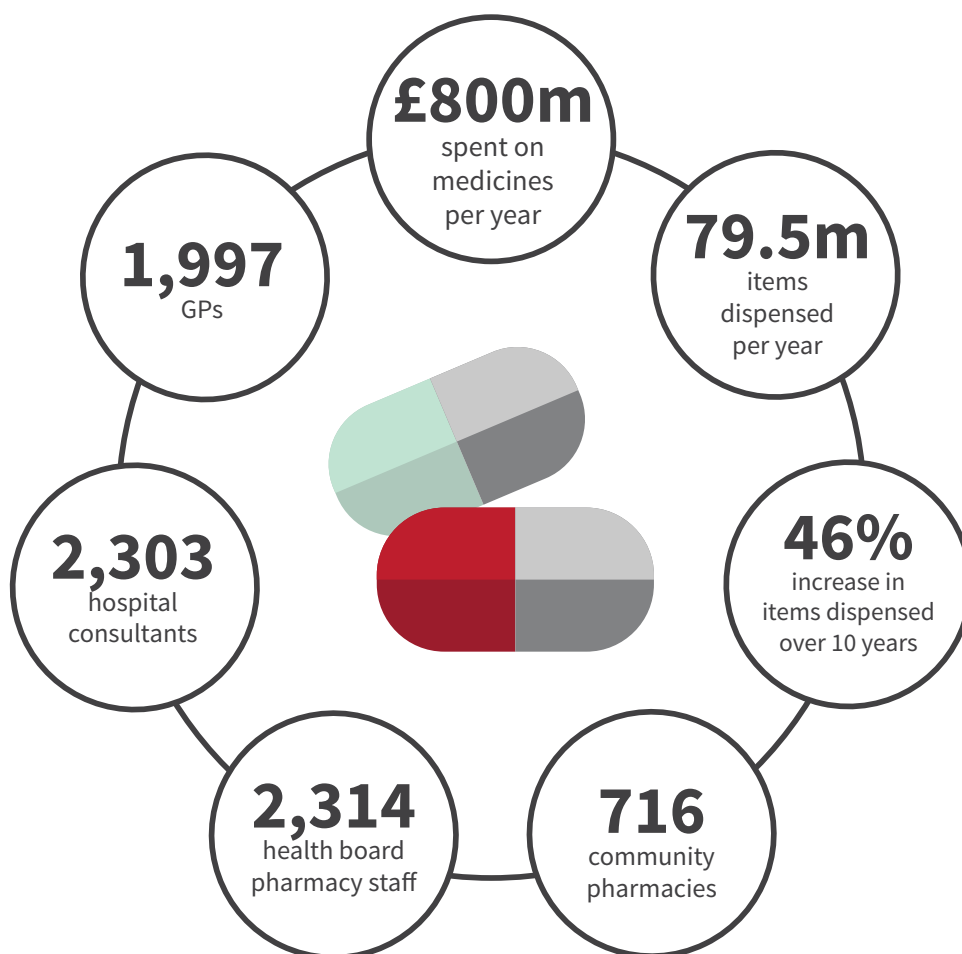
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Summary report

Background

- 1 The most common therapeutic intervention in the NHS is the prescribing of medicines¹ and demand for medicines is growing. **Exhibit 1** highlights some key statistics about the use of medicines in NHS Wales.

Exhibit 1 – Key statistics about medicines in Wales

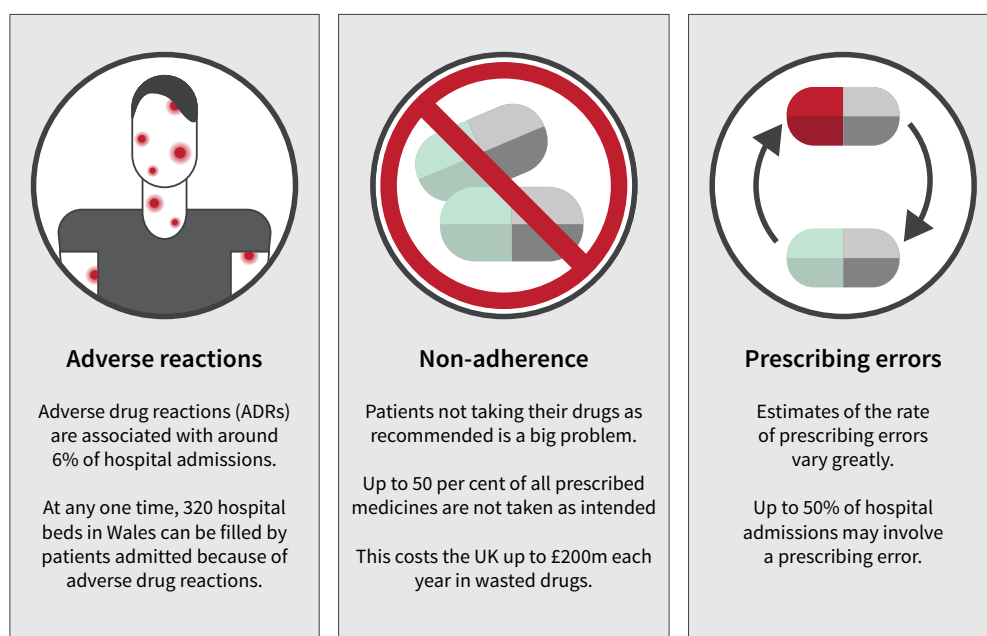


Sources: Cost data are from the All Wales Therapeutics and Toxicology Centre report NICE 'Do not do' Recommendations, April 2015. Dispensing data are from StatsWales in 2015 and relate to items dispensed in the community. GP numbers are from Statistics for Wales release SDR 41/2016. Consultant numbers are from SDR 38/2016. Community pharmacy data are from Statistics for Wales release SDR 166/2015. Data on staff numbers are from the All-Wales Resourcing Mapping Exercise 2014.

1 [Improving Medicines Management webpage on the 1000 Lives website, NHS Wales.](#)

- 2 The Welsh Government has emphasised the importance of prudent prescribing² in responding to challenges of rising demand and austerity. The Prudent Healthcare campaign states that whilst medicines can extend people's lives, they can also reduce the quality of life and directly cause hospital admissions. **Exhibit 2** highlights the main sources of harm to patients from poor medicines management. Given the cost of medicines, the rising demand and the potential for harm to patients from inappropriate prescribing, it is important that the NHS uses medicines effectively to ensure patients get good outcomes from their treatment and that maximum value is secured from this expenditure.

Exhibit 2 – Key facts about the three main sources of harm from medicines

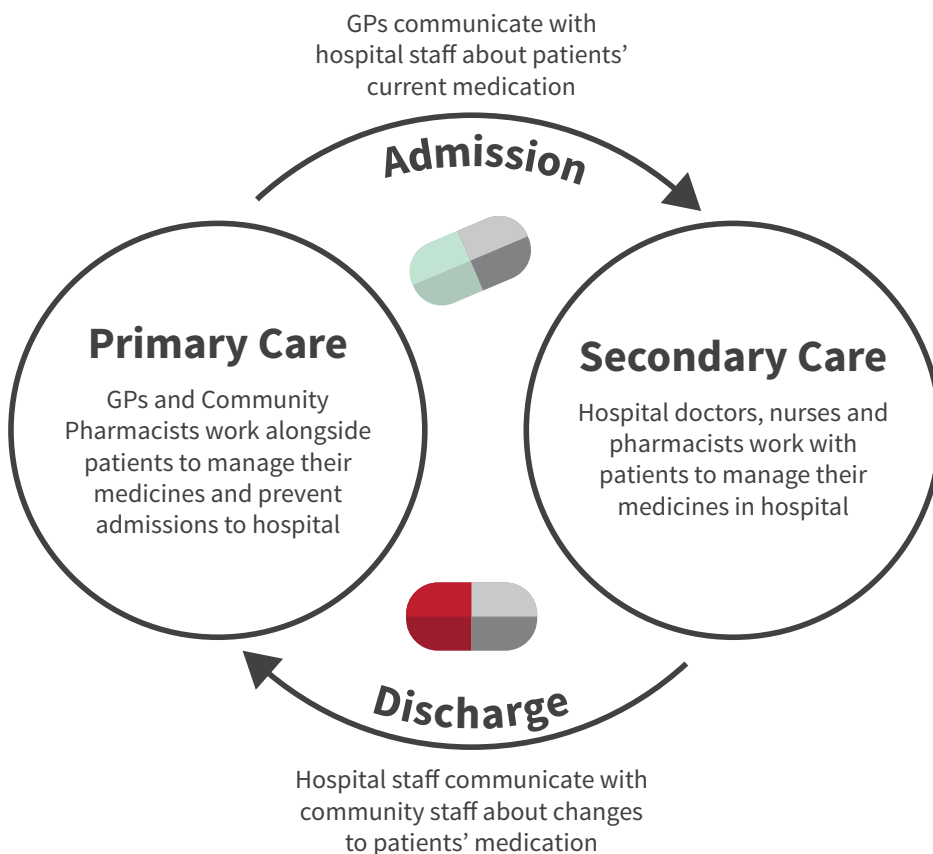


Source: See footnotes 3, 4, 5, 6, 7

- 2 **Better health outcomes and safer care through prudent prescribing webpage on the Making Prudent Healthcare Happen website**
- 3 Pirmohamed et al, **Adverse drug reactions as cause of admission to hospital: prospective analysis of 18820 patients**, *British Medical Journal*, 2004; 329 (7456), 15-19.
- 4 **Better health outcomes and safer care through prudent prescribing webpage on the Making Prudent Healthcare Happen website**
- 5 Lewis et al, **Prevalence, incidence and nature of prescribing errors in hospital inpatients: a systematic review**, *Drug Saf* 2009; 32:379-89.
- 6 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014.
- 7 Royal Pharmaceutical Society of Great Britain, **From Compliance to Concordance – Achieving Partnership in Medicine-Taking**, RPSGB, London, 1997. Shapps, Grant, **A bitter pill to swallow: A report into the cost of wasted medicine in the NHS**, June 2007.

- 3 Making the best use of medicines is just as important in primary care⁸ as it is in hospital (secondary care) and good communication about medicines is particularly important when people are admitted to hospital or are discharged from hospital. When people move from one care setting to another, poor communication can lead to poor continuity of care and subsequent problems with patients' medicines.
- 4 **Exhibit 3** highlights that various groups of healthcare professionals need to be involved to ensure good medicines management in primary and secondary care.

Exhibit 3 – Good medicines management involves numerous professionals working in partnership with the patient, particularly at admission and discharge from hospital



Source: Wales Audit Office

⁸ Primary care prescribing relates predominantly to the prescribing of medicines by GPs but can also include the supply of devices and dressings. GPs are responsible for the majority of prescribing although other professionals including district nurses, community and practice nurses, pharmacists and optometrists can advise and prescribe in certain circumstances.

- 5 The Auditor General reviewed primary care prescribing at all health boards in late 2013 and 2014.⁹ The work examined issues such as the strategic planning of prescribing, the delivery of national prescribing priorities and the opportunities for securing cost and quality improvements. In August 2015, auditors assessed the progress that health boards had made in implementing audit recommendations.
- 6 During 2015, auditors also reported findings from local work which examined the adequacy of hospital pharmacy facilities, pharmacy staffing levels and the effectiveness of a range of processes related to the use of medicines in hospitals.
- 7 This report brings together the key messages from all of the Auditor General's local work on medicines management. A number of recommendations are made which are designed to help strengthen medicines management arrangements in NHS Wales, and support wider prudent prescribing aims. The recommendations in this report supplement and build upon those already made to individual NHS bodies in local audit reports.
- 8 The key findings are summarised below, and are grouped into the following areas:
 - corporate arrangements for managing medicines in NHS bodies;
 - primary care prescribing;
 - management of the prescribing interface between primary and secondary care; and
 - medicines management in acute hospitals, with a specific focus on pharmacy departments.

⁹ Wales Audit Office work on Primary Care Prescribing. We reported at all health boards between August 2013 and March 2014. We updated our findings in August 2015 when health boards completed a self-assessment of their progress in implementing our previous recommendations.

Key findings

- 9 Our overall conclusion is:
- a **We found many good aspects of medicines management, and health bodies are collaborating well to improve services. Nevertheless, medicines management needs a higher profile within health bodies.**
 - b **Whilst NHS Wales is taking positive steps to improve primary care prescribing, there is further scope to make quality and cost improvements.**
 - c **In hospital, pharmacy services are rated highly by NHS staff but there are problems with medicines storage, gaps in information about medicines, and the delay in implementing a national electronic prescribing system is frustrating efforts to improve safety and efficiency.**
- 10 Our key findings are set out in the paragraphs below.

Corporate arrangements: Health bodies are collaborating well but there is scope to raise the profile of medicines issues, improve local planning and strengthen scrutiny of performance

- 11 Health bodies are working well together to contribute to the national strategic direction for medicines and prescribing, although these bodies have made mixed progress in developing their own local plans for medicines management.
- 12 There is a well-defined national process for appraising new medicines and deciding whether they should be used in the NHS in Wales. However, we are aware of three instances where such decisions have been taken outside the national process, which risks undermining the agreed approaches.
- 13 There is a need to strengthen the planning of pharmacy workforce and resources. There are limitations in the current data on pharmacy staffing levels, which makes it difficult to compare health bodies and complicates health bodies' workforce planning. Chief pharmacists told us there would be benefits from agreeing a national service specification for pharmacy services. The specification could facilitate planning by standardising descriptions of services and estimating the resources required.
- 14 There are specific committees related to medicines at all health bodies but we found that these committees tend to be driven by pharmacists and would benefit from more involvement from medical and nursing staff.

- 15 There is scope to raise the profile of medicines management issues in most health bodies. The Trusted to Care report raised the profile of particular issues, such as the way that medicines are administered to patients and the storage of medicines in hospital, but there is a risk that this focus will not be sustained. We also found that the focus on medicines waned during the period when National Prescribing Indicators were removed from the NHS Wales performance management framework.
- 16 Monitoring of prescribing performance focuses on the quantity of drugs prescribed and expenditure. There is little consideration of whether the right patients are receiving the right medicines and whether medicines use is being optimised and is making a difference to people's health outcomes. A key barrier to the recording of prescribing information in hospital is that the wards tend to have manual, paper-based recording of medicines information. Implementing electronic prescribing systems would provide a platform for the routine capture of electronic information about prescribing that should facilitate better monitoring of performance.

Primary care: NHS Wales is taking positive steps to improve medicines management in primary care although there is scope to make prescribing safer and more cost effective

- 17 NHS Wales has taken steps to improve prescribing expertise in primary care teams. The introduction of cluster pharmacists to support medicines management in small numbers of GP surgeries has been well received. There has also been an expansion in the range of services involved in managing people's medicines in the community.
- 18 Homecare medicines services involve the delivery of medicines to patients' homes and now cost around £52 million per year in Wales. These homecare services can be convenient for patients and can save health bodies money but there are also some risks associated with outsourcing these services to private companies. NHS Wales recognises these risks and has taken steps to improve governance of these services.
- 19 Joint working between health boards and GPs to focus on prudent prescribing practices has secured improvements in recent years in aspects of prescribing that relate to patient safety and quality of care, as well as cost reductions. However, scope for further improvements exists and this report points to opportunities for better quality prescribing in relation to antibiotics, analgesics, preventative asthma medicine and drugs used to treat certain mental health conditions. Securing these and other improvements can also release further financial efficiencies, and this report highlights scope for around £8.3 million in savings through improved prescribing practices. It is important to note, however, that health bodies' efforts to reduce the total cost of medicines is complicated by fluctuating drug prices, rising

demand for certain medications and the frequent emergence of new and expensive medicines. Nevertheless, the Welsh Government has estimated that around £10 million in possible savings is available by reducing wasted medicines.

- 20 When people have problems with the management of their medicines in the community it can lead to them being admitted to hospital. Weaknesses in recording such instances means the extent of medicines-related admissions is difficult to quantify.

Interface between primary and secondary care: There are medicines-related safety risks and inefficiencies when people move in and out of hospital

- 21 When patients move between primary care and secondary care settings, it is important that information about their prescribed medicines transfers with them. Good communication between the GP and the hospital can prevent errors and inaccuracies about people's medicines and reduce the risk of avoidable harm to patients. Local audit work found that there is often poor transfer of information about patients' medicines when they are admitted to hospital, and when they are discharged back to the GP. Problems typically centred on the quality and timeliness of medicines information and access to systems that can help facilitate good exchange of information. Whilst a system called the GP Record provides hospital staff and community pharmacists with summary information about patients' normal medications, the system has only been made available to a limited range of staff, and only for patients admitted as emergencies.
- 22 When a patient is being discharged from hospital, a community pharmacist may be asked to carry out a Discharge Medicines Review (DMR) soon after the patient's return home. The review aims to ensure that changes to the patients' medication are continued appropriately in the community. The Welsh Government intends to increase the rate of DMRs and is investing in technology to make DMRs easier but auditors found wide variation in the current extent of DMR use across Wales.

Acute hospitals: Pharmacy services are rated highly by medical and nursing staff but there are problems with medicines storage, gaps in medicines information and there is frustration at delays in implementing electronic prescribing

- 23 In Welsh hospitals, the prescribing process is paper-based. Prescribers in hospital write prescriptions on paper drug charts which are used by pharmacy staff to dispense the medicines. The drug chart reviews we carried out in a sample of wards found some gaps in the medicines information recorded, with a small number of charts not having the requisite information on patients' medicines allergies, and some instances of unclear recording of whether or not patients had received the doses of medicines they were due.

- 24 The introduction of electronic prescribing systems could have significant benefits by facilitating quicker, safer and cost-effective transfer of information. There has been a national plan to implement electronic prescribing since 2007 and throughout our work staff expressed frustration at the time it is taking to implement electronic prescribing and medicines administration. Roll out of electronic prescribing is not due until 2023.
- 25 Our visits to hospital pharmacies concluded that, in general, they comply with key national requirements for pharmacy facilities. Boundary security and monitoring of fridge temperatures are generally sound, although there is scope to improve the storage and security of medicines within pharmacy departments and on the wards.
- 26 Medicines management is a multi-disciplinary process and we found good relationships on hospital wards between pharmacy, medical and nursing staff. Doctors and nurses generally consider pharmacy services to be accessible and responsive to their needs, although less so outside normal working hours. Most health bodies are considering extending pharmacy hours but no health body has yet developed a clear, sustainable plan for seven-day pharmacy services.
- 27 A report¹⁰ from England has highlighted the importance of pharmacy teams spending more time on patient-facing, clinical services, rather than back-office services. Whilst there are limitations in the current data on pharmacy staffing levels, we found there is a need for more consistent clinical pharmacy input on the wards and to spend more time educating patients and supporting them to take medicines correctly.

¹⁰ Lord Carter of Coles, **Operational productivity and performance in English NHS acute hospitals: Unwarranted variations**, February 2016.

Recommendations

28 Recommendations made here are in addition to those we have made at each health body.

Recommendations

R1 Electronic prescribing systems have significant potential to improve safety and efficiency. There has been a national plan to implement electronic prescribing in secondary care since 2007 but no hospital in Wales is using electronic prescribing on its wards.

The Welsh Government, NHS Wales Informatics Service (NWIS) and all health bodies should agree a detailed, time-bound plan for implementing electronic prescribing systems in secondary care, along with a clear process for monitoring the delivery of the plan.

R2 The Trusted to Care report led to the development of an all-Wales policy and patient safety notice on medicines administration, recording, review and storage (MARRS) as well as the introduction of a new mandatory training programme for all staff involved in medicines administration. Nevertheless, our visits to hospital wards found safety issues caused by incomplete information on drug charts, making it unclear whether patients had received their medicines as intended. We also found that some health bodies are securing benefits from using automated vending machines for medicines although these are not yet commonplace on hospital wards.

- a The Chief Pharmaceutical Officer for Wales should lead national reviews to assess each health body's compliance with the MARRS policy, to assess the effectiveness of the new mandatory training programme on medicines management and to assess the long-term sustainability of actions taken in each health body to address all medicines-related findings from Trusted to Care.
- b Each health body should develop a time-bound plan for improving storage and security of medicines on hospital wards, including specific consideration of the benefits of implementing automated vending machines.

R3 Prescribing and medicines management need a higher profile within health bodies. The Trusted to Care report has raised the profile of certain issues but there is a risk that this focus will not be sustained. Pharmacy is not well represented at Board committees and not all Chief Pharmacists report directly and regularly to an executive director.

- a Health bodies should ensure their Chief Pharmacist is, or reports directly to, an executive director.
- b Health bodies should have an annual agenda item at the Board to discuss an annual report covering pharmacy services, medicines management, primary care prescribing, homecare medicines services and progress in addressing the issues identified in Trusted to Care.

Recommendations

R4 We found limitations in workforce planning information and there is no definitive guidance to help health bodies calculate the resources they need to deliver pharmacy services. There are also specific workforce challenges, such as the need for more consistent clinical pharmacy input on hospital wards and for hospital pharmacy staff to spend more time supporting patients to take their medicines correctly.

Chief Pharmacists should seek the support of the NHS Wales Shared Services Partnership's Workforce, Education and Development Services to strengthen current resource mapping approaches to facilitate robust comparisons of pharmacy staffing levels across Wales and to produce a generic service specification. The specification should set out the typical resources required to deliver key pharmacy services, such as clinical pharmacy input and patient education on the wards. The specification should also be flexible enough to recognise that different types of wards will require different levels of resource.

R5 Joint working between health boards and GPs to focus on prudent prescribing practices has secured cost reductions in recent years, as well as improvements in safety and quality of care. This report points to opportunities to secure further improvements, accepting that health bodies' efforts to reduce their total spending on medicines are complicated by fluctuating drug prices, rising demand for certain medications and the frequent emergence of new and expensive medicines. Whilst our work did not consider in detail the prescribing performance of hospital-based staff, feedback from health bodies suggests scope exists to improve the quality and cost of secondary care prescribing.

- a To drive further improvements in prescribing, health bodies should ensure they have a targeted plan of action to achieve cost and quality improvements in prescribing in primary care and in secondary care, in line with prudent healthcare principles. The plan of action should be informed by regular analysis of prescribing data to ensure that attention is focused on the areas where the greatest scope exists to secure cost and quality improvements.
- b In line with the need to increase the profile of medicines management at Board level, health bodies should ensure that performance against the National Prescribing Indicators is considered regularly by the Board, alongside progress in delivering wider cost and quality improvements in primary care prescribing.
- c The Welsh Government should ensure the work of the Efficiency, Healthcare Value and Improvement Group takes an all-Wales view on the cost and quality improvements that should be achievable through better prescribing and medicines management, and uses mechanisms such as the twice-yearly Joint Executive Team meeting between government officials and each individual health body to ensure that the necessary progress is being made in securing these improvements.

Recommendations

- d The Welsh Government should work with NHS bodies to develop and implement a clear national plan of action aimed at reducing medicines wastage, building on the findings from the ongoing evaluation of the Your Medicines, Your Health campaign. Reducing waste leads to cost savings whilst at the same time helping patients to take their medicines as prescribed, thereby helping to secure maximum benefit from the medicine.
- e Linked to the above points, the Welsh Government should ensure that there is a clear and time-bound plan in place to roll out improved repeat prescribing systems that are being tested by the Prudent Prescribing Implementation Group.

R6 Performance monitoring in relation to medicines currently focuses on the quantity and cost of medicines prescribed. There is little consideration of the conditions for which medicines are prescribed and the outcomes from people's medication, although much of this information is recorded in GP information systems. The NHS in Wales is therefore not yet considering a rounded picture of whether the prescribing of medicines is effective.

The Welsh Government should develop a plan, in partnership with All Wales Medicines Strategy Group (AWMSG), health bodies and GPs, to evolve the National Prescribing Indicators so that they begin to consider measures of whether the right patients are receiving the right medicines and whether medicines are making a difference to people's outcomes.

R7 Homecare medicines services involve the direct delivery of medicines to patients' homes, thereby preventing the need for patients to visit hospital to receive medicines. These services cost NHS Wales at least £52 million in 2015-16 although our findings suggest health bodies may not have a clear picture of the true cost. There is also a risk that by health bodies outsourcing these services to private providers, they may not have a clear picture of the quality and safety of services provided.

The All Wales Chief Pharmacists' Committee should lead a national audit of compliance with the measures set out in the all-Wales handbook¹¹ on the safe and effective delivery of homecare services.

R8 There is a need to do more to prevent medication-related admissions (MRAs) to hospital but issues with the coding of hospital admissions make it difficult to quantify the true extent of the problem. With such poor data it is difficult to target the root causes of these admissions.

Welsh Government, supported by 1000 Lives Improvement, should work with pharmacy teams, clinical coding staff and clinicians across Wales to develop a programme aimed at identifying and preventing MRAs.

¹¹ Royal Pharmaceutical Society Wales, **Handbook for Homecare Services Wales**, September 2014.

Recommendations

R9 The GP Record allows authorised staff to access electronic information held by GPs about patients' current medication. The system is currently available to a limited range of staff in hospital and in the community, and can only be used in hospital for patients admitted as emergencies. A barrier to expanding the use of the system is concern from GPs about the security and governance of sensitive information about their patients. The Welsh Government and NWIS should:

- a continue to work with GP representatives to ensure their concerns about information governance are addressed;
- b facilitate wider access to the GP Record so that all pharmacists and pharmacy technicians that deliver clinical services on the wards can access the system for patients who are admitted for an elective procedure, as well as those admitted as emergencies; and
- c facilitate wider access to, and use of, the GP Record in community pharmacies so that whenever it is clinically appropriate, patients can have their medicines managed in the community without accessing a GP or other NHS services.

R10 The Welsh Government has, on occasions, not used the agreed national process when taking decisions on whether to make new medicines available to patients. There is a risk that such decisions could 'muddy the waters' and undermine what is otherwise a clear and well-defined national appraisal process.

Where the Welsh Government makes a decision to make a new medicine available outside the current national appraisal process, it should clearly explain the rationale underpinning its decision and ensure that health bodies are given sufficient time to plan for the financial implications and service changes associated with introducing those new medicines.

Part 1

Corporate arrangements: Health bodies are collaborating well but there is scope to raise the profile of medicines issues, improve local planning and strengthen scrutiny of performance



A collaborative approach has been positively used to develop the national strategic direction for medicines although progress by health bodies in developing their own local plans has been more mixed

- 1.1 Local audit work examined whether NHS Wales and its constituent health bodies had clear strategies and plans setting out how patients' medicines should be managed across primary and secondary care.
- 1.2 **Exhibit 4** shows that there are numerous national sources of expertise and guidance that collectively contribute to the strategic direction for medicines in Wales. These various groups and fora provide a mechanism for NHS bodies, and in particular Chief Pharmacists, to work collaboratively on the identification of priorities and evidence based ways of working in relation to medicines management.

Exhibit 4 – The national strategic direction for prescribing and medicines management is set out in various sources of expertise and guidance

Source of expertise and guidance

All Wales Medicines Strategy Group (AWMSG)

The AWMSG was formed in 2002 to provide advice on medicines to the Minister for Health and Social Services. The group has members from all local health bodies and produced a five-year strategy for medicines in 2014. The strategy recognises the importance of integration of primary and secondary care, improvements coming from electronic prescribing and the need to 'make every penny count' through better value-for-money prescribing. This document clearly sets out some of the outcomes and what will be achieved and as a technical document should support the development of local strategies.

AWMSG is advised by two sub-groups:

- All Wales Prescribing Advisory Group (AWPAG), which advises on clinical development relating to medicines use and medicines management/optimisation; and
- the New Medicines Group (NMG), which makes preliminary recommendations about the introduction of new medicines.

The AWMSG receives professional support from the All Wales Therapeutics and Toxicology Centre (AWTTC), which has several functions to support health bodies. These functions include the provision of independent information on medicines and the provision of data analysis and financial forecasting through the Welsh Analytical Prescribing Support Unit (WAPSU) and encouragement of suspected adverse drug reaction reporting.

Source of expertise and guidance

Prudent Prescribing Implementation Group (PPIG)

The PPIG replaced the National Medicines Management Programme Board in 2014. Its role is to provide leadership on safe and effective medication practice, in line with the principles of Prudent Healthcare. The group reports to the Cabinet Secretary for Health, Wellbeing and Sport via the Chief Pharmaceutical Officer and the Chief Executive of NHS Wales, who reviews the group's work plan and its annual reports.

All Wales Chief Pharmacists' Committee

This is a forum that was formed to provide leadership, vision and direction to the pharmacy sector in Wales. The chief pharmacists from each of the health boards and Velindre NHS Trust meet five times a year and have a broad range of responsibilities including collaboration, improving safety and setting priority areas for improvement.

National Prescribing Indicators (NPIs)

The NPIs are a key source of guidance for the strategic direction in Wales and were originally developed with the intention of supporting prescribing optimisation. The NPIs are developed by AWPAG and are then endorsed annually by the AWMSG. This process appears to involve ample opportunity for discussion and consultation across Wales and has resulted in considerable, specific focus on the issues included in the NPIs.

[Clinical Effectiveness Prescribing Programme \(CEPP\) webpage on the AWMSG's website](#)

Approach to Individual Patient Funding Requests (IPFR)

IPFRs are usually requests from clinicians who want health-body approval to use medicines that are not normally funded by the NHS. Clinicians submit requests relating to individual patients and must convince the panel of 'exceptionality', meaning that the patient's unusual clinical issues mean that the patient would derive greater clinical benefit from the treatment than other patients with the same condition.

After recognising difficulties and varied practices across Wales for managing the difficult and emotive decisions related to IPFRs, NHS Wales has collaborated to develop an all-Wales IPFR policy. Work is also ongoing to develop a 'One Wales' cohort process to take decisions on funding medicines in circumstances where several patients may benefit from the medicine and therefore cannot be considered through IPFRs, as each patient cannot be argued to be 'exceptional'.¹²

In July 2016, the Cabinet Secretary for Health, Wellbeing and Sport announced plans for a review of the IPFR process, to look at consistency of decisions across health bodies and to consider the eligibility criteria for the individual patients concerned in IPFRs.

Source: Wales Audit Office

¹² All Wales Therapeutics and Toxicology Centre webpage on Individual Patient Funding Requests

- 1.3 There is a well-defined national process for appraising new medicines and deciding whether they should be used in the NHS. These decisions are taken following advice from two sources, the National Institute for Health and Care Excellence (NICE) and AWMSG. These bodies consider how well the medicine works, how cost-effective it is and which patients would benefit from the treatment. The two bodies work in a co-ordinated way to ensure they do not duplicate each other's efforts, with AWMSG tending to appraise medicines not due to be appraised by NICE for some time, often producing interim guidelines until NICE has concluded its appraisal.
- 1.4 We are aware of some instances where decisions have been taken outside the national process described above (see [Appendix 2](#)). Whilst we have not reviewed the appropriateness or effectiveness of these decisions, there is a risk that such decisions could 'muddy the waters' and potentially undermine what is otherwise a clear and well-defined national appraisal process.
- 1.5 The extent to which individual health bodies in Wales have developed local strategies and plans for medicines management varies considerably. The variation extends from having no medicines management strategy in place, to having a clear strategy that focused specifically on key challenges such as integration between primary and secondary care. Health bodies have accepted our recommendations to strengthen local strategies and plans and Chief Pharmacists across Wales have articulated plans to work jointly to develop a common approach to taking this forward.
- 1.6 Across Wales we found health bodies have struggled to engage patients and staff in the development of medicines strategies. There are clear benefits from involving patients and staff because they can provide vital perspectives from the point of view of receiving and delivering health services. The AWTTTC/AWMSG has established a Patient and Public Involvement Group (PAPIG) to engage patients and staff in the development of medicines strategies and it will be important to ensure that the output from this group helps facilitate the closer engagement that is needed.
- 1.7 In response to our survey across Wales, 64 per cent of pharmacy staff agreed or strongly agreed that their organisation had an effective medicines management strategy. Only 31 per cent of pharmacy staff in our survey said they had been consulted and been able to contribute to the development of the strategy.
- 1.8 Health bodies need workforce plans to align with their service plans, to ensure pharmacy teams have the right skill mix, capability and capacity to manage patients' medicines effectively. Our work revealed some specific ways in which workforce planning could be improved in relation to pharmacy and medicines management, as summarised in [Exhibit 5](#).

Exhibit 5 – There is a need to strengthen planning of pharmacy workforce and resources

Main issues in relation to workforce planning

Difficulties comparing hospital pharmacy staffing levels

Chief Pharmacists are collaborating on work to compare staffing levels of hospital pharmacy teams as part of an exercise called Resource Mapping. Whilst this collaboration is a positive step, the exercise has not yet been successful in securing robust comparisons across health bodies, due to difficulties in ensuring fair comparisons.

Pharmacy can be forgotten when planning new services

During our fieldwork, pharmacy teams told us about several occasions where health bodies had introduced new services, such as new clinics, without fully considering the pharmacy resource that would be required to support the new service.

New cluster pharmacist roles have depleted resources in hospital

The introduction of new cluster pharmacist roles (see [paragraph 2.4](#) for further details) in primary care appears to be a positive step. However, recruitment to fill these posts was largely from band seven hospital pharmacists who are major contributors to direct service delivery in hospitals. Whilst this depletion in hospital pharmacy teams is temporary, this instance emphasises the need for comprehensive and future-proofed planning of the pharmacy workforce across sectors. At the time of drafting this report, the Chief Pharmaceutical Officer and NWSSP were working together to strengthen pharmacy workforce planning. Pre-registration training is currently separate for hospital and community pharmacists. Work is ongoing to integrate the two training programmes with a view to planning and training the workforce more holistically.

Pharmacy's role is likely to be more clinical in future

Your Care Your Medicines is a vision document developed jointly by the Welsh Pharmaceutical Committee and the Royal Pharmaceutical Society. The document sets out the ambition for the future of the pharmacy profession in Wales. It emphasises the need for pharmacists to be better integrated into multidisciplinary healthcare teams and promotes the broadening of pharmacy team roles into more clinical areas.

This vision fits with the Prudent Healthcare concept of promoting NHS staff to 'only do what only you can do', thereby using their expertise prudently.

Main issues in relation to workforce planning

The use of non-medical prescribing needs remains piecemeal

Prescribing is traditionally a role carried out by doctors but non-medical prescribing is carried out by nurses, pharmacists, physiotherapists and other healthcare professionals.

Research carried out at Cardiff University¹³ has identified a range of factors that are hampering the expansion of non-medical prescribing in Wales, such as a lack of funding and support to develop such roles.

Our work showed some positive examples of prescribing being carried out by pharmacy staff rather than by doctors. However, the development of these roles is piecemeal and there is not yet consensus and a structured approach to developing these roles for the future.

There are challenges in moving towards seven-day hospital services

The Royal Pharmaceutical Society has highlighted problems with the availability of pharmacy services outside normal working hours. The society reports that limited availability of hospital pharmacy services, particularly at weekends, can result in more missed doses and prescription errors, a lack of medicines reconciliation and prolonged waits for discharge medication¹⁴. Health bodies are at the stage of considering how and whether to expand the hours of their pharmacy services and robust workforce planning will be an essential enabler.

A national service specification could help health bodies plan the pharmacy resources they need to meet demand

Chief pharmacists told us there would be benefits from developing a nationally-agreed service specification that could be used to guide the planning of services in each health body. The specification could help to standardise the descriptions of various pharmacy services and could set out estimates of the resources required to deliver these specific services. In this way, the service specification would be beneficial in standardising approaches to workforce and service planning. Local work did, however, identify examples of positive practice, such as work underway in Hywel Dda and Betsi Cadwaladr University Health Boards to develop a service specification for clinical pharmacy services on inpatient hospital wards.

Source: Wales Audit Office

¹³ Professor Molly Courtenay, Dr Riyad Khanfer, **An overview of non-medical prescribing across Wales**, presentation to the Chief Nursing Officer for Wales conference, May 2016.

¹⁴ Royal Pharmaceutical Society, **Seven Day Services in Hospital Pharmacy: Giving patients the care they deserve**, 2014.

Health bodies' medicines management groups tend to be driven by pharmacists and would benefit from greater involvement from doctors and nurses

- 1.9 The **Professional Standards for Hospital Pharmacy Services**¹⁵ (the Standards) state that health bodies should have multidisciplinary medicines management groups to provide a focal point for the development of policies, procedures and guidance.
- 1.10 We found that all health bodies have medicines management groups but the names, memberships, remits and reporting lines vary across Wales. A general issue across Wales is that these groups tend to be driven primarily by pharmacists, with more limited involvement from doctors and nurses.
- 1.11 It is important that pharmacists, doctors and nurses are engaged in these groups because medicines management is a truly multi-professional process where doctors do the majority of prescribing, pharmacists do the majority of clinical checking of prescriptions, pharmacy technicians tend to dispense medicines and nurses do the majority of the administration of medicines to patients. It is also important that the pharmacists, doctors and nurses engaged in these groups are sufficiently informed about the key issues related to medicines management, and are sufficiently influential to spread the learning from the group to their colleagues. We found that whilst a small number of groups are chaired by doctors, membership from medical and nursing staff varies and there can be difficulties in ensuring attendance and ownership from these groups of staff.

The Trusted to Care report has focused attention on particular medicines issues but this focus needs to be sustained and there is a general need to do more to raise the profile of medicines issues within health bodies

Trusted to Care has raised the profile of the need to improve the storage and administration of medicines in hospital but there is a risk that this increased focus will not be sustained

- 1.12 In May 2014, an independent review¹⁶ at Abertawe Bro Morgannwg University Health Board, called **Trusted to Care**, highlighted serious problems with administration and recording of medicines. After **Trusted to Care**, the Minister for Health and Social Services ordered spot checks at 20 hospitals across Wales. The main findings from the spot checks were the need to improve standards in the dispensing and administration of medicines during hospital drug rounds, the storage of medicines on the wards and the need to record much better information about which patients have received their medicines.

¹⁵ Royal Pharmaceutical Society, **Professional Standards for Hospital Pharmacy Services**, July 2012.

¹⁶ Professor June Andrews, Mark Butler, **Trusted to care: An independent review of the Princess of Wales Hospital and Neath Port Talbot Hospital at Abertawe Bro Morgannwg University Health Board**, May 2014.

- 1.13 Health bodies published on their websites details of the actions they took after **Trusted to Care**. Actions related to medicines at a national level have included:
- Development of an all-Wales policy on medicine administration, recording, review and storage (MARRS) in November 2015. The policy emphasises that the secure storage of medicines on the ward is the responsibility of the sister or charge nurse. The policy also includes specifications for medication cupboards and states that treatment room doors should be kept locked when not in use.
 - Development of an electronic learning package for all staff involved in MARRS.
 - Introduction of mandatory training on medicines management for all staff involved in medicines administration, when joining a health body, including three-yearly update training.
 - Release of a patient safety notice relating to the safe storage of medicines in hospital¹⁷.
 - The development of a framework that sets out how healthcare support workers can safely and effectively be involved in medicines management.
- 1.14 In August 2015, Professor June Andrews published a follow-up report¹⁸ which recognised that medicines management was one of the areas where there had been particular progress at Abertawe Bro Morgannwg University Health Board since the original review. The Welsh Government's accompanying report, **Learning from Trusted to Care: One year on**, notes much good work and emphasises the need to maintain the momentum of improvement.
- 1.15 It was clear from our work that **Trusted to Care** has helped raise the profile of certain medicines-related issues in health bodies across Wales, in particular there has been a greater focus on MARRS. While **Trusted to Care** has been impactful, there is a risk that since the programme of work on MARRS has now ended, the focus on improving medicines administration and recording processes will not be maintained. Chief pharmacists told us that NHS Wales needs to find a way of ensuring a sustained, long-term focus on improving the administration of medicines and recording processes. Local audit findings relating to the recording of administered medicines are considered further in [Part 4](#) of this report.

¹⁷ NHS Wales website, **Patient Safety Notice PSN 030, The safe storage of medicines: Cupboards**, April 2016.

¹⁸ Professor June Andrews, **Trusted to Care – 2015 Review**, August 2015.

There is scope to raise the profile of medicines and prescribing within health bodies, particularly since the Board focus on national prescribing indicators has waned

- 1.16 Annual expenditure on medicines in Wales is around £0.8 billion. To put this in context, this is more than the entire revenue budget of Cardiff and Vale University Health Board¹⁹. Given the scale of this expenditure, it would be reasonable to expect that prescribing and medicines management should have a high profile within health bodies. However, pharmacy staff interviewed as part of the local audit work were concerned that this was not happening. Auditors were also told that the profile needs to be on the quality of prescribing and medicines management, not just the costs.
- 1.17 The position of pharmacy services within health body management structures has an impact on the profile of medicines-related issues. The situation varies across Wales ranging from pharmacy having its own independent directorate to pharmacy sitting within the support services directorate. The Royal Pharmaceutical Society recommends that chief pharmacists should be, or should report directly to, a designated executive board member. Across all organisations involved in a 2015 benchmarking exercise run by the NHS Benchmarking Network²⁰ (the NHS Benchmarking Network exercise), 68 per cent of organisations have a chief pharmacist who is, or reports directly to, a designated executive board member. In Wales, all health board chief pharmacists are professionally accountable to an executive director. However, the level and frequency of involvement between the chief pharmacists and executive ranges from monthly one-to-one meetings to no regular involvement.
- 1.18 The pharmacy team should also be able to influence the design of services that involve medicines. This is because when new services or clinics are introduced, this normally creates extra demand for pharmacy services. Across Wales we found that pharmacy teams have little or no involvement in decisions to introduce new services or clinics²¹.
- 1.19 National Prescribing Indicators (NPIs) were removed from the NHS Wales performance management framework in 2013-14. Consequently, in recent years, the NPIs have not featured prominently in the performance management frameworks of health bodies and progress against the indicators is rarely featured in reports to Boards and Committees. The Welsh Government has now recognised the need to elevate the profile of the NPIs and it has reintroduced a selection of the indicators within the national performance framework for 2016-17²².

¹⁹ The total revenue resource limit of Cardiff and Vale University Health Board in 2015-16 was approximately £0.78 billion.

²⁰ NHS Benchmarking Network, **Pharmacy and Medicines Optimisation, Provider Project**, July 2015.

²¹ All health bodies said their pharmacy teams had no or limited involvement in such decisions except Velindre NHS Trust's whose pharmacy team is fully involved in decisions regarding new services.

²² Welsh Government, Welsh Health Circular (WHC (2016) 023), **NHS Outcome Framework and measures guidance 2016-17**, 29 March 2016.

Performance monitoring focuses on quantity and costs of prescriptions but more information is needed on quality, safety and efficiency

- 1.20 Given the importance of medicines in healthcare, it is essential that health bodies have robust arrangements for monitoring their performance.
- 1.21 Nationally-produced reports on NPI performance have improved markedly in recent years. At the time of our initial work on primary care prescribing, the nationally-available data on NPIs was highly technical and difficult for the lay reader to interpret. The reports on NPI performance now routinely produced by AWTTTC are much improved. The reports contain engaging graphs that compare performance between Wales and England, trend data in each health board area and even information at the level of primary care clusters. Health bodies now need to ensure they are making good use of the nationally-produced data to help them drive comparisons and improvements.
- 1.22 Further improvements to the national data include work by WAPSU to develop an interactive, online tool for analysing primary care prescribing data, called Spira. This engaging and user-friendly tool presents data flexibly, using dashboard views, and was showcased at a good practice event led by AWTTTC in June 2016.
- 1.23 We found that there is improving collaboration between health bodies in relation to benchmarking information on medication safety. All health bodies are now recording and reporting information related to the Patient Safety Thermometer, which covers a number of safety-related indicators.
- 1.24 The NHS Benchmarking Network exercise found that 57 per cent of participating organisations had fully complied with the Royal Pharmaceutical Society requirement to have in place agreed key performance indicators 'to enable internal and external assessment of the operational and financial performance of pharmacy services'. All five of the participating Welsh organisations had fully complied with this.
- 1.25 However, we found that health bodies can do more to make prescribing and medicines management information more visible to staff, with the purpose of driving improvement. We also found that performance monitoring can be inhibited by inadequacies in the information collected. National and local monitoring of prescribing focuses on which medicines are prescribed, in what quantity and at what cost. Whilst these are valid measures, the NHS in Wales would benefit from collecting better information about why medicines were prescribed. There is little information available on the conditions for which medicines were prescribed and measures of outcomes from people's medication. If the NHS in Wales is to improve its understanding of the behavioural issues behind prescribing then it needs better information and it needs to overcome the barriers set out in [Exhibit 6](#).

Exhibit 6 – There are three key barriers that are preventing the intelligent analysis of prescribing and medicines management in Wales

Key barriers
<p>Difficulties accessing GP-held information</p> <p>One of the barriers to carrying out this more detailed analysis is the fact that much of the personal information about patients' conditions, ages and demographics is held within GP computer systems. There are complications with information governance that mean it is difficult for health bodies and the Welsh Government to access information directly held by GPs.</p>
<p>Lack of IT systems to capture prescribing information on hospital wards</p> <p>Another key barrier is that on hospital wards there is very limited electronic data collected on prescribing. Hospital pharmacy departments have IT systems to record data on the quantity of medicines delivered to each of the wards, but on the wards, there tends to be manual, paper-based recording of which patients received the medicines, the doses they received and the clinicians who prescribed the medicines. Without the capture of this information electronically, there are significant barriers to monitoring and improving the prescribing and use of medicines on the wards. Implementing electronic prescribing systems would be a key enabler in improving the recording of computerised information on medicines use in hospital and these systems are described further in paragraphs 4.7 to 4.12.</p>
<p>Difficulties agreeing on valid comparisons between populations</p> <p>Our fieldwork suggests that there is no perfect way of comparing prescribing performance across different populations and geographical areas. There are several measures of prescribing that have been developed in an attempt to take into account the demographic difference between populations. However, there is recognition that these measures are not perfect.</p> <p>The NHS Benchmarking Network also told us that Wales needs to develop 'weighted population data' for each health board area to account for the different healthcare needs of populations, to ensure comparisons with England are valid.</p>

Source: Wales Audit Office

- 1.26 More needs to be done to measure patients' experience of their medicines. The NHS Benchmarking Network exercise found that only 39 per cent of organisations had fully complied with the Royal Pharmaceutical Society requirement that 'feedback from patients, service users and colleagues inform the development of services'. Of the five participating organisations from Wales, one had fully complied with this and four had partially implemented it.

Part 2

Primary care: NHS Wales is taking positive steps to improve medicines management in primary care although there is scope to make prescribing safer and more cost effective



NHS Wales has taken positive action by introducing new ways of providing pharmacist support to GP practices and by expanding the range of community services for managing people's medicines

Most areas have introduced new cluster pharmacist roles to increase the availability of medicines management expertise in primary care teams

- 2.1 The 1,997 GPs that work in Wales²³ are the main prescribers of medicines in the community. If health bodies are to improve their use of medicines, it is essential they work effectively with GPs to optimise their prescribing practices, to improve quality and to minimise any unnecessary costs.
- 2.2 Health boards use pharmacists and technicians in a range of ways to help optimise prescribing practices, some of which are described in the bullet points below:
 - Practice-based pharmacists: These staff tend to be employed by GP practices to be part of the primary care practice team and carry out clinical roles as well as providing prescribing guidance to other staff.
 - Prescribing advisors: These staff tend to be employed by the health board to support a range of GP practices through providing data and analysis and facilitating service development. The advisors also provide guidance and support to improve the quality of prescribing.
 - Cluster pharmacists: These staff tend to be employed by the health board and work with a cluster of GP practices, seeing patients in clinics and reviewing patients' medicines.
- 2.3 The work of prescribing advisors has tended to be driven by health board prescribing priorities and models have tended to involve the advisors working across large numbers of GP practices. Local audits of primary prescribing found that the numbers of prescribing advisors and the way in which they are used varied significantly across health boards in Wales. We were told during our fieldwork interviews that health board prescribing advisors are sometimes not seen as an intrinsic part of the primary care team, and can be limited in the time they are able to spend in practices, which can make it more difficult for these staff to secure sustainable change in prescribing behaviours.
- 2.4 Since we published our local reports, many primary care clusters²⁴ have used Welsh Government funding to invest in cluster pharmacist roles. There are around 80 such posts in Wales and these roles differ from traditional prescribing advisor roles because they are more directly involved in clinical services through the delivery of clinics and reviewing patients' medicines, rather than advising GP surgeries on their prescribing practices. Cluster pharmacists also tend to be permanently based in GP practices, rather than being based in health boards.

²³ This figure is taken from the **Statistics for Wales release SDR 41/2016** and excludes registrars, retainers and locums).

²⁴ Primary care clusters are groupings of GPs and practices locally determined by health boards. NHS Wales, GP One website, [Clusters webpage](#)

Emerging evidence indicates that this approach is helping to embed these staff as part of community teams. In addition, cluster pharmacists tend to cover a much smaller number of practices than traditional prescribing advisors, so the resource is not spread so thinly. Evaluation of these cluster roles is ongoing by Cardiff University and the Royal Pharmaceutical Society.

- 2.5 As described in [paragraph 1.8](#) and [Exhibit 5](#), the introduction of cluster pharmacists has contributed to some temporary workforce problems in hospital pharmacy teams. Recruitment to fill the cluster posts was largely from band seven hospital pharmacists who are major contributors to direct service delivery in hospitals. Whilst this depletion in hospital pharmacy teams is temporary, this instance emphasises the need for comprehensive and future-proofed planning of the pharmacy workforce.

There is a growing range of medicines management services in the community although there are risks associated with services that deliver medicines management in people's homes

- 2.6 In addition to the introduction of cluster pharmacists, recent years have seen an expansion in the range of services involved in managing people's medicines in the community. For example, Wales, along with the rest of the United Kingdom, has seen large growth in the use of homecare medicines services.
- 2.7 Homecare medicines services involve the direct delivery of medicines to patients' homes, thereby preventing the need for them to visit hospital to receive their medicines. These services can provide various types of support, ranging from basic delivery of medicines to complex support through intravenous infusion of medicines. Data we collected from health bodies in May 2016 suggested that in 2015-16, more than 7,000 patients²⁵ were receiving homecare medicines services. The data also suggested that the overall cost of homecare medicines services was around £52 million. The estimated cost has increased 43 per cent since 2014-15, however, this is partly due to health boards improving their monitoring of costs and therefore capturing better, more comprehensive data on expenditure.
- 2.8 The **Hackett Report**²⁶ in England highlighted a number of concerns in relation to homecare services, such as:
- chief pharmacists were not always directly involved in overseeing homecare medicines services, meaning there was a lack of specialist monitoring and control of these services;
 - there were weak contractual, governance and operational control mechanisms to set, operate and monitor contractual arrangements with private providers;
 - there was a lack of national or regional collaboration in the procurement of homecare services; and

²⁵ We have not validated these data. Data on patient numbers was not available from Aneurin Bevan University Health Board.

²⁶ Hackett M, **Homecare medicines: towards a vision for the future**, November 2011.

- there were risks related to the rapid expansion in the market, with large numbers of companies offering particular aspects of homecare whilst some other areas of homecare services are offered by relatively few providers.

2.9 During our work across Wales, pharmacy staff told us that many of the issues raised in the **Hackett Report** apply to Wales. **Exhibit 7** summarises some of the benefits and risks associated with homecare services that we were made aware of during our fieldwork in Wales.

Exhibit 7 – There are benefits and risks associated with homecare services

Benefits	Risks
<p>Patient benefits: Delivery of medicines to patients’ homes can prevent unnecessary journeys to hospital and to community pharmacies.</p>	<p>Quality and safety risks: By health bodies outsourcing these services to private providers, health bodies have less control and oversight of the quality and safety of care being provided.</p>
<p>Financial benefits: Medicines dispensed outside NHS locations are exempt from VAT so health bodies can save 20 per cent on the costs of medicines (although there are additional costs of using homecare service providers).</p>	<p>Financial governance risks: There are risks that health bodies do not have a true picture of the cost of homecare services. This is because not all of the invoices for homecare services are routed through a central point within the health body.</p>
<p>Benefits for hospital pharmacy services: Provision of medicines in patients’ own homes rather than in hospital reduces the workload on busy hospital pharmacies.</p>	<p>Continuity risks: Homecare services in Wales are provided by a relatively small number of large companies. If any such company was to fold, this could have negative impacts for the continuity of care for patients who are currently receiving services.</p>
<p>Benefits in freeing up clinic capacity: Delivering medicines to patients’ homes can, in certain circumstances, prevent the need for outpatient and day case visits, thereby freeing up appointments for other patients.</p>	

Source: Wales Audit Office

- 2.10 NHS Wales has taken some action in an attempt to minimise the risks relating to the governance and management of homecare services. The AWMSG set up a Homecare Subgroup which worked in partnership with the Royal Pharmaceutical Society to produce an all-Wales handbook²⁷ to guide the safe and effective delivery of homecare services.
- 2.11 Another action has been in Abertawe Bro Morgannwg University Health Board taking the lead for Wales in developing standard governance processes related to homecare services. Other health bodies are now learning from this approach and are actively considering whether to commission Abertawe Bro Morgannwg University Health Board to provide homecare administration processes for all of Wales, in order to secure economies of scale and ensure a consistent approach. Regardless of the approach which is chosen, all health bodies will need to ensure they have comprehensive clinical governance checks and balances that provide assurance to their Boards on homecare services.
- 2.12 At the time of our audit work in hospitals, some health bodies were discussing the possibility of moving much of their outpatient dispensing services into the community. Rather than outpatients waiting for their medicines at hospital pharmacies, the new model would see outpatients leaving hospital with a prescription to be dispensed in their local community pharmacy. As well as potentially reducing waiting times, another potential benefit is the easing of demand on busy hospital pharmacies. There are also potential financial benefits because medicines dispensed in the community are exempt from VAT. We are aware of only one example of a health body asking patients for their opinions on moving outpatient dispensing into the community. There may be a need for NHS Wales to more comprehensively assess the impact that such a dispensing approach will have on patients. Whilst outpatient dispensing in the community may prevent waits in hospital, patients may find it inconvenient to visit a community pharmacy after their hospital visit, which could result in delays in patients collecting their prescribed medicines.
- 2.13 There has also been an increased focus on improving medicines management in Welsh care homes. Working in partnership with Welsh pharmacists, the Royal Pharmaceutical Society has produced a new policy called **Improving Medicines Use for Care Home Residents**²⁸. The policy encourages more involvement from pharmacy staff within care homes, as part of the multidisciplinary healthcare team. The Welsh Government has also invested £455,000 from its Health Technology and Telehealth Fund to pilot improvements to prescribing in 30 care homes. The funding was used to trial an electronic system where community pharmacists print and adhere a barcode to the medicines of care home residents. Each barcode is unique to the individual patient. When care home staff administer the medicine, they scan the barcode as an additional check and to automatically record its administration. An evaluation carried out at Cardiff University²⁹ found the electronic system has reduced medication errors, missed doses and the level of wasted medicines.

²⁷ Royal Pharmaceutical Society Wales, **Handbook for Homecare Services Wales**, September 2014.

²⁸ Royal Pharmaceutical Society, **Improving medicines use for care home residents**, March 2016.

²⁹ The findings were presented at a symposium at the Cardiff School of Pharmacy and Pharmaceutical Sciences on Wednesday 27 January 2016.

2.14 Another development in community medicines services is the implementation of a national common ailments service called Choose Pharmacy (Exhibit 8). A pilot scheme was begun in 2013 with the aim of diverting patients away from visiting GP surgeries and hospital emergency departments, by using community pharmacy as the first port of call for some minor conditions. Choose Pharmacy allows patients to access pharmacist advice and products for 26 conditions free of charge and without the need for an appointment. An evaluation of the pilot scheme in 2015 showed that whilst the scheme had 'yet to make an impact at scale', it did show a small reduction in the number of prescriptions issued by GPs and many stakeholders believed the scheme had delivered positive outcomes including a reduction in demand for GP consultations³⁰. The evaluation estimated that the national roll out of Choose Pharmacy is likely to secure around £43 million in savings, mainly due to a reduction in GP appointments. Based on the positive evaluation, in March 2015 the Welsh Government announced £750,000 to fund technology to support the full roll out of the scheme across Wales. The cost of providing the service will sit with the health bodies.

Exhibit 8 – Choose Pharmacy promotes use of pharmacy instead of GP services for certain conditions

Dewis Fferyllfa
Ydych chi angen gweld y meddyg heddiw?

Os yw un o'r rhain yn eich poeni...

camdreulïad, rhwymedd, dolur rhydd, peils, dwy'r gwair, llau pen, torri dannedd, brech clwt/cewyn, colig, brech yr ieir, llyngyr, dolur gwddw, tarwden y traed, heintïad llygad, lliid yr amrant, briwiau yn y geg, doluriau annwyd, acne, croen sych, dermatitis, ferwca, poen cefn, casewinedd, lliidag y wain, lliidag y geg, defyd crafu

Gall eich Fferylllydd Cymunedol roi cyngor a thriniaeth gyfrinachol GIG, yn rhad ac am ddim, heb ichi orfod trefnu i weld eich meddyg teulu.

Choose Pharmacy
Do you need to see a doctor today?

If you think you have...

indigestion, constipation, diarrhoea, piles, hay fever, head lice, teething, nappy rash, colic, chicken pox, threadworms, sore throat, athlete's foot, eye infections, conjunctivitis, mouth ulcers, cold sores, acne, dry skin, dermatitis, verruca, back pain, ingrowing toenails, vaginal thrush, oral thrush, scabies

Your **Community Pharmacist** can provide free confidential NHS advice and treatment without you having to make an appointment to see your GP.

© HealthCare y Gorn / Crown Copyright 2015. 965 1025

Source: NHS Wales

30 Welsh Government website, Evaluation of the Choose Pharmacy common ailments webpage, 30 July 2015 service.

Health boards and GPs have secured improvements in prudent prescribing but there are opportunities to further enhance safety and reduce costs

The cost of primary care prescribing per head in Wales is higher than England, similar to Scotland and lower than Northern Ireland

- 2.15 Of the £800 million spent on prescribed medicines in Wales each year, approximately £600 million is spent in primary care³¹. Expenditure on medicines varies across the United Kingdom. The cost of primary care prescribing per head of the population in Wales figure in 2015 was £192, which is higher than England (£171), similar to Scotland (£190) but lower than in Northern Ireland (£228)³².
- 2.16 The annual number of items dispensed per head of the population in Wales is 25.7 and this is the highest in the UK³³. However, the net ingredient cost³⁴ per prescription item in Wales is the lowest in the UK. These data suggest that the overall picture in Wales compared to the rest of the UK is one where more items are prescribed but at a lower average cost per item.
- 2.17 It is important to note that the comparisons presented above provide only a basic analysis of relative prescribing cost and volume. The analysis does not account for the demographic and population morbidity factors that will affect rates of prescribing, nor does it consider the frequency and duration of prescriptions. There is evidence to suggest that prescription intervals in Wales are shorter than in other parts of the UK resulting in lower dose units per prescription item and correspondingly higher items per head of the population.

NHS Wales has reduced costs by focusing on prudent prescribing practices but there are opportunities for further improvements

- 2.18 Our local audits of primary care prescribing in 2013-14 examined where savings could be realised without any detriment to patient care. The audits focused on specific groups of drugs, and using the drug prices at the time of the audit, estimated that £7.4 million of potential savings were available through actions such as:
- securing further progress with generic prescribing³⁵ (ie using cheaper, non-branded medicines instead of more costly, branded medicines);
 - prescribing more cost-effective statins (lipid lowering drugs) as a first choice;
 - reviewing the use of opioid analgesics;
 - reducing the use of certain proton pump inhibitors (PPIs); and
 - reducing the amount spent on drugs classified as 'less suitable for prescribing'.

31 AWTTTC, NICE: 'Do not do' recommendations, April 2015.

32 Statistics for Wales, Prescriptions dispensed in the community in Wales, 18 May 2016.

33 Statistics for Wales, Prescriptions dispensed in the community in Wales, 2015, SDR 60/2016, 18 May 2016.

34 Net Ingredient Cost (NIC) is a recognised unit for measuring the cost of medicines. The NIC is the cost of a drug before any discounts, and excluding dispensing costs or fees.

35 Once a brand name drug has come off patent, prescriptions can be issued for the generic medication which has the same active ingredient but typically at a much lower price.

- 2.19 As part of the preparation of this report, we sought updates from health boards on the extent to which they had addressed the recommendations from our 2013-14 local audit work. In general terms, there was evidence that health boards have been making good progress, including taking action in the areas where scope for cost improvements was identified. It was beyond the scope of the short follow-up audit exercise to calculate how much of the theoretical savings had been achieved, a task complicated by ongoing changes to drug prices since the original savings figures were calculated. However, we collected more recent data from WAPSU to illustrate where savings have been secured and where opportunities for cost improvements still exist. This report highlights potential for current savings of around £8.3 million across Wales, specifically in relation to areas covered by the current set of National Prescribing Indicators. It is important to note, however, that the savings figures set out in this report are illustrative, and based upon the premise of all health boards in Wales matching the prescribing profile of the best performing health board.
- 2.20 Whilst this simple calculation is a valid way of illustrating what cost improvements are possible, it is recognised that health boards' efforts to secure cost savings will be complicated by fluctuating drug prices, rising demand for certain medications and the frequent emergence of new and expensive medicines. However, health boards should be using prescribing information, in primary and secondary care, to identify where scope exists to secure further cost and quality improvements in prescribing behaviour, and put in place local targets and action plans to achieve these improvements as part of their wider actions to embed the principles of prudent healthcare.
- 2.21 In relation to generic prescribing, the NHS in Wales has a good track record of improvement, and the current average generic prescribing rate in Wales is around 82 per cent³⁶. This indicates that scope for securing further savings is becoming more limited, although there is still a variation in generic prescribing rates across GP practices in Wales. Data from WAPSU showed that between 2014 and 2015 health boards across Wales made savings of around £370,000 by switching from branded to generic medicines. If all health boards had achieved the same percentage improvement as the highest performing health board³⁷, a further saving of £162,000 would have been possible.
- 2.22 Significant improvements have been made in the prescribing of low cost statins for patients with or at risk of cardiovascular disease. Since 2002-03 there has been a National Prescribing Indicator³⁸ to increase the use of low acquisition cost (LAC) statins as a percentage of all statins prescribed. Performance across Wales has improved considerably during that time and in December 2015, in excess of 92 per cent of all statins prescribed were LACs. Despite this positive position, the volume of statins and other lipid-regulating drugs in Wales is such that significant opportunities for further savings still exist. Expenditure on this group of drugs

³⁶ Generic prescribing is no longer an NPI, mainly because some branded medicines are now cheaper than generic alternatives. WAPSU calculated the savings in relation to a basket of 40 medicines. WAPSU measured the reduction in branded items between 2014 and 2015, and then assumed that the branded items were replaced with generic medicines.

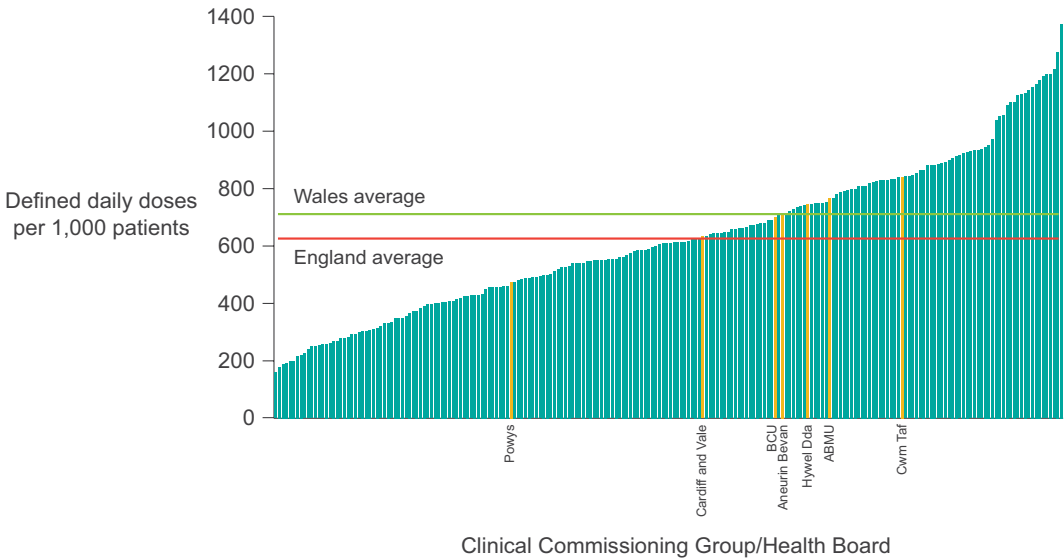
³⁷ Betsi Cadwaladr was the health board that made the greatest percentage improvement at 12 per cent.

³⁸ In order to respond to significant improvements in performance the NPI has been made more difficult to achieve. Such changes have been made a number of times since 2002-03 to promote continued momentum and improvement.

decreased slightly between 2014 and 2015 from £15.5 million to £15.3 million, and WAPSU's calculations suggest there are opportunities to reduce spending by a further £900,000³⁹.

2.23 Opioid drugs have a well-established role in the management of acute pain following surgery, trauma and pain associated with terminal illness. The National Prescribing Indicators include targets for the prescribing of tramadol, largely as a patient safety measure to ensure its use is kept under review and to avoid the potential for misuse. Between 2010 and 2013 there was a steady rise in the prescribing of tramadol in Wales. However, between 2014 and 2015, a decrease of around eight per cent in defined daily doses (DDDs)⁴⁰ per 1,000 patients was observed across Wales, equating to a cost reduction of around £92,000. If all health boards had achieved the same percentage improvement as the highest performing health board⁴¹, a further saving of £109,000 would have been possible. Exhibit 9 shows that prescribing of tramadol in Wales remains higher than in England, and that prescribing rates vary between health boards. Tramadol prescribing is described further in paragraph 2.29.

Exhibit 9 – Tramadol prescribing is higher in Wales than in England and there is marked variation between health boards in Wales



Source: AWMSG, National Prescribing Indicators 2016-17, February 2016

39 For some NPIs, AWMSG has agreed a 'threshold' rate of performance which, whilst not a target, sets a nationally agreed aspirational performance level. The estimated additional savings here were based on projected number of items that would be prescribed at the threshold rate of 2015-16 at the average cost. Threshold remained the same as at 2013-14.
 40 The defined daily dose (DDD) is a unit for estimating the consumption/use of medicines and is defined by the World Health Organization as the assumed average maintenance dose per day for a drug used for its main indication in adults.
 41 Betsi Cadwaladr was the health board that made the greatest percentage improvement at 6.4 per cent.

- 2.24 Expenditure is rising in Wales in relation to PPIs, a class of medicines used mainly to treat gastrointestinal conditions⁴². Long-term use of PPIs can lead to serious adverse effects, such as bone fractures and Clostridium difficile infections. Use of PPIs in Wales is increasing at a rate of around five per cent per year and expenditure on PPIs in 2015 was approximately £7.8 million (£0.2 million more than in 2014). Calculations from WAPSU suggest further savings of around £740,000 are possible across Wales⁴³. A measure related to PPI use has been reintroduced as a National Prescribing Indicator for 2015-16 and reducing the use of PPIs was previously an area of focus for the Prudent Prescribing Implementation Group⁴⁴. All health boards have agreed to implement a local prescribing reduction plan and the implementation group has developed a national information bulletin for clinicians.
- 2.25 Joint working between health boards and GPs has led to savings by reducing the prescribing of medicines that have little or no evidence to support their use. A group of 14 medicines have been designated by NICE as 'do not dos'. These are medicines that should not be routinely prescribed. Health boards worked collaboratively to develop and share processes for reviewing patients currently prescribed these drugs, with a view to stopping their use. Approximately £215,000⁴⁵ was saved across Wales between 2014 and 2015. If all health boards had achieved the same percentage reduction in cost as the best performing health board in Wales, a further cost reduction of £123,000 could have been secured.⁴⁶
- 2.26 There is mixed performance across Wales in relation to the use of asthma medicines. Inhaled corticosteroids (ICSs) are a group of medicines that account for the highest spend in primary care, totalling £56.2 million in Wales during 2015. Between 2014 and 2015, Welsh health boards achieved savings of £126,000 in relation to ICSs and WAPSU calculates that there are opportunities to reduce expenditure by a further £6.3 million⁴⁷. Prescribing of ICSs is described further in [paragraph 2.30](#).
- 2.27 Whilst the data collected have shown that further savings are possible by focusing on specific prescribing practices, the most significant scope to secure savings is in reducing levels of medicines wasted. The annual cost of wasted medicines in Wales has been estimated to amount to £50 million although there is some doubt about the validity of this estimate⁴⁸. The Welsh Government believes the recoverable costs of waste in Wales are more likely to be in the region of £10 million. A national campaign called Your Medicines, Your Health is being led by Cwm Taf University Health Board on behalf of all health bodies, with the aim of changing public attitudes to their medicines. Actions taken in Cwm Taf have included a campaign to persuade patients to return unwanted and out-of-date

42 One reason for the increased use of PPIs is that NICE guidance has been introduced, stating that PPIs should be prescribed alongside a growing number of other drugs.

43 Projected savings were calculated by WAPSU by comparing the average cost per DDD from 2015 with the annualised DDD target for 2016-17.

44 AWMSG has developed a **resource pack to support prescribing of PPIs**.

45 These savings are based on calculations by WAPSU and compare December 2014 with December 2015. Savings data may be affected by fluctuations in the price of medicines over time.

46 Cwm Taf made the highest reduction in percentage terms (17.18 per cent).

47 WAPSU has estimated the opportunities for further cost reductions by comparing actual costs from 2015 with the cost that would have been incurred had NHS Wales achieved the threshold of 57 per cent low dose ICS items against the 43 per cent higher dose ICS items.

48 The £50 million figure was extrapolated using a document called **Evaluation of the scale, causes and costs of wasted medicines**, by York Health Economics Consortium and The School of Pharmacy at the University of London.

medicines to community pharmacies (see [Exhibit 10](#)), the inclusion of campaign messages on bags used to dispense medicines to patients and awareness raising sessions with schools. Cwm Taf is currently evaluating the campaign and discussions are ongoing between Chief Pharmacists in Wales about how to further bolster approaches to minimising wasted medicines.

- 2.28 For patients with long-term or recurrent conditions, repeat prescribing can be a convenient and appropriate way of accessing medication without always needing to see a clinician. However, if appropriate processes are not in place to manage and regularly review repeat prescriptions they can be a significant cause of waste. Research suggests that around 80 per cent of all prescribing in primary care is repeat prescribing⁴⁹. The Prudent Prescribing Implementation Group is now undertaking work to test and implement improved processes for ordering and collecting repeat prescriptions, with the aim of improving safety as well as reducing over-ordering of medicines.

Exhibit 10 – Unused medicines from just one patient at Cwm Taf University Health Board



Source: Cwm Taf University Health Board

49 National Prescribing Centre: *Saving time, helping patients – a good practice guide to quality repeat prescribing*. January 2004.

Health boards and GPs have worked together to improve aspects of quality and safety of primary care prescribing but some aspects require further improvement

- 2.29 When reviewing prescribing behaviour it is equally important to examine issues relating to the quality and safety of patient care alongside costs. In [paragraph 2.23](#) we note recent reductions in the prescribing of tramadol. Whilst this has a cost benefit, the wider quality and safety benefits are equally if not more important. Deaths related to the misuse of tramadol in England and Wales increased from 83 in 2008 to 220 in 2013⁵⁰. It is subject to abuse and dependence, and problems can arise in relation to interactions with other medications. The Prudent Prescribing Implementation Group is building on previous work from AWTTTC to improve tramadol prescribing through new treatment templates for clinicians to use with individual patients.
- 2.30 In [paragraph 2.26](#) we note scope to make savings by improving the prescribing of inhaled corticosteroids (ICSs). However, a National Prescribing Indicator on ICSs was largely introduced because of safety issues associated with high doses. The indicator encourages routine reviews of preventative ICSs in people with asthma, with a view to stepping down the strength of their medication where clinically appropriate⁵¹. In the quarter ending December 2015, performance across Wales on the use of ICSs had deteriorated by 2.4 per cent on the same quarter the previous year.
- 2.31 Resistance to antibiotics has increased in Wales⁵² and the Welsh Government's national delivery plan recognises antimicrobial resistance as one of the greatest current threats to human health⁵³. One of the National Prescribing Indicators promotes a year-on-year reduction in the total number of antibiotic items prescribed in Wales. In quarter three of 2015-16, the total number of antibiotic items prescribed in Wales was eight per cent lower than in the same quarter in the previous year. However, as shown in [Exhibit 11](#), when compared with English health bodies, all Welsh health boards other than Powys are amongst the highest prescribers of antibiotics.
- 2.32 Broad spectrum antibiotics are medicines that need to be reserved to treat diseases resistant to standard antibiotics. Overuse of broad spectrum antibiotics increases the risk of infections from *Clostridium difficile* and Methicillin-resistant *Staphylococcus aureus* (MRSA). The National Prescribing Indicators contain targets for reducing the use of three types of broad spectrum antibiotics, co-amoxiclav, cephalosporins and fluoroquinolones. Between June 2013 and December 2015, all health boards except Abertawe Bro Morgannwg reduced their use of co-amoxiclav and the prescribing rate in Wales was slightly lower than in England. Over the same period, most health boards also achieved reductions in prescribing of cephalosporins and fluoroquinolones but the rate of prescribing in Wales as a whole was higher than in England.

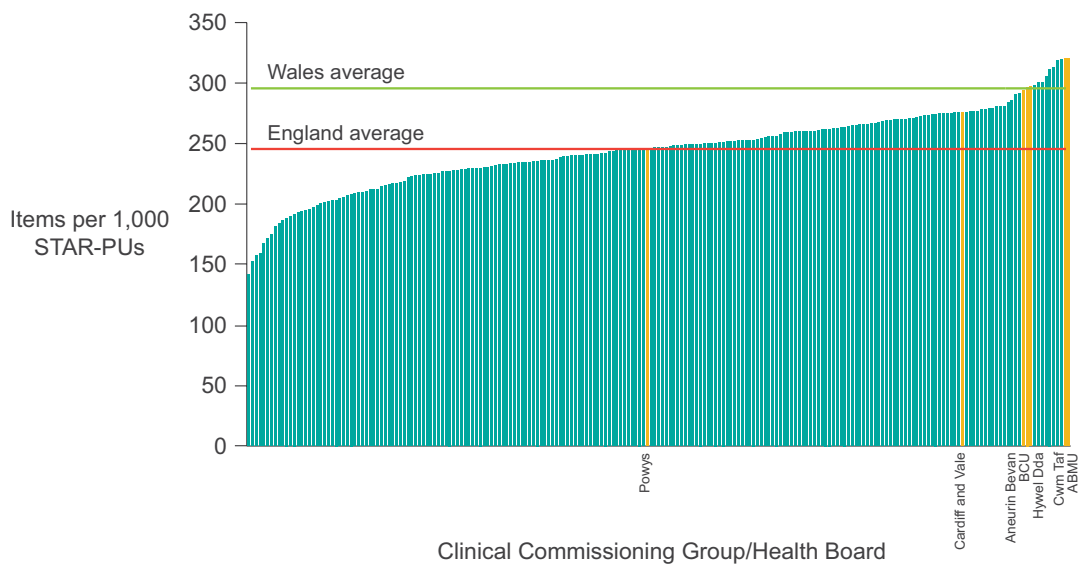
50 Office for National Statistics, [Deaths related to drug poisoning in England and Wales](#), 2013. 2014

51 The National Prescribing Indicator encourages an increase in low-strength ICSs as a percentage of all ICSs.

52 Public Health Wales, [Antimicrobial resistance and usage in Wales \(2005-2011\)](#), November 2012.

53 Welsh Government, [Together for Health, Tackling antimicrobial resistance and improving antibiotic prescribing](#), 2015.

Exhibit 11 – Prescribing of antibiotics in Welsh health boards is generally higher than in English Clinical Commissioning Groups



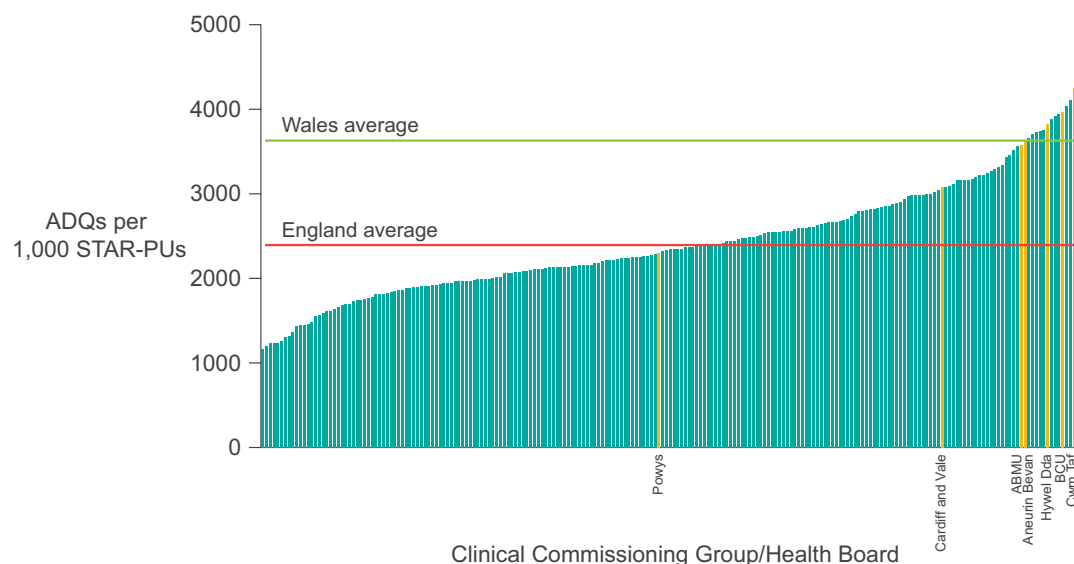
Note

A STAR-PU (or Specific Therapeutic group Age-sex Related Prescribing Unit) is a value calculated to reflect both the number of patients in a practice, and the age and sex mix of that group.

Source: AWMSG, National Prescribing Indicators 2016-17, February 2016.

2.33 A National Prescribing Indicator has been in place for many years with the aim of reducing the prescribing of anxiolytic and hypnotic drugs within NHS Wales. These are drugs that are used to treat insomnia and various states of anxiety, and typically consist of different forms of benzodiazepines. Targeted action supported by specific guidance has contributed to reductions in the amount of hypnotics and anxiolytics prescribed over recent years. However, as shown in Exhibit 12, the prescribing of these drugs is disproportionately high in Wales compared to England. Moreover, there is considerable variation in prescribing rates between health boards.

Exhibit 12 – Prescribing of hypnotic and anxiolytics is higher in Wales than in England, with large differences between some Welsh health boards



Note

A STAR-PU (or Specific Therapeutic group Age-sex Related Prescribing Unit) is a value calculated to reflect both the number of patients in a practice, and the age and sex mix of that group.

Source: AWMSG, National Prescribing Indicators 2016-17, February 2016.

2.34 There have also been improvements in Wales in the reporting of side effects from medicines, commonly referred to as adverse drug reactions (ADRs). These reactions are associated with six per cent of hospital admissions. Healthcare professionals are supposed to report ADRs to the Yellow Card Centre for Wales which reports issues to the Medicines and Healthcare Products Regulatory Agency (MHRA) to monitor the safety of medicines and vaccines on the market. There has been a general increase in the number of yellow cards reported from primary care in recent years⁵⁴ and according to data from AWTTTC, use of the Yellow Card Scheme in Wales is around 50 per cent higher than in the rest of the United Kingdom as a whole. The higher reporting rate has been associated with initiatives such as the identification of Yellow Card ‘champions’ in Wales. However, during our audit, staff in secondary care had mixed views on the effectiveness with which the Yellow Card scheme is promoted. Less than a third of doctors responding to our survey agreed/strongly agreed that the Yellow Card Scheme is promoted effectively.

⁵⁴ All Wales Therapeutics and Toxicology Centre, National Prescribing Indicators 2015-2016, **Analysis of prescribing data to September 2015**.

- 2.35 During our fieldwork we were told about several examples of health boards taking positive actions to address specific issues related to primary care prescribing. [Appendix 4](#) gives details of some of the examples of good practice showcased at an event hosted by AWTTTC in June 2016.

NHS Wales needs to do more to prevent medicines-related hospital admissions but it is difficult to quantify the extent of the problem

- 2.36 When a patient's medicines are not managed well in primary care, this can cause problems that result in an admission to hospital. Problems with the coding of Welsh hospital admissions makes it difficult to quantify the number of patients who are admitted to hospital as a result of problems with the management of their medicines in the community. Data jointly analysed by NWIS and Betsi Cadwaladr University Health Board suggests that just 0.76 per cent of admissions to Welsh hospitals in 2014-15 were medicine-related admission (MRAs). The data show considerable variation across Wales, with the rate of MRAs ranging from 0.37 per cent at Velindre NHS Trust to 0.95 per cent at Betsi Cadwaladr University Health Board. Chief pharmacists told us that the variation across Wales is likely to be a result of differences in clinical coding practices and not due to any variation in the quality of care.
- 2.37 Large observational studies and systematic reviews⁵⁵ suggest a much higher prevalence of MRAs than suggested above, with at least five per cent of all hospital admissions being identified as medicines related. The difference is likely to be linked to the clinical coding issue mentioned above and inconsistencies in the way that MRAs are routinely documented and reported within the NHS.
- 2.38 As part of the local audit work across Wales auditors worked with pharmacists to attempt to measure the rate of MRAs within the sample of wards that were visited⁵⁶. This exercise identified an even higher rate of MRAs, with 10 per cent of the patients in the sample being classed as having a medicines related admission. Clearly the figures generated will depend on the definition of an MRA, however, taking the five per cent figure suggested by larger observational studies, the estimated cost of admissions due to medication issues in Wales in 2014-15 would be more than £8 million⁵⁷. If the figure of 10 per cent obtained through the local audit sample is representative, the cost would rise to £16 million.
- 2.39 Betsi Cadwaladr University Health Board is currently carrying out work to improve the recording of MRAs. Pharmacists at the health board have embarked on a programme of work aimed at helping medical and nursing staff to recognise the types of medication that can often lead to MRAs. The programme encourages better recording of these issues in the patient's notes and emphasises the importance of completing a yellow card (see [paragraph 2.34](#)). Betsi Cadwaladr University Health Board is planning to share its learning with the rest of the health bodies in Wales during 2016.

⁵⁵ Welsh Medicines Resource Centre (WeMeRec) Bulletin, **Medicines-related admissions**, February 2015.

⁵⁶ The method for calculating the rate of MRAs is contained in Appendix 1.

⁵⁷ Based on 10 per cent of the 356,304 emergency admission episodes recorded by NHS Wales Informatics Service in 2014-15, and a cost per admission of £456, the figure defined in Cardiff University's Evaluation of the Discharge Medicines Review Service, March 2014.

Part 3

Interface between primary and secondary care: There are medicines-related safety risks and inefficiencies when people move in and out of hospital



Poor transfer of information about patients' medicines is causing safety risks and inefficiencies when people are admitted to hospital

- 3.1 When patients move between care primary and secondary care settings, it is important that information about their prescribed medicines transfers with them. Good communication between the GP and the hospital can prevent errors and inaccuracies about people's medicines and reduce the risk of avoidable harm to patients.
- 3.2 As part of the local audit work, hospital pharmacy teams were asked to assess the quality of information provided by primary care to support admissions. In a sample of 362 patients admitted to hospital via a GP, 148 patients (41 per cent) had no medicines information from primary care to support their admission, 64 (18 per cent) had limited information, 71 (20 per cent) had standard information and 79 (22 per cent) had comprehensive information⁵⁸.
- 3.3 In the survey of hospital staff undertaken as part of the local audits, 23 per cent of doctors and 38 per cent of pharmacy staff disagreed or strongly disagreed with the statement that admission information about medicines for elective patients was sufficient. For emergency patients, 61 per cent of doctors and 63 per cent of pharmacy staff disagreed or strongly disagreed with the statement that '...it is easy to access sufficient written/electronic information about patients' existing medication'.
- 3.4 When patients arrive in hospital with limited information about their medicines, pharmacy teams often telephone GP surgeries to secure a patient's drug history. This work can be time-consuming and is potentially avoidable. The GP Record (formerly called the Individual Health Record) is an electronic system that contains a summary of the information held by GPs about their patients. In 2014 and 2015, the system was piloted at Aneurin Bevan and Cardiff and Vale University Health Boards before being rolled out to other health bodies. The system allows pharmacists to directly access GP-held information about patients' medicines without having to make telephone calls to GP surgeries.
- 3.5 Our work has noted some limitations with the GP Record system which are summarised below:
 - The record is only currently used for patients admitted as emergencies, and is not used for elective patients.
 - Only doctors and pharmacists are permitted to access the record, and before they do so, they need to seek the permission of the patient. Some patients can be asked for permission several times during their episode of care, which can be frustrating for patients. Pharmacy staff told us that there would be benefits from making the record available to certain pharmacy technicians, as long as there were robust information governance controls in place.

⁵⁸ The options were 'No information/could not find information in notes', 'Limited information: contained an incomplete drug history', 'Standard information: contained a complete drug history', 'Comprehensive information: contained a complete drug history including supporting clinical information and relevant test results.'

- The GP Record is not being used as often as it should be. Pharmacy staff told us that junior doctors need to use the system more upon admissions to prevent potential medication issues that need to be spotted and subsequently corrected by pharmacy teams.
- 3.6 Given the potentially significant time savings and safety improvements possible through the GP Record, both on the wards and in general practices, it is important that use of the system is expanded. Any efforts to expand access and use of the system will need to continue to involve full engagement with GPs who will understandably want assurance that robust information governance arrangements are in place regarding sensitive data about their patients. At the time of drafting this report, NWIS was implementing a national audit tool designed to monitor use of the GP Record in health bodies and in community pharmacy. Following successful implementation of the tool, NWIS plans to extend access to the GP Record to a greater number of registered pharmacy professionals.
- 3.7 Medicines reconciliation is a checking process, often led by a pharmacist, to ensure that when a patient moves in or out of hospital, they are followed by accurate and complete medication information. The **Professional Standards for Hospital Pharmacy Services**⁵⁹ (the Standards) state that within 24 hours of admission, patients' medicines should be reviewed or 'reconciled' to avoid unintentional changes to their medication. Of the 955 patients reviewed as part of our clinical pharmacy review where a medicines reconciliation date had been recorded, 611 (64 per cent) received a medicines review within one day of their admission⁶⁰. Data routinely collected by all health boards except Powys suggest that typically around 75 per cent of patients have their medicines reconciled within 24 hours of their admission to hospital.

When patients are discharged from hospital there are often issues with the quality and timeliness of medicines information provided to the GP

- 3.8 When patients are discharged from hospital, the Standards state that arrangements should ensure 'accurate information about the patient's medicines is transferred to the healthcare professional(s) taking over care of the patient at the time of the transfer'. Across Wales, 17 out of 18 hospitals that we reviewed had a standard template that sets out the information to be provided to GPs upon a patient's discharge.
- 3.9 We found that the quality and timeliness of discharge information can be an issue. Our survey of staff showed that 31 per cent of pharmacy staff and 27 per cent of doctors disagreed or strongly disagreed with the statement 'The discharge information about patients' medicines provided to GPs is of high quality.' During our fieldwork we were also told that some discharge summaries can take a long time to reach the GP and some are difficult to read because they are handwritten.

⁵⁹ Royal Pharmaceutical Society, **Professional Standards for Hospital Pharmacy Services**, July 2012

⁶⁰ Figure represents patients whose medicines review date was either the same day as admission or the following day.

Electronic discharge summaries can be a solution to such issues as they involve computerised records being directly sent to GP systems. Across Wales, at the time of our local audit work just 34 per cent of wards produced electronic discharge summaries.

- 3.10 Since our local audit work, there has been progress in implementing an electronic discharge information system called Medicines Transcribing and e-Discharge (MTeD). The system was developed by the NHS Wales Informatics Service (NWIS) and has been made available to health bodies to allow rapid, accurate transfer of medication information from hospital to primary care upon discharge. The AWMSG Five-Year Strategy 2013-2018 says that the roll-out of electronic discharge systems should have been completed by September 2015. As at April 2016, Cardiff and Vale had 39 wards using MTeD, Cwm Taf had implemented the system on its medical wards and one community hospital ward, Hywel Dda was using the system on one ward at each of its hospitals, Betsi Cadwaladr had the system on two orthopaedic wards and Powys had MTeD on one ward. The other three health bodies had no wards using MTeD⁶¹ and there was no clear timescale for finalising the roll out across Wales. During our fieldwork, pharmacy staff expressed positive views about the system but they told us that for MTeD to work effectively, prescribers need to be fully involved in using the system, which can be a difficult change to implement. Pharmacy staff also told us that prescribers need better training on the system, to prevent inaccurate input of medicines information that needs subsequent correction by pharmacy.

NHS Wales is strengthening the role of community pharmacists in reviewing patients' medicines after their discharge from hospital

- 3.11 When a patient is being discharged from hospital, community pharmacists may be requested to carry out a Discharge Medicines Review (DMR) soon after the patient's return home. These DMRs aim to ensure changes to patients' medicines initiated in hospital are continued appropriately in the community. The reviews also ensure patients are supported in adhering to their medication regime.
- 3.12 An independent review of the DMR service in Wales estimated that each DMR costs £68.50 and that for every pound spent on DMRs there is approximately three pounds saved by avoiding emergency department attendances, hospital admissions and medicines wastage⁶².
- 3.13 In the 14,649 DMRs considered as part of the independent review, there were 19,878 discrepancies discovered in patients' medications. This shows that whilst DMRs appear to be a positive step in improving continuity and safety of medicines management, DMRs are essentially correcting preventable problems that have arisen earlier in a patient's episode of care. Health bodies should therefore continue to use DMRs as a backstop for identifying these problems, whilst at the same time focusing on preventing these problems happening in the first place.

⁶¹ The health bodies yet to implement the system were Velindre, Abertawe Bro Morgannwg and Aneurin Bevan. The latter two bodies are using alternative systems for electronic discharge ahead of agreeing a date for implementing MTeD.

⁶² Cardiff University, **Evaluation of the discharge medicines review service**, March 2014.

- 3.14 Across Wales, 7,353 DMRs were carried out in Wales between April 2015 and January 2016 at a cost of approximately £500,000⁶³. Out of the 716 community pharmacies in Wales, 450 provided DMRs during 2015. The Welsh Government intends to increase the number of DMRs carried out in Wales. We found that 14 DMRs were carried out for every 1,000 discharges and the rate varied across health bodies from 9 to 21 DMRs per 1,000 patients discharged⁶⁴.
- 3.15 The Welsh Government has invested £750,000 in technology to improve the use of DMRs. The improvements have included additional functionality within the MTed discharge information system to make it easier for community pharmacists to perform DMRs. Staff in some hospitals can now use the system to send electronic information about the patient's medicines directly to the patient's local community pharmacist. The same system is now being used to facilitate community pharmacists in providing the Choose Pharmacy common ailments service (see [paragraph 2.14](#)). In August 2016, the Welsh Pharmaceutical Committee discussed scope to drive further use of DMRs by introducing a feedback loop, where secondary care staff that request DMRs are provided with feedback on the outcomes of the DMRs carried out in the community.

⁶³ We have calculated this cost by multiplying the number of DMRs carried out by £68.50.

⁶⁴ We have used the number of discharges in 2013-14 at acute hospitals as the denominator in this paragraph.

Part 4

Acute hospitals: Pharmacy services are rated highly by medical and nursing staff but there are problems with medicines storage, gaps in medicines information and there is frustration at delays in implementing electronic prescribing



We found some safety issues caused by incomplete medicines information recorded on paper drug charts

- 4.1 In Welsh hospitals the prescribing process is paper-based. Prescribers in hospital write prescriptions on paper drug charts which are used by pharmacy staff to dispense the medicines. These same charts are used by nursing staff during the drug administration process to record the doses and times that each patient receives their medication.
- 4.2 During our fieldwork, we visited 40 wards in 23 hospitals across Wales and in each ward we typically reviewed the drug charts of 10 randomly-selected patients. On the positive side, we noted that all hospitals were using a particular type of drug chart that has been developed on an all-Wales basis to standardise the recording of medicines information.
- 4.3 We found that a small number of drug charts did not contain important information about patients' allergies. Of the 403 drug charts reviewed, 11 did not have the requisite information about whether or not patients had specific allergies to medicines.
- 4.4 We also highlighted scope to improve recording of missed doses. There can be justifiable reasons why a dose is missed when it is due, such as the patient refusing to take their medicines. However, sometimes doses are missed because the drug is not available on the ward or sometimes poor record keeping means it is not clear from the drug chart whether a dose has been omitted or not. The latter is particularly dangerous because when the drugs chart has not been properly completed it risks the patient being given their dose of medication twice. In our review of 403 charts, we found 54 charts that were unclear about whether a dose had been omitted or not. Within these 54 charts, there was a total of 93 instances where it was unclear about whether a dose had been omitted or not. Similar issues were identified by Healthcare Inspectorate Wales during their programme of hospital inspections during 2015-16. An updated all-Wales drug chart was due to be launched in August 2016. The chart has been redesigned to make the recording of missed doses easier and more visible.
- 4.5 The risks associated with missed doses were highlighted in **Learning from Trusted to Care**⁶⁵ although the Ministerial spot checks found a low incidence of omitted doses. The All Wales Policy for Medicines Administration, Recording, Review, Storage and Disposal that was produced in response to Trusted to Care emphasises the importance of clear, accurate and immediate recording of all medicines administered and also of missed doses. Since Trusted to Care, health bodies have undertaken audits of missed doses on their hospital wards, however, during interviews, some Chief Pharmacists said there is a risk that health bodies' focus on missed doses could wane without a specific and sustained effort to improve the recording of medicines administration.

65 Welsh Government, **Learning from Trusted to Care: All Wales Report**, 2014.

- 4.6 We also identified scope to improve record keeping when drug charts were completely filled up and new charts needed to be started. We found that in such instances, patient details such as admission dates and allergy information, were often not transcribed from the old form to the new form.

Electronic prescribing could significantly improve the safety and efficiency of medicines information in hospital but progress has been slow



- 4.7 The information manually entered onto paper drug charts (see [Exhibit 13](#)) is not routinely computerised. Health bodies therefore have gaps in their electronic data about patients' medicines and this is a barrier to using information for managing and improving prescribing. Health bodies typically have no electronic information about the actual medicines that individual patients receive, nor do they have electronic information to allow them to monitor the prescribing practices of individual prescribers. The latter is a particular barrier in the important area of improving the use of antibiotics. Health bodies are not able to identify secondary care prescribers that are using antibiotics inappropriately and are therefore not able to target individual staff with the relevant support and education.
- 4.8 **Learning from Trusted to Care: One Year On** recognised the limitations of the current process and stated that the implementation of a single electronic system would hugely benefit the management of medicines. The report recommended that a business case for implementing such an electronic system should be completed as soon as possible.
- 4.9 Electronic prescribing and medicines administration (EPMA) is use of computers to generate and transmit a prescription, aiding the choice, administration and supply of medicines. Such EPMA systems can allow quicker, safer and cost-effective transfer of information⁶⁶ and provide clinicians with decision-support and a robust audit trail for the entire medicines management process. While no health board in Wales has implemented electronic prescribing for inpatients, 13 per cent of English acute trusts have such systems in place⁶⁷.
- 4.10 Since 2007, there has been a national plan to implement EPMA by 2010. Progress has been slower than anticipated, partly because other pharmacy-related IT projects in NWIS took priority over EPMA, such as upgrades to hospital pharmacy systems and implementation of MTeD. An attempt from NWIS to introduce EPMA through an invest-to-save⁶⁸ approach faltered when health bodies decided not to commit to the approach, partly because they struggled to identify where realisable savings would come from.

⁶⁶ 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014.

⁶⁷ Lord Carter of Coles, **Operational productivity and performance in English NHS acute hospitals: Unwarranted variations**, February 2016.

⁶⁸ Invest-to-save schemes aim to promote innovation and improvement, typically through one-off, upfront investments to fund changes that, if successful, will secure financial savings over the long term.

Exhibit 13 – Standard drugs charts in Wales are not computerised so there are gaps in health bodies' electronic information on prescribing

 Royal College of Physicians		IN-PATIENT MEDICATION ADMINISTRATION RECORD <small>Developed in collaboration with the All Wales Chief Pharmacists Committee</small>								
DRUG ALLERGIES & SENSITIVITIES	PLEASE CIRCLE AS APPROPRIATE: NONE KNOWN YES		HOSPITAL No: _____ SURNAME: _____ FIRST NAME: _____ ADDRESS: _____ DATE OF BIRTH: _____							
	SIGNED..... DATE..... NAME.....		ADDRESSOGRAPH							
Drug / Allergen:	Description of Reaction:		Height (m)		Weight (kg)		Surface Area (m ²)			
	Date	Height	Sign	Date	Weight	Sign				
This section must usually be completed prior to administration of any medicine. Refer to local policies for further guidance.			Date	Weight	Sign					
DATE OF ADMISSION _____		MULTIPLE MEDICATION CHARTS CHART _____		DETAILS OF SUPPLEMENTARY CHARTS TICK APPROPRIATE BOX						
HOSPITAL _____		OF _____		ANTICOAGULANT <input type="checkbox"/>		PATIENT CONTROLLED ANALGESIA/EPIDURAL <input type="checkbox"/>				
WARD _____		MEDICATION ON SUPPLEMENTARY CHARTS SHOULD ALSO BE RECORDED ON THIS DRUG CHART.		SUPPLEMENTARY INFUSION CHART <input type="checkbox"/>		SYRINGE DRIVER <input type="checkbox"/>				
CONSULTANT _____				OTHER (PLEASE SPECIFY) _____						
Venous Thromboembolism Risk Assessment										
				(Y/N)	Signature	Date				
Does the patient need thromboprophylaxis?										
(Refer to local policy)										
If YES , please prescribe appropriate thromboprophylaxis on the prescription chart										
If thromboprophylaxis contraindicated, please state reason: _____										
(N.B. Reassess risk of bleeding and venous thromboembolism within 24 hours and if clinical situation changes)										
PRESCRIPTIONS FOR ONCE ONLY and PRE-ANAESTHETIC MEDICATION										
DATE	MEDICINE (APPROVED NAME)	DOSE	ROUTE	TIME TO BE GIVEN	PRESCRIBERS SIGNATURE	PHARMACY	DATE	TIME GIVEN	GIVEN BY	CHECKED BY
					bleep No					
					bleep No					
					bleep No					
					bleep No					
					bleep No					
					bleep No					
					bleep No					
					bleep No					
					bleep No					
MEDICINES MANAGEMENT										
MEDICATION HISTORY OBTAINED FROM: PATIENT <input type="checkbox"/> GP <input type="checkbox"/> NH/RH <input type="checkbox"/> CARER <input type="checkbox"/> PODS <input type="checkbox"/> MDS <input type="checkbox"/> OTHER					COMMENTS / NOTES					
COMPLIANCE ISSUES INITIALS DATE										
MEDICINES RECONCILED INITIALS DATE										
GP		COMMUNITY PHARMACY DETAILS								
					DISCHARGE PRESCRIPTION WRITTEN					
					INITIALS DATE					

I N - P A T I E N T M E D I C A T I O N A D M I N I S T R A T I O N R E C O R D

Source: Wales Audit Office.

- 4.11 During our fieldwork, pharmacy teams frequently expressed their frustration at the slow progress in implementing the roll out of an EPMA solution. An outline business case is currently being drafted by NWIS⁶⁹ and NWIS has appointed a Principal Project Manager, Business Analyst and Clinical Lead for EPMA. However, the roll out of the system is not due until 2023, reflecting the complexity of projects involving installation of hardware on every hospital ward, central infrastructure such as servers, and staff training, as well the significant cost which is projected to run to tens of millions of pounds.
- 4.12 In the absence of a national system for EPMA, two health boards have begun to explore local solutions. Abertawe Bro Morgannwg University Health Board is in the process of implementing electronic prescribing in its outpatients departments and is developing a business case to implement an inpatient EPMA system, which will provide learning to support the national procurement and implementation of EPMA. Cardiff and Vale University Health Board is also trialling an electronic prescribing system in one of its outpatient departments. The system at Cardiff and Vale has allowed much improved recording and analysis of the use of specific, high-cost medicines. By analysing the use of one particular high-cost medicine and reducing unnecessary use of such medicines at just one renal clinic, the system is predicted to save around £36,000 during 2017.

Facilities generally comply with key requirements but there are weaknesses in medicines storage and security on the wards and in pharmacies

- 4.13 As discussed in paragraphs 1.12 to 1.15, the **Trusted to Care** spot checks highlighted issues across Wales regarding the safe and secure storage of medications on hospital wards. Our visits to hospitals revealed that some of these issues are ongoing such as a lack of space in medicine and treatment rooms, medicines cupboards being unlocked and a lack of routine monitoring of fridge temperatures. Similar issues were identified by Healthcare Inspectorate Wales during their programme of hospital inspections during 2015-16.
- 4.14 The introduction of automated vending machines to store and dispense medicines on the wards can improve security, audit trails and can release pharmacy and nursing staff time. However, at present just eight per cent of wards in Wales have automated vending machines.
- 4.15 As well as visits to hospital wards, auditors carried out observations at 19 hospitals to assess whether pharmacy departments comply with key national requirements⁷⁰. They found that the majority of pharmacy departments are in convenient ground floor locations and are easily accessible from the hospital pharmacy departments main corridors.

⁶⁹ The business case will also plan to implement hospital pharmacy computer systems across Wales, which are dated and in need of replacement. These systems are key to the stock management and most processes within hospital pharmacy departments.

⁷⁰ NHS Wales Shared Services Partnership, **Pharmacy and radiopharmacy facilities**, Welsh Health Building Note WHBN 14-01, 2014.

- 4.16 Boundary security of hospital pharmacies was largely sound, with all departments controlling access via swipe cards or pin code systems. At two health bodies we highlighted instances where unauthorised people had accessed the hospital pharmacy. At one hospital we were told that the PIN code for the hospital pharmacy department was widely known and two building contractors had entered the pharmacy department without permission. At another hospital we were told that a member of the public, waiting in the pharmacy waiting area, watched a member of staff input the pin code, then input the code themselves to gain entry to the pharmacy corridor. Since our audit, the pin code entry system has been replaced with a swipe card system.
- 4.17 Local audit work also identified some weaknesses in the storage arrangements in hospital pharmacies. In seven pharmacies⁷¹ we observed boxes stored on the floor, which is not in compliance with the national requirements, and in four hospitals⁷² there were problems with regulating the temperature of areas used to store 'bulk items' such as boxes of intravenous fluid drips. In two hospitals⁷³ we found that bulk items were stored in areas accessible to the public.
- 4.18 Arrangements for securing controlled drugs in hospital pharmacy departments were generally appropriate, involving storage in locked and alarmed cupboards or separate rooms.
- 4.19 Auditors found good arrangements for monitoring the temperatures of fridges used in pharmacy departments for storing medicines. The vast majority of fridges had temperatures constantly monitored and recorded through electronic systems, with alarms in place to alert staff to unexpected changes in temperature.
- 4.20 Robotic machines are often used in hospital pharmacies to improve the storage of medicines and to enhance safety of dispensing. Welsh hospital pharmacies are more likely to have a dispensing robot than in England. Out of the English and Welsh hospitals that participated in the NHS Benchmarking Network's 2015 pharmacy exercise, 77 per cent had a pharmacy robot in place, whereas in Wales, all participating hospitals had a robot in place.

There are high satisfaction levels with hospital pharmacy services although these services are harder to access outside normal working hours

- 4.21 Medicines management is a multi-professional discipline where pharmacy teams, doctors and nurses need to work together effectively to ensure good communication and safe and effective treatment.
- 4.22 Our work found that there are generally positive relationships between hospital pharmacy teams, doctors and nurses. [Exhibit 14](#) shows that all staff groups felt that relationships were excellent or good.

⁷¹ Singleton, Princess of Wales, Neath Port Talbot, Royal Gwent, Velindre Cancer Centre, Llandough and University Hospital of Wales.

⁷² Princess of Wales, Neath Port Talbot, Royal Gwent and Llandough.

⁷³ Royal Gwent and Princess of Wales.

Exhibit 14 – There are positive relationships between hospital pharmacy staff, doctors and nurses

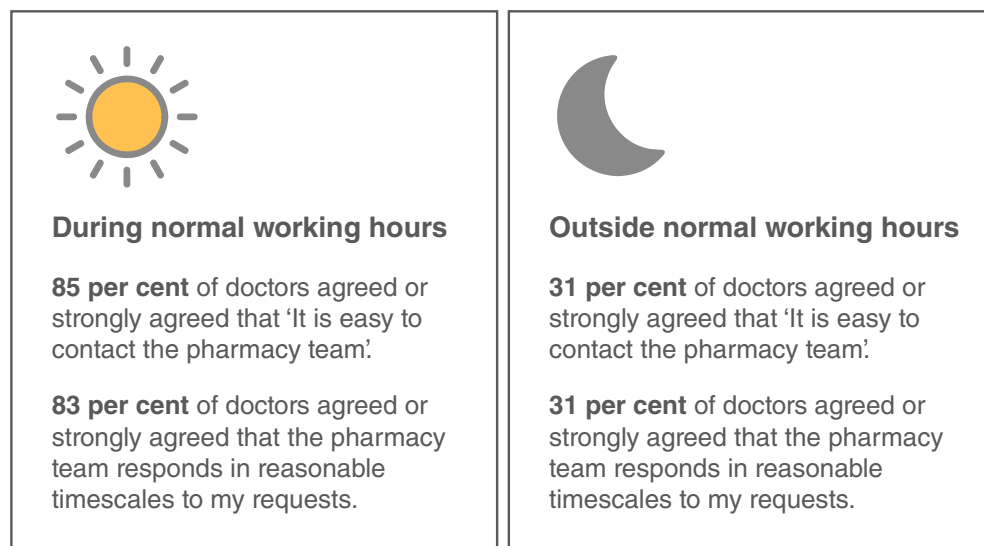
Pharmacy staff views:
77 per cent of pharmacy staff said their relationship with doctors was Excellent or Good.
87 per cent of pharmacy staff said their relationship with nurses was Excellent or Good.
Doctors' views:
76 per cent of doctors said their relationship with pharmacy staff was Excellent or Good.
Nursing staff views:
88 per cent of nursing staff said their relationship with pharmacy staff was Excellent or Good.

Source: Wales Audit Office staff surveys

- 4.23 Pharmacy services should be accessible to healthcare staff at the times when they are most needed. The Royal Pharmaceutical Society has highlighted problems across the United Kingdom with the availability of pharmacy services outside normal working hours. The society reports that limited availability of hospital pharmacy services, particularly at weekends, can result in more missed doses and prescription errors, a lack of medicines reconciliation and prolonged waits for discharge medication⁷⁴.
- 4.24 When we asked doctors and nurses for their views on the accessibility and responsiveness of pharmacy teams to requests for support or advice, the responses were largely positive (Exhibit 15). However, doctors and nurses told us that pharmacy teams are less accessible and responsive outside normal working hours, echoing the concerns identified by the Royal Pharmaceutical Society.
- 4.25 Whilst all hospital pharmacy teams in Wales are available on-call at all times of the day or night, on average, pharmacy services are open to outpatients and emergency departments for just five hours at weekends. Clinical pharmacy services on the wards are provided for just four hours at weekends.

74 Royal Pharmaceutical Society, *Seven Day Services in Hospital Pharmacy: Giving patients the care they deserve*, 2014.

Exhibit 15 – Doctors and nurses told us that pharmacy teams are accessible and responsive but less so outside normal working hours



Source: Wales Audit Office staff surveys

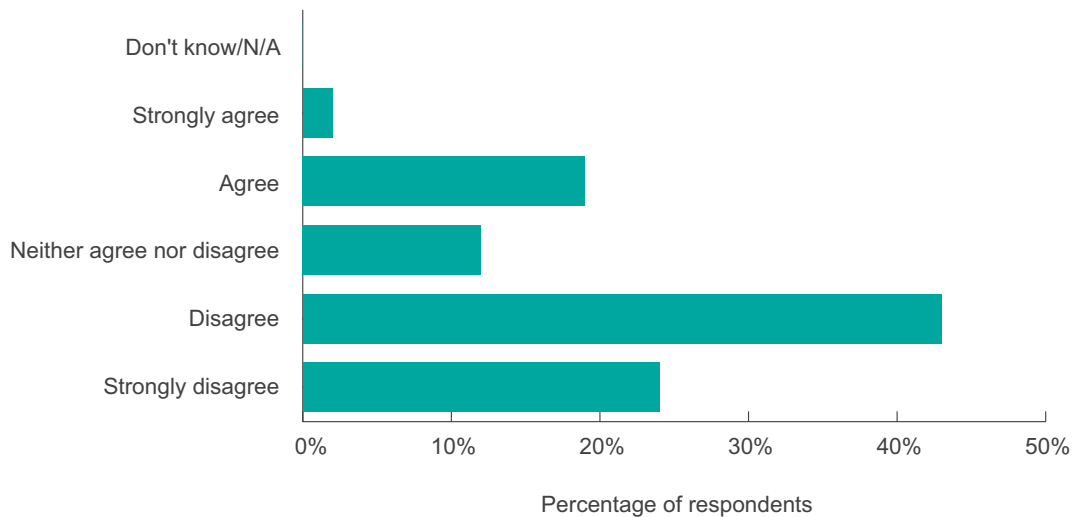
4.26 Our local work found that most health bodies were considering ways of extending pharmacy hours, to make services more accessible at weekends and in the evenings. Some health bodies had begun to extend hours in a limited way. However, no health board had a clear and sustainable plan for funding and implementing extended pharmacy hours. [Appendix 3](#) includes a case study where a hospital in Manchester has implemented seven-day pharmacy services.

There is a need to ensure more consistent clinical pharmacy input on the wards and to spend more time educating patients

4.27 [Paragraph 1.8](#) and [Exhibit 5](#) highlight limitations in the current data on pharmacy staffing levels, which makes it difficult to compare staffing in different health bodies and complicates health bodies' workforce planning.

4.28 Nevertheless, our work across Wales highlighted general perceptions of high workload pressures within hospital pharmacy teams. Across Wales, 60 per cent of pharmacy staff disagreed or strongly disagreed with the statement 'There are enough pharmacy staff at this organisation for me to do my job properly.' [Exhibit 16](#) shows that most pharmacy staff also disagreed with the statement 'I have time to carry out all of my work.'

Exhibit 16 – Pharmacy staff generally disagreed with the statement ‘I have time to carry out all of my work’

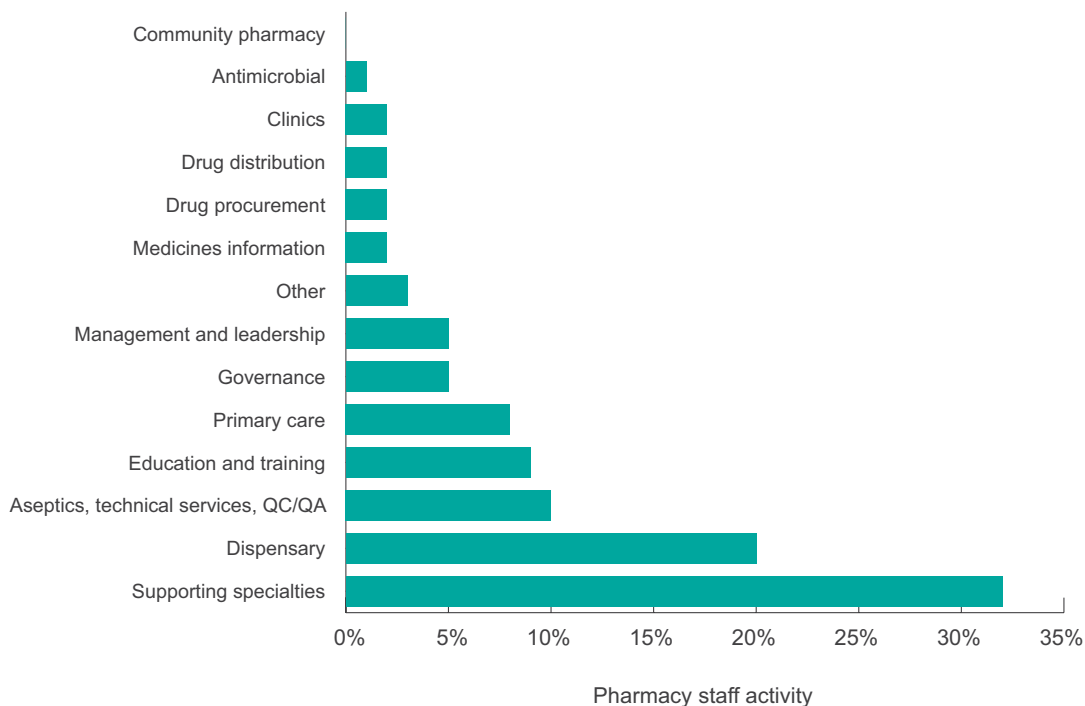


Source: Wales Audit Office survey of pharmacy staff

- 4.29 The **Carter Report** highlights the importance of hospital pharmacy teams providing clinical services. Clinical pharmacy is a term used to describe the activities of pharmacy teams on hospital wards and in clinics, including the provision of advice to other clinicians, monitoring patients’ medicines, and providing information directly to patients about their medication. The **Carter Report** states ‘In hospital pharmacy we know that the more time pharmacists spend on clinical services rather than infrastructure or back-office services, the more likely medicines use is optimised.’⁷⁵ **Exhibit 17** shows the activities that hospital pharmacists and technicians spent most of their time carrying out during 2014. The data show that 32 per cent of their time was used providing clinical pharmacy services to specialty hospital wards.
- 4.30 Our data collection from health bodies showed that 11 per cent of wards in Welsh acute hospitals have no routine visiting service from the pharmacy team. We also found that where pharmacy teams are providing visiting services, only five per cent provide this seven days a week. The average number of hours that the pharmacy team has a presence on each ward is approximately 13 hours per ward per week.
- 4.31 There can be benefits in assigning each ward a specific, named member of the pharmacy team as a liaison point. This can improve communication, develop relationships and provide consistency of pharmacy input. We found that 91 per cent of wards in Welsh hospitals have a named pharmacist although only 50 per

⁷⁵ Lord Carter of Coles, **Operational productivity and performance in English NHS acute hospitals: Unwarranted variations**, February 2016.

Exhibit 17 – Hospital pharmacy teams are spending approximately a third of their time in specialties carrying out clinical pharmacy work



Source: Resource Mapping Exercise

cent have a named technician. We also found that the named pharmacist may be the named pharmacist on several wards, and this might mean they are limited in their ability to provide time and input on each ward. We also found that in some wards the link member of pharmacy varies during the working week and can cause problems with the consistency of pharmacy input.

4.32 A key role of pharmacy teams on the wards, can be to spend time with patients to explain their medication. If a patient understands what medicines they are taking, and for what purposes, they may be more likely to stick to their prescribed regime in future. We found that pharmacy teams are struggling to spend enough time educating patients on their medicines. In our clinical pharmacy review across Wales, we found that only six per cent of patients or carers were educated on an aspect of their medication.

Appendices

Appendix 1 - Methods

Appendix 2 - Decisions taken outside
the national medicines appraisal process

Appendix 3 - Case study on extended
pharmacy hours

Appendix 4 - Examples of good practice



Appendix 1 - Methods

Our audit consisted of the following methods:

Method	Detail
Core medicines management tool	The core tool was a questionnaire that asked for corporate-level data from the health bodies. The tool also collected some basic information about the medicines management arrangements on 466 wards across Wales.
Document request	We requested and reviewed a range of documents from each health board.
Clinical pharmacy review (including a Visit Log and Patient Log)	<p>The clinical pharmacy review was completed by pharmacy teams on a sample of wards in each acute hospital in Wales. At each hospital we typically sampled three wards and across Wales we sampled a total of 49 wards. The tool aimed to record the activity of pharmacy teams during ward visits.</p> <p>The Visit Log was completed by pharmacy staff every time they visited a ward and gathered data about the staff member's activities during their visit.</p> <p>The Patient Log was completed once on each ward and gathered information about each patient that was currently in a bed. For example, pharmacy staff were asked to record whether or not the patient's admission was medication-related. Admissions were recorded as medication-related if the diagnosis in the patient documentation included a possible problem with their medication, including adverse drug reactions, non-compliance with their prescribed medicines, non-evidence based prescribing, dispensing errors and poor medication advice.</p>
Interviews	We interviewed a small number of staff at each health body which typically included: Chief Operating Officers, Medical Directors, Chief Pharmacists/Heads of Medicines Management and also ward-based staff, pharmacists and technicians.
Walkthroughs	We visited all acute hospitals in Wales where we carried out an observation within the hospital pharmacy/dispensary. We also visited a sample of wards at each hospital where we spoke to staff and carried out a drug chart review. We typically visited two wards per hospital.

Method	Detail
Surveys of medical and nursing staff	We carried out an online survey of a sample of medical and nursing staff to ask their views on the effectiveness of medicines management within the organisation. Across Wales we received 436 responses from doctors and 422 responses from nurses.
Survey of pharmacy staff	We carried out an online survey of pharmacy staff to ask their views on the effectiveness of medicines management within the organisation. Across Wales we received 437 responses from pharmacy staff.
Use of existing data	We used existing sources of data wherever possible such as incident data from the National Reporting and Learning System, data from the Cardiff University review of the Discharge Medicines Review Service and the NHS Wales pharmacy resource mapping exercise 2014.

Appendix 2 - Decisions taken outside the national medicines appraisal process

There are some instances where decisions have been taken outside the national process for appraising medicines. These examples are described below:

- In November 2015, the Welsh Government announced an agreement with pharmaceutical company Novartis to make available the cancer drug everolimus⁷⁶ before an appraisal from AWMSG and NICE. Within the agreement Novartis, will invest £1.3 million to run an observational study on the patients that receive everolimus, with the aim of collecting data to inform subsequent appraisal of the drug.
- In March 2016, the Welsh Government took a decision to continue to make a pancreatic cancer drug available in Wales, despite a decision from NICE not to recommend its use in the NHS. Abraxane has been available to certain patients in Wales since 2014, when AWMSG recommended it for use in the NHS. In 2015, NICE disagreed with AWMSG and recommended that abraxane should not be used in the NHS. NICE decisions normally supersede AWMSG decisions but in this instance, the Welsh Government took a decision to continue to make the drug available. The Welsh Government reached an agreement with the drug's manufacturer Celgene, to ensure the drug remains available and to assist the manufacturer in collecting extra data on the effectiveness of the drug, with the intention of seeking re-appraisal of the drug within two years.
- In 2013, AWMSG decided to not recommend a cystic fibrosis drug for use in the NHS in Wales. The drug called ivacaftor (Kalydeco) had been made available in England and Scotland, and in the interests of equity, the Welsh Government decided to make the drug available in Wales.

⁷⁶ The drug's trade names are Afinitor and Votubia. The Ministerial decision was taken following advice from the Chief Pharmaceutical Officer for Wales and from other Welsh Government officials.

Appendix 3 - Case study on extended pharmacy hours

We wrote this case study after hearing a talk by Debra Armstrong (debra.armstrong@cmft.nhs.uk), Clinical Pharmacy Services Manager, from the Central Manchester University Hospitals NHS Foundation Trust, at an NHS Benchmarking Network conference on medicines management in May 2015.

Drivers for seven-day working

The Future Hospital Commission has called for consultant services and accessible support services on all seven days of the week⁷⁷. Many health bodies are now thinking about the demand that exists for seven-day services and are considering ways to extend services.

Patient safety should be the biggest driver for seven-day working. The Royal Pharmaceutical Society has highlighted particular problems caused by limited pharmacy available in hospitals at weekends. This can contribute to errors, missed doses and delays in supplying patients with their discharge medicines⁷⁸.

Pharmacy staff can be unhappy with current ways of working. They arrive for work on Monday mornings and can be faced with a backlog of work that has not been done by the skeleton staff over the weekend. On-call systems can also put undue pressure on staff.

Barriers to seven-day working

Staff may object to changes to the current ways of working. There may be perceptions that seven-day working is not necessary, regardless of what the data show in relation to demand.

Given the current financial pressures being faced in the NHS, health bodies may find it difficult to justify any additional expenditure related to extended services.

If seven-day services are implemented by spreading out existing resources over seven days, this could have a detrimental impact on capacity and performance of services on weekdays.

The solution at Central Manchester University Hospitals NHS Foundation Trust

A merger of hospital services at the trust provided an opportunity to review pharmacy services and extend hours of working. To achieve this, a pharmacist was on-site until 9 pm on weekdays, with an on-call pharmacist being off-site during the night and at weekends.

Staff disliked the demanding on-call arrangements. They also disliked arriving at the hospital on Mondays to find an accumulation of work that had not been completed over the weekend.

Financial pressures also provided an impetus for the pharmacy service to look at either losing posts or find savings by changing the way it worked. The trust created a distinct team of pharmacy staff to work out of hours called the Pharmacy Extended Hours Team (PEHT). The on-call service ceased, along with the costs of on-call payments.

⁷⁷ Future Hospital Commission, **Future hospital: Caring for medical patients**, September 2013.

⁷⁸ Royal Pharmaceutical Society, **Seven Day Services in Hospital Pharmacy: Giving patients the care they deserve**, 2014.

The trust had a high number of pharmacist vacancies at the time. It was able to recruit new staff to the PEHT, rather than asking existing staff to change their patterns of working.

The changes involved a reduction of two whole-time equivalents in the pharmacy resource available during the normal working week, so it was important to ensure that PEHT carried out work that would otherwise have to be done during the in-hours period.

The pharmacy service now operates seven days a week and has extended working hours on weekdays. It provides clinical services to selected wards at weekends until 5 pm. The acute admissions unit receives a full pharmacy service until 8.30 pm and on other wards, new items and discharges are carried out until 10 pm (and 8.30 pm at weekends).

The trust is now considering further extending its pharmacy services, to focus more clinical services on the wards, rather than just ensuring pharmacy presence in the dispensary. It carried out a week-long pilot to test the impacts of increasing the pharmacy team resources at weekends to the levels of cover normally in place between Christmas and the New Year. The evaluation findings included:

- Weekend dispensary workload increased by 64 per cent. This dispelled the myth that there would be insufficient work for pharmacy at weekends.
- Pharmacy staff reported that the week felt quieter than normal although the data suggested the week was busier than normal.
- Discharge medication turnaround times improved considerably.
- Pharmacy staff attended more ward rounds. Pharmacy had been struggling to attend ward rounds due to pressure to meet targets for medicines reconciliation and supply.
- When pharmacists made suggestions about patients' medicines, there was an increase in the proportion of these suggestions that were accepted by doctors.
- Around 33 per cent of the pharmacists' interventions in the out-of-hours period contributed to a reduction in length of stay.
- A shortage of prescribers caused delays at weekends. The trust is considering increasing its pharmacist prescriber resource to meet this demand.
- Patients, medical and nursing staff gave positive feedback about the presence of pharmacists on the wards at weekends.

A working party is leading the next phase of changes which may include increasing the number of accuracy checking technicians in the dispensary to release pharmacists to carry out clinical work on the wards; increasing the number of band 8 pharmacists; and increasing the presence of technicians on the wards at weekends so that ward pharmacists can spend less time on medicines reconciliation and more on the specialist clinical work.

Appendix 4 - Examples of good practice

A best practice event was held by the All Wales Therapeutics and Toxicology Centre at Cardiff City Stadium on 16 June 2016. Below are some of the details of the initiatives that health bodies discussed during the event, which focused mainly on primary care prescribing:

- Antibiotics at Cardiff and Vale – Since 2009, improving antibiotic prescribing has been a priority of the health board's primary care prescribing team. The health board has set out to improve antibiotic prescribing and stewardship by taking a range of actions such as increasing the number of antibiotic-related indicators in the Medicines Management Incentive Scheme and by carrying out detailed audits of antibiotic use at each practice. Other actions included attendance at prescribing lead meetings, posters and leaflets to educate patients about the risks of antibiotic resistance and the development of information for prescribers on the health board's prescribing website.
- Non-steroidal anti-inflammatory drugs (NSAIDs) at Cwm Taf – The health board implemented a range of changes across primary and secondary care and secured improvement in its prescribing of NSAIDs. Actions included GP education sessions, letters sent to patients to inform them about changes to their medication, involvement in a national audit of NSAIDs, the addition of messaging on NSAIDs to GPs' decision-support software, changes to the medicines stock held by the Out of Hours service and in secondary care, and the development of a secondary care prescribing policy that allowed pharmacists to alter patients' NSAIDs prescriptions.
- Respiratory prescribing at Abertawe Bro Morgannwg – The health board launched a Respiratory Prescribing Management scheme as part of its existing incentive scheme within primary care. Financial incentives were available to practices that improved their prescribing of inhalers. Actions taken included reviewing patients' use of inhaled corticosteroids, promoting the use of more cost effective inhalers as a first choice for prescribing and reducing waste by reviewing patients who ordered large numbers of inhalers. The overall use of inhalers actually increased during the scheme but not as much as the increase in the rest of Wales during the same period. The health board concluded that whilst most participating practices achieved savings, the impacts from the scheme were not as marked as they had expected.
- Hypnotics and anxiolytics at Betsi Cadwaladr – The health board carried out pharmacist-led sleep clinics and technician-led support for GP surgeries in a bid to improve the use of hypnotics and anxiolytics. A sample of patients taking hypnotics were invited to sleep clinics to be seen by an independent prescribing pharmacist. The technician-led support for GP surgeries involved providing educational support to prescribers, development of local prescribing policies and identifying and supporting patients who would benefit from a reduction in their prescription for hypnotics. The schemes contributed to a reduction in the number of patients taking hypnotics and a reduction in the dosage of many patients that remained on hypnotics.

- Proton Pump Inhibitors (PPIs) at Hywel Dda – The health board carried out work to reduce the use of drugs called PPIs by promoting the use of a prescribing resource pack, educating patients about the side effects of PPIs, educating secondary care prescribers and carrying out presentations at GP prescribing lead meetings. Other actions included the introduction of nurse-led clinics for patients suffering complications with their PPI medication, to review their prescription and to switch from high cost to low cost PPIs.
- Tramadol at Aneurin Bevan – The health board attempted to reduce the use of tramadol in primary and secondary care by taking a range of actions. These actions included the production of new prescribing guidance from the Medicines and Therapeutics Committee, presentations at numerous forums of prescribers, a memo from the Medical Director to highlight the issues, and removal of tramadol from ward stock lists and routine prescribing pathways. There was also specific work to identify patients that would benefit from a reduction in their tramadol prescription. The scheme secured a reduction in the use of tramadol in scheduled and unscheduled care services.

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