Archwilydd Cyffredinol Cymru
Auditor General for Wales

WALES AUDIT OFFICE
SWYDDFA ARCHWILIO CYMRU

Medicines Management in Community Hospitals

Powys Teaching Health Board

Audit year: 2014-15

Issued: September 2015

Document reference: 450A2015

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The team who delivered the work comprised Elaine Matthews, Sara Utley, Stephen Lisle, Stephen Pittey and Nigel Blewitt.

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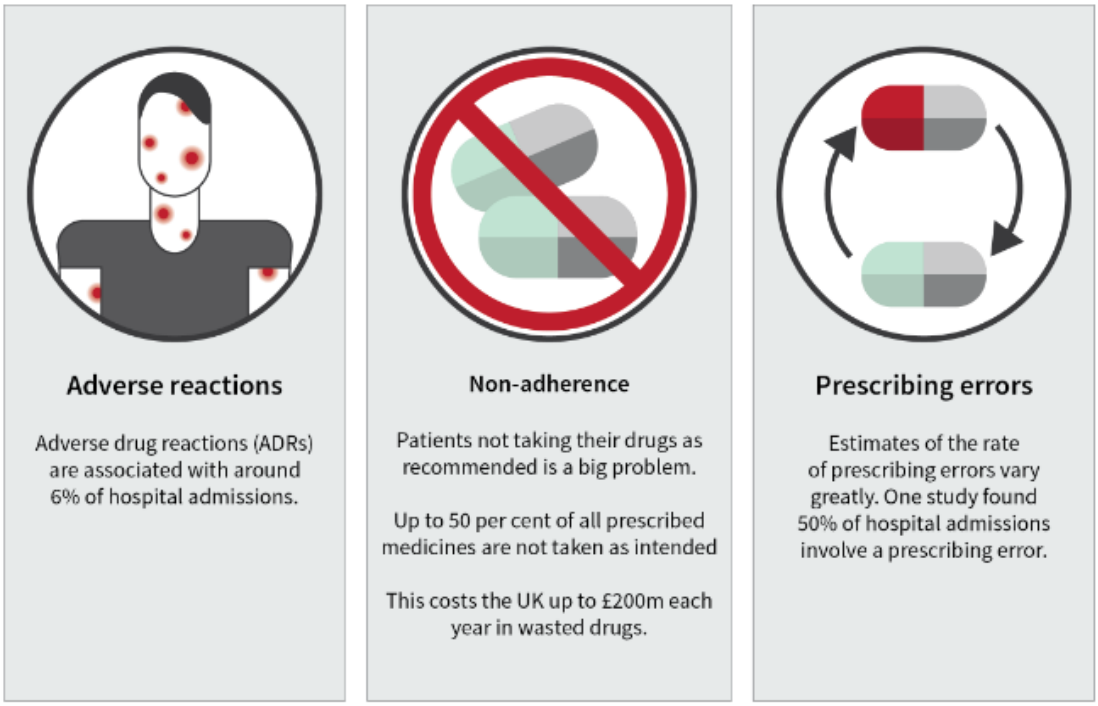
The Health Board is in a good position to introduce a comprehensive medicines management service in its community hospitals with a clear strategy and funding to support expansion of the workforce. Further work is required to improve the supply and storage of medicines, strengthen medicines management processes and to monitor and improve performance.

Summary report

Background

1. The most common therapeutic intervention in the NHS is prescribing of medicines.[1] In 2013-14, Welsh health bodies spent £258 million on purchasing drugs (eight per cent more than 2012-13)[2].
2. 'Medicines management' covers much more than the purchase of drugs. The term covers all the processes and behaviours that influence the clinical and cost-effective use of medicines as well as positive outcomes for patients.
3. Patients' medicines need to be managed well to ensure their treatment and recovery are optimised and to ensure value for money is secured from their medication. Exhibit 1 shows the main sources of harm to patients from poor medicines management.

Exhibit 1: Key facts about the three main sources of harm from medicines



Source: The footnotes contain the sources of data on adverse reactions[3], prescribing errors[4] and non-adherence[5,6]

[1] **1000 Lives Plus**

[2] Wales Audit Office analysis of NHS financial returns, including expenditure within primary care and secondary care.

[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] Lewis et al, **Prevalence, incidence and nature of prescribing errors in hospital inpatients: a systematic review**, Drug Saf 2009; 32:379-89

[5] 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014

4. In May 2014, an independent review[7] at Abertawe Bro Morgannwg University Health Board, called **Trusted to Care** (The Andrews Report), highlighted serious problems with administration and recording of medicines. After **Trusted to Care**, the Minister for Health and Social Services ordered unannounced spot checks on a sample of wards at 20 hospitals across Wales. The main findings from the spot checks were the need to improve standards in administering medication, medicine storage and completing medication charts.

5. **Trusted to Care** also emphasised the importance of all types of healthcare professionals working together to manage patients' medicines. Pharmacy staff are at the centre of medicines management but staff from all disciplines have a major role to play, as set out in guidance from representative bodies[8,9]. Patients also need to be empowered to help them get the best out of their medication.

6. Prudent prescribing of medicines is a key focus within the Welsh Government's 'prudent healthcare' agenda. The principles of prudent healthcare are to minimise avoidable harm, carry out the minimum appropriate intervention and promote equity between people who provide and use services. The key aspects of prudent prescribing are therefore about safe prescribing that minimises adverse drug reactions, conservative prescribing to avoid patients taking medicines unnecessarily, and fully involving patients in decisions about their own care.

7. Medicines management is a quickly changing agenda because of new technologies, new drugs, and the redesign of services. Given that medicines expenditure is one of the highest areas of NHS spending, austerity is also driving change in medicines management, with organisations revisiting treatment pathways to ensure clinically-appropriate and cost-effective treatments are provided at the right time. For these reasons we consider it is now a good time to look at the issues across Wales.

8. In 2012 and 2013, we reported on primary care prescribing at each of the Health Boards. Following on from this we have recently undertaken reviews on aspects of medicines management that directly impact on inpatients at acute hospitals in the other health boards in Wales. These audits covered medication information provided by GPs to support admissions, medication reviews that patients receive during their stay, the support patients are given to take their medicines and the arrangements to ensure good medicines management after discharge. We excluded procurement and largely excluded the supply of medicines.

9. Powys Teaching Health Board (the Health Board) is unique in Wales as it does not provide acute hospital services in a single District General Hospital (DGH) within its borders. Instead, it relies on commissioning services from acute hospitals in Wales and England, with out-of-county activity equivalent to a virtual DGH of over 400 beds. Other services are commissioned from primary care contractors, the third sector and care homes. The Health Board also directly provides healthcare services in nine community hospitals plus Glan Irfon Health and Social Care Centre in Builth Wells. The Health Board's Integrated Medium Term Plan for 2015-18 states that the local community healthcare model is increasingly led by the GP clusters in Powys in the design and delivery of local services and in advising on the commissioning of specialist services. A key driver for the local

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[6] 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

[7] 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

[8] Nursing and Midwifery Council, **Standards for Medicines Management**

[9] General Medical Council, **Good practice in prescribing and managing medicines and devices**, 31 January 2013

healthcare economy is to provide as much care as possible in Powys, avoiding out-of-county travel and providing a better experience for the individual. We have therefore modified this audit to apply to the unique situation in Powys and focused on medicines management in the nine community hospitals.

10. For many years, the community hospitals in Powys have obtained their medicines management and pharmacy dispensing services from hospitals in two neighbouring Health Boards under a Service Level Agreement (SLA). The arrangement is for a pharmacist to attend for a few hours once a week under the following arrangements:

- Bronglais District General Hospital, Hywel Dda University Health Board covering the four hospitals in the north locality in Machynlleth, Llanidloes, Newtown and Welshpool; and
- Nevill Hall District General Hospital, Aneurin Bevan University Health Board covering the five hospitals in the mid and south locality in Brecon, Bronllys, Knighton, Llandrindod Wells and Ystradgynlais.

11. In this report we present data from a series of ward visits and patient reviews conducted across a sample of wards. When reviewing this information it is important to note that our findings relate to specific aspects of medicines management that we audited during May 2015. Services are changing rapidly in the Health Board because the Welsh Government recently awarded £407,000 of **Invest to Save** funding to provide a comprehensive pharmacy and medicines management service to the community hospitals. We carried out the fieldwork before the funding was awarded but where appropriate we refer to the opportunities that this funding will bring. Appendix 1 shows full details of our methodology.

12. At the Health Board our review sought to answer the following question: **Are there safe, efficient and effective arrangements for inpatient medicines management at community hospitals?**

13. The key findings from our work are set out below and are considered further in the more detailed section of the report.

Key findings

14. Our overall conclusion is: **The Health Board is in a good position to introduce a comprehensive medicines management service in its community hospitals with a clear strategy and funding to support expansion of the workforce. Further work is required to improve the supply and storage of medicines, strengthen medicines management processes and to monitor and improve performance**. The table below sets out our key findings in more detail:

Corporate arrangements: There is a clear strategy and funding to change the pharmacy service model although until now the service has not been tightly managed and has not had a high profile at executive level.

- There has been a lack of executive oversight and the pharmacists delivering hospital services have not been sufficiently managed or supported.
- The Health Board is now in a strong position to strengthen medicines management as it has a clear strategy and funding to support its implementation.
- Pharmacy is involved in service development at locality levels, although there is scope for medicines management to be given greater attention at senior levels.
- The service level agreements for pharmacy services rolled over for many years without change and were not routinely monitored.
- The Health Board's individual patient funding request panel considers fewer applications than average and the process runs smoothly.

Workforce: The pharmacy service at community hospitals has been minimal until now. New *Invest to Save* funding should allow more multidisciplinary working, better out-of-hours access and a stronger focus on training.

- For many years, community hospitals have received a minimal pharmacy service with pharmacists visiting wards once a week. New funding should allow a better, multidisciplinary approach to medicines management.
- The service level agreement provides pharmacy support in and out of hours although ward staff prefer to approach doctors on the ward or GP out of hours services than the pharmacists for advice.
- The amount of pharmacy resource allocated to training and development is slightly higher than the Welsh average and the new **Invest to Save** funding will include a provision to further strengthen medicines training for hospital staff.

Supply and storage: Supply of medicines to community hospitals has been satisfactory but changes to the current arrangements present risks and opportunities. There is scope to improve storage of medicines on the wards and auditing the preparation of injectable medicines.

- The supply of medicines to community hospitals by neighbouring health boards has been satisfactory. Arrangements are changing to comply with changing legislation and will support a move towards dispensing in the community, which presents risks and opportunities.
- The introduction of an automatic vending machine at Ystradgynlais is a positive step although further work is required to improve storage at other hospitals and there are issues with controlled drugs storage at Llandrindod Wells.
- Preparation of injectable medicines on the wards is not regularly audited. This is a particular issue at Knighton where nursing staff have taken on greater responsibility for preparation of intravenous antibiotics.

Processes: The Health Board has some good processes but there are issues with medicines reconciliation, quality and timeliness of discharge information, antimicrobial stewardship and supporting patients to take their medicines properly.

- The transfer of medication information on admission is often more straightforward than in acute hospitals due to the involvement of GPs in community hospitals but admissions out of hours can be problematic.
- The Health Board performs well in recording the allergy status of patients but the lack of medicines reconciliation is a risk to patient care.
- The Health Board now has a comprehensive formulary but it continues to have difficulties when patients are admitted to community hospitals who have been prescribed non-formulary medicines.
- In common with the rest of Wales, Powys does not have electronic prescribing for inpatients.
- The Health Board has a goal to support the wider use of non-medical prescribers.
- The Health Board has been regularly auditing the administration of medicines and we found a comparatively low rate of missed doses in Powys.
- The Health Board needs to do more to educate and support patients to take medicines. The planned introduction of patient self-administration and use of patients' own drugs provides a good opportunity to empower patients.
- The Health Board recognises there are problems with the quality and timeliness of discharge information and has plans to implement an electronic discharge system.
- The Health Board is concerned about its high use of antibiotics both in hospital and the community and while it has taken some actions to improve antimicrobial stewardship this is an area that requires further attention.

Monitoring: The Health Board needs to strengthen its monitoring of medicines management in community hospitals to better understand its performance and address the issues with medication-related incidents and adverse reactions.

- There is scope to strengthen performance management through the setting and monitoring of key performance indicators.
- The Health Board needs to do more work to understand why it has the highest rate of medication-related admissions in Wales.
- There are low reporting rates of medicines-related incidents and adverse reactions, which the Health Board is planning to address.

Recommendations

R1 **Corporate arrangements**: In relation to Part 1 of the report, the Health Board should:

a. Revisit the terms of reference and membership of the Primary Care Prescribing and Therapeutics Committee with the aim of ensuring greater representation from corporate staff, hospital doctors and nursing.

R2 **Workforce**: In relation to Part 2 of the report, the Health Board should:

a. Following the recruitment of pharmacists using the **Invest to Save** funding, the Health Board will need to consider the training needs of the ward nursing and medical staff to support the development and implementation of the new ways of working.

R3 **Supply and storage**: In relation to Part 3 of the report, the Health Board should:

a. Develop a protocol setting out the actions required in the event of running out of medication during the out of hours period.

b. Ensure that it has carried out a full evaluation of the costs and benefits of moving to community pharmacy dispensing of medicines.

c. Consider the options for improving storage in the community hospitals including more widespread use of vending machines.

d. Develop a standard procedure for monitoring fridges that store medication across the community hospitals and provide training to all ward staff.

e. Implement a regular audit programme of the preparation of injectable medicines on the wards.

R4 **Processes**: In relation to Part 4 of the report, the Health Board should:

a. Develop a procedure for managing medications and drug charts so that patients can be safely admitted into the community hospitals both in and out of hours.

b. Set out a clear timescale and funding plan for implementing inpatient electronic prescribing, electronic discharge and rolling out access to the Individual Health Record.

c. Introduce a policy that sets out the competency requirements for maintaining validation for non-medical prescribers.

d. While the **Invest to Save** pharmacists will have a role of supporting patients with compliance, the Health Board will need to consider how to provide a helpline when the SLA changes with the neighbouring health boards.

e. Audit the completion of e-learning training to address the issues of **Trusted to Care** and ensure that ward staff understand their role in addressing the issues raised.

f. Learn from the national work on Prudent Prescribing to develop an action plan to increase pharmacy's focus on identifying patients' compliance needs, educating/counselling patients, improving medicines information, providing a helpline and supporting patients to take their medicines properly.

g. Strengthen antimicrobial stewardship and develop methods to influence prescribers in hospitals.

R5 **Monitoring**: In relation to Part 5 of the report, the Health Board should:

a. Review its portfolio of key performance indicators related to medicines management to ensure performance is monitored on at least a quarterly basis.

b. Ensure the Board and Quality and Safety Committee receives more regular medicines management safety reports and performance data.

c. The Health Board needs to do more work to understand why their rate of medication-related admissions is the highest in Wales.

d. Undertake training with community hospital staff to increase awareness and reporting of adverse drug reactions using the yellow card scheme.

e. Improve learning mechanisms to staff following medicines incident reporting to ensure that lessons are learnt and staff can see actions have been taken.

Part 1

Corporate arrangements for medicines management

There is a clear strategy and funding to change the pharmacy service model although until now the service has not been tightly managed and has not had a high profile at executive level

Leadership and accountability structures

There has been a lack of executive oversight and the pharmacists delivering hospital services have not been sufficiently managed or supported

15. Effective leadership and clear lines of accountability are vital components of any healthcare service. Medicines management is slightly complicated in that it encompasses services and processes spanning pharmacy, nursing and medical staff. Nevertheless, it is still important that there is clear senior accountability and structures.

16. Executive accountability for medicines management was through the Medical Director for many years. The Medical Director would provide updates, either verbally or in writing, on medicines management to the Board twice a year. However, since the departure of the Medical Director in November 2014 there has followed a number of changes to the Executive leadership of the pharmacy team. The Acting Medical Director initially took on the role of line management of the Head of Pharmacy and Research and Development (R&D) but this moved to the Director of Primary and Community Care as the role was viewed to be more operational. However, this arrangement is being kept under review to establish if it is the best arrangement, particularly once a substantive Medical Director is appointed.

17. The **Professional Standards for Hospital Pharmacy Services**[10] (the Standards) state that there should be clear lines of professional and organisational responsibility within the pharmacy service. The Head of Medicines Management has professional, managerial and budgetary responsibility for the pharmacy team. He has three senior pharmacists who report to him. The senior pharmacists cover the areas of Community Pharmacy Lead, Lead for Quality and Effectiveness and the Lead for Formulary, Medicines Information and Commissioning Support. The Health Board also employs a Medicines Management Nurse.

18. The community hospitals in Powys receive their medicines management and pharmacy dispensing services under a Service Level Agreement (SLA) provided by Nevill Hall and Bronglais District General Hospitals. The visiting pharmacists are employed by the neighbouring health boards which provide their line management and professional support. The Health Board does not provide any line management or formal support, although there are good relationships between the Powys senior pharmacists and the two visiting pharmacists. The Health Board did hold some 'quality circle' meetings with the employing health board in the south and occasional meetings in the north but these were infrequent. The visiting pharmacists said that they would welcome more structured support and involvement in the Health Board's activities as they felt isolated. The lack of support and feedback

[10] Royal Pharmaceutical Society, **Professional Standards for Hospital Pharmacy Services**, July 2012

mechanisms for the visiting pharmacists have been a missed opportunity as they may have provided a better understanding of the service to senior managers and whether the arrangements have provided value for money.

19. The Standards also state that health bodies should have a medicines management group as a focal point for the development of medicines policy, procedures and guidance. Our primary care prescribing report[11] said: 'The PCPTC members agreed to merge with the Prescribing and Therapeutic Strategic Committee. This then merged the secondary and primary care elements from other committees. However, the name of the committee has not been changed to reflect the changes. The name of the group will need to be changed once the final structure is agreed.' The reason for the merger of the committees in 2012 was the difficulty in getting members to attend meetings other than the Primary Care Prescribing and Therapeutics Committee (PCPTC). We also raised concerns that discussion and decision-making were difficult with over 40 members regularly attending the PCPTC.

20. The Health Board continues to have one committee covering medicines management across the Health Board covering both the PCPTC and the Prescribing and Therapeutics Committee (PTSC). The terms of reference have not been revised to reflect the changes in remit. The main focus of the committee continues to be on primary care although Hospital Medicines Management is a standing item on the agenda.

21. The Health Board's medicines management group should be multidisciplinary to reflect the fact that medicines management is the responsibility of a number of clinical professional groupings. Across Wales, medicines management groups have an average of nine per cent nursing staff and 46 per cent medical staff from across primary and secondary care. In Powys, the Health Board's senior pharmacists and nurse pharmacist attend the PCPTC together with the GP lead from each practice plus their local enhanced service (LES) pharmacists and technicians. The Chief Pharmacists from Hywel Dda and Aneurin Bevan regularly attend the committee meetings as do representatives from the Community Health Council. The terms of reference for the PTSC stated that membership should include the Director of Nursing/Deputy Director of Nursing/Matron. Since the merger of the two committees, a review of the minutes shows that nursing staff have not regularly attended the PCPTC.

22. The PTSC terms of reference said that membership should also include the Director of Finance, executive lead for clinical governance, all hospital-employed consultants, a nurse prescriber and a non-executive board member with clinical governance responsibility, although none of these people attend the current committee meetings. The Health Board needs to review the medicines management committee structure and membership to reflect the involvement of a broader range of clinical staff in medicines management.

Strategy for medicines management

The Health Board is now in a strong position to strengthen medicines management as it has a clear strategy and funding to support its implementation

23. The Health Board should have a clear strategic vision for medicines management. Our primary care prescribing report said: 'The Health Board needs to finalise its prescribing strategy, underpinned by robust evidence and appropriate objectives.' The Health Board's Medicines Management Strategy

[11] Wales Audit Office, **Primary Care Prescribing: Powys teaching Health Board**, August 2013

2014 Onwards was completed in January 2014 and approved by the Board in October 2014. The strategy has been incorporated into the Medicines Use and Prescribing section of the Integrated Medium Term Plan, which is supplemented with a summary plan setting out milestones for the next three years.

24. The strategy's focus is on reducing harm and improving the benefits for patients from prescribed medications. To achieve this there is recognition that the current systems do not adequately support safe medicines management. Powys has increasing numbers of elderly people who need support with their medication whether they are in hospital, residential care or their own homes. The strategy also has a goal of implementing cost savings, including making savings from the £1.2 million spent on the prescribing budget in the community hospitals out of the annual total of over £30 million.

25. The strategy contains actions that will enable it to redesign pharmacy services in Powys to improve medicines management in the community hospitals. In particular:

- process mapping and system redesign for medicines safety on wards;
- increasing pharmacy involvement in multi-disciplinary teams;
- developing an in-house integrated pharmacy service to strengthen pharmaceutical input to key areas;
- medicines distribution system based in Powys as the current arrangements for supplying medicines from the neighbouring health boards has to change due to changes in legislation regarding licencing[12];
- introduce MTeD (Medicines Transcribing and e-Discharge) to Powys hospitals to improve transfer of medication information on transition of care between Powys primary and secondary care in order to reduce medication errors and adverse medication events; and
- further develop support for non-medical prescribing.

26. The Welsh Government awarded £407,000 from 2015-16 **Invest to Save** monies for Community Pharmacy Support to support the implementation of a dedicated pharmacy team for Powys. Part of the business case has identified cash releasing benefits of £250,000 per annum as well as minimising harm from medicines. The funding means that for the first time the Health Board will employ its own staff so that it can deliver the strategy and provide a comprehensive service to patients in its community hospitals.

Profile and influence of pharmacy within the wider Health Board

Pharmacy is involved in service development at locality levels, although there is scope for medicines management to be given greater attention at senior decision making forums

27. If the pharmacy team is to have sufficient profile and influence within the Health Board, it should have adequate representation at the Health Board's senior decision-making forums. We found that Powys was the only health board where pharmacy was represented on the most senior committee

[12] Recent changes have made it a legal requirement for any supplier of medicines to external organisations to get a Wholesale Dealer's Authorisation and a Home Office licence, which would need to be obtained by the Health Board's current suppliers.

responsible for risk management whilst Cwm Taf was the only health board where pharmacy was represented on the most senior committee responsible for quality and safety.

28. The pharmacy team should also be able to influence the design of services that involve medicines. This is because when new consultant posts, clinics and services are introduced, this inevitably impacts on pharmacy service delivery. Across Wales we found that pharmacy teams have only limited involvement in service changes. In Powys, pharmacy has no involvement in decisions regarding the introduction of new consultants and pharmacy's involvement in decisions about new clinics and new services is limited to responding to occasional ad hoc requests for information.

29. Pharmacy staff are well represented at the next level within the Health Board, namely at the Locality Management meetings and GP cluster meetings. Service developments and issues around medicines management are discussed and developed in these groups. From a review of the papers, medicines management staff are able to drive and influence service development taken forward through these groups.

Financial management of medicines management

The service level agreements for pharmacy services rolled over for many years without change and were not routinely monitored

30. Primary care accounts for most of the Health Board's spend on medicines and prescribable non-medicines, which accounts directly for almost £24 million a year. The provider hospitals spend much less with £1.2 million spent on medicines in the community hospitals. Providers outside Powys spend a further £5.5 million on medications for Powys patients receiving secondary and tertiary care.

31. Medicines expenditure is reported to the Powys Board once a year whilst quarterly information on expenditure is provided to the Executive team and the organisation's highest level medicines committee. Medicines expenditure is discussed at locality management meetings with the focus on primary care expenditure.

32. Across the Health Board, medicines management met its savings target of £240,000 for 2014-15. A more ambitious prescribing savings target for 2015-16 has been set at £580,000. The Finance and Performance Committee monitors progress towards meeting the prescribing savings. These savings are directed at primary care and not secondary care.

33. The Health Board's SLAs with Aneurin Bevan and Hywel Dda Health Boards ran for a number of years. The medicines management team reviewed the contracts while preparing the **Invest to Save** funding bid.

Individual patient funding requests

The Health Board's individual patient funding request panel considers fewer applications than average and the process runs smoothly

34. Individual patient funding requests (IPFRs) are usually requests from clinicians who want health-board approval to use medicines that are not normally funded by the NHS. Health boards need robust processes and effective IPFR panels to ensure appropriate decision-making regarding these requests. An all-Wales report from April 2014 recommended that the panels that handle IPFR requests should have at least two lay members and applications should be screened and signed by a clinical lead or head of department in advance of meetings.[13]

35. During 2013-14, the IPFR panel at the Health Board considered 35 applications regarding medicines, which was lower than the average for the other health boards in Wales of 60[14]. The Health Board's Commissioning Department takes the IPFR request and sets up a panel, which sits usually every three weeks. The panel is made up of the Medical Director, the Senior Pharmacist Lead for Formulary, MI and Commissioning Support, a Health Board director, Community Health Council lead, and commissioning lead. In Powys, the IPFR panel does not have lay members, although they do have representation from the Community Health Council. All applications are screened and signed by a clinical lead or head of department ahead of meetings.

36. The Health Board follows the all-Wales guidance on the IPFR process. Where a request for a medicine is involved the pharmacist will be asked to provide an evidence report and opinion, ie, the pharmacist will assess the request against the current care pathway taking into consideration guidance from NICE and the opinion of the All Wales Medicines Strategy Group (AWMSG). During 2013-14, the total amount of time spent by the Health Board's pharmacy team on supporting and attending these panels was slightly lower than the rest of Wales (180 hours compared with the average of 193 hours for other Welsh health boards). The Head of Pharmacy thought that aspects of the process would benefit from an all-Wales approach although the process works reasonably well locally. They do have a few appeals and a similar proportion may want a drug that is available in England but these do not run to significant numbers.

[13] National IPFR Review Group, **Review of the individual patient funding request process**, April 2014

[14] Betsi Cadwaladr University Health Board (BCUHB) discounted from the Wales average: the majority of applications at BCUHB are not managed through the IPFR panel.

Part 2

The medicines management workforce

The pharmacy service at community hospitals has been minimal until now. New **Invest to Save** funding should allow more multidisciplinary working, better out-of-hours access and a stronger focus on training

Clinical pharmacy services

For many years, community hospitals have received a minimal pharmacy service with pharmacists visiting wards once a week. New funding should allow a better, multidisciplinary approach to medicines management

37. Clinical pharmacy describes the activity of pharmacy teams in ward and clinic settings. This activity entails direct involvement with patients, giving advice to other healthcare professionals and playing a full part of the multidisciplinary team approach to managing people's medicines. The Standards say that pharmacists should be 'integrated into clinical teams…and provide safe and appropriate clinical care directly to patients'.

38. Under the SLA with the neighbouring health boards, a pharmacist provides a weekly visit of a few hours a week to each of the nine community hospitals in Powys. A technician also attends in the south and mid locality to check supplies in the drug cupboards. In the north locality the pharmacist checks hospital drug cupboards every week but does not do a formal stock take. The Powys Medicines Management Team manages the contract and undertakes quality audits and nurse medicines awareness training.

39. During the weekly visit, the pharmacist carries out a review for each patient looking at drug histories and a clinical check of the patient's drug chart. This is not the same as a full medicines reconciliation due to the lack of allocated time. The visiting pharmacists did not know how many patients missed these checks as there are patients who will have been admitted and/or discharged during the week between visits. The Health Board had not undertaken any audits of the number of patients who had missed any checks although they were aware that this was an issue.

40. Due to the limited service provided by the two visiting pharmacists to the community hospitals there was little opportunity for direct involvement with patients, giving advice to other healthcare professionals or playing a full part of the multidisciplinary team approach to managing people's medicines. The visiting pharmacists said that they had developed good relationships with the doctors and nurses who were on the wards the same time as they visited. One of the visiting pharmacists said that she will talk about prescribing with nurses and they will ask her questions. However, the visiting pharmacists may never see some of the GPs working in the hospitals because the pharmacists attend first thing in the morning but the GPs arrive after they have run their surgeries. There is a system for sharing information and so the pharmacist will leave messages in a book that the nurse can raise with the doctor. The Powys Medicines Management Team also provides information and support to hospital staff on an ad hoc basis.

41. Ward rounds are a route by which pharmacy staff can work closely with the rest of the multidisciplinary team to contribute to patient care. Information collected as part of the audit indicates that there is scope to review the extent to which pharmacists integrate their visits to wards with ward rounds performed by doctors. Our results from across Wales suggest there is scope for pharmacy teams to be more frequently involved in ward rounds as just one per cent of the visits recorded in our clinical pharmacy review were as part of ward rounds. We found that in the Health Board neither of the visiting pharmacists attended ward rounds. One of the pharmacists did attend ward rounds for a while but found that there was not enough input for pharmacy so now the doctor will contact her if they have an issue with a specific patient. The **Invest to Save** funding will allow for an increase in pharmacy input into the wards to develop medicines adherence programmes, and improved communication and participation in ward rounds should also be considered.

42. The Health Board's medicines management strategy highlights the lack of resilience of the medicines management service hence, the recent **Invest to Save** bid. The bid states that the weekly visits by the pharmacist are often cut short due to staffing pressures at their base hospital. Also that the visits do not allow full pharmaceutical input into patient care or allow for any development of services. This means that patient safety is put at risk and nursing care is compromised through lack of pharmaceutical support increasing the risk of medication errors. There are also impacts on the timely discharge of patients.

43. The allocation of **Invest to Save** funding is a good opportunity to strengthen the service provided to hospital patients based in Powys. The funding will provide pharmacist and pharmacy technician support to the nine community hospitals in Powys to enable the implementation of the Medicines Transcribing and e-Discharge (MTeD) scheme to improve information sharing and a Patients' Own Drugs scheme, to reduce waste. The aim is to extend this to a self-administration of medicines scheme as part of patient reablement. As part of their role, the pharmacy professionals will also provide a clinical pharmacy service to ensure the safe, prudent and cost effective use of medicines and through communication with patients improve adherence to medicines. The clinical service support will also be available to community resource teams and staff involved in providing the virtual ward. The project will collaborate with local community pharmacies and develop schemes for them to support the transfer of care, which may include dispensing discharge medication for patients.

44. The bid states that the project will require additional staff who will work alongside and complement the existing Powys medicines management team, which has a primary care focus. Further work has been done to develop the mental health service following the repatriation of mental health services to the Health Board. The additional staffing are:

- two whole-time equivalent (WTE) x band 8a pharmacists (one mental health);
- three WTE x band 7 pharmacists (one mental health);
- three WTE x band 5 pharmacy technicians (one mental health); and
- one WTE x band 3 administration support.

45. While there are risks to filling all pharmacist posts due to recruitment difficulties across Powys and Wales, once these staff are in post the community hospitals can expect a level of service that should be sufficient to support strategy delivery.

Opening hours and access to the pharmacy workforce

The service level agreement provides pharmacy support in and out of hours although ward staff prefer to approach doctors on the ward or GP out-of-hours services than the pharmacists for advice

46. Pharmacy services should be accessible to healthcare staff at the times when they are most needed. 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 medication[15].

47. As discussed throughout this report, pharmacist attendance directly in the community hospitals in Powys has been limited to a few hours a week. In addition to the service supplied in the hospitals, the SLA stipulates that advice and information on all aspects of drug therapy and the use of wound dressings should be provided to the Health Board professional staff on request. Staff told us that they can contact pharmacy for support about the patient's medication if they needed it. During our fieldwork we observed one patient whom staff were concerned about, and ward staff were planning to contact the pharmacist regarding the medication prescribed showing that nursing staff find the arrangements work in practice.

48. The SLA also provides for pharmacist support out of hours so that staff can contact a pharmacist within 10 minutes, 24 hours a day, seven days a week. Interviews with ward staff found that while they were aware of how to contact pharmacy out of hours, they would contact the out-of-hours senior nurse or doctor first and rarely called pharmacy. Palliative care support is available as well, and ward staff made use of these arrangements out of hours. Ward staff said that the Health Board's own medicines management team are also supportive. Onsite information and support for medications are available through the out-of-hours GP service provided by Shropdoc. Nursing staff also have support from hospital doctors, so feel supported if they have concerns about patients without needing to contact a pharmacist. However, concerns were raised that out-of-hours doctors were reluctant to attend in person.

Training and development

The amount of pharmacy resource allocated to training and development is slightly higher than the Welsh average and the new **Invest to Save** funding will include a provision to further strengthen medicines training for hospital staff

49. Data from the resource mapping exercise shows that pharmacy staff in the Health Board spent, on average, 11 per cent of their time on receiving and delivering training, education and personal development over the past year. This compares with nine per cent across Wales[16].

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

[16] Resource Mapping activity data relating to pharmacist and technician staff groups across primary and secondary care.

50. Training for nursing and medical staff can be a key success factor in contributing to good, multidisciplinary engagement in medicines management. The Standards state that pharmacy should support induction and ongoing training of clinical staff. Powys has no staff funded to deliver training to medical staff, and across the rest of Wales, health boards fund an average of 0.7 WTE pharmacy staff for this role.

51. The Health Board does not provide junior-doctor training and only directly employs approximately five medical staff. Other providers, including local GPs and doctors employed by the neighbouring English trusts supply medical cover to the community-hospital wards under contract with the Health Board.

52. The Health Board's medicines management nurse has been providing refresher training opportunities for the training and development of registered nurses approximately twice a year since 2013, for example, on numeracy and drug administration. The continuing professional development (CPD) events include:

- CPD events covering medicines management were planned for July 2015 covering prudent prescribing; and
- an event on pain management, adverse drug reactions and drug interactions will run later in the year from one site with opportunities for staff on other sites to participate through video conferencing.

53. Nursing staff that we interviewed were positive about the training provided, although in one of the hospitals ward staff raised concerns that training events were run at a time when some staff could not attend due to courses running during the lambing season. It is important that when setting times for CPD events that local circumstances are considered.

54. The Health Board reported that pharmacists and the medicines management nurse are involved in training and support for medical staff on an ad hoc basis. Due to the pharmacists only attending for a few hours at each hospital, they did not always see the medical staff to provide informal support. In addition, as they would attend on the same day each week there were members of nursing staff who never met the pharmacist and would therefore miss opportunities to ask for advice. The increase in pharmacist time at community hospitals under the *Invest to Save* funding should improve the provision of ad hoc support to medical and nursing staff.

Part 3

Medicines supply and storage

Supply of medicines to community hospitals has been satisfactory but changes to the current arrangements present risks and opportunities. There is scope to improve storage of medicines on the wards and auditing the preparation of injectable medicines

Supply of medicines

The supply of medicines to community hospitals by neighbouring health boards has been satisfactory. Arrangements are changing to comply with changing legislation and will support a move towards dispensing in the community, which presents risks and opportunities

55. To ensure patients receive their medication in a timely manner, health bodies need to have efficient and effective arrangements for ordering and receiving supplies of medicines. As part of the SLA, the Health Board receives supplies of medicines from the DGH pharmacies at Nevill Hall Hospital or Bronglais Hospital. The community hospitals in Powys order medicines online and receive their medication supplies through deliveries once or twice a day, Monday to Friday, and the supplies are brought to the wards by the porters. The ward staff check the order and place items in storage on the wards. Nursing staff told us that this service usually works well but one ward was experiencing some issues with medicines not being available and they told us that they do not always receive the specialist drugs they order.

56. The wards hold a limited supply of emergency medications. The SLA states that any urgent pharmaceutical items will be despatched to arrive at the required destination within three hours. Urgent requests for drugs that cannot wait for the next transport run are sent by taxi. Hospitals have also entered into their own arrangements with local community pharmacies so that they can access medications out of hours. In one hospital, Ystradgynlais, they are using this arrangement around once every fortnight. At Brecon Hospital, if they run out of drugs out of hours, they can be brought in a taxi from Abergavenny with support from the on-call pharmacist based at Nevill Hall. The wards are also aware of the need to obtain all the medicines they need for a weekend and especially for bank holidays to minimise the use of emergency arrangements. However, some ward staff raised concerns that out of hours provision of medications needed to be more robust and there is a need for a protocol on what to do out of hours in the event of an emergency, such as running out of medication.

57. The neighbouring health boards supplied the community hospitals in Powys with medications based on an exemption under Section 10(7) of the Medicines Act 1968. Under this exemption, pharmacies were allowed to supply small amounts of prescription-only medicines to a wide variety of people and places for use in their practice or business[17]. However, in 2012 the rules changed resulting in the

[17] The repeal of the exemption under Section 10(7) of the Medicines Act 1968 took place because it is incompatible with European Directive 2001/83/EC that requires that anyone wholesaling medicines must hold a wholesale dealer's licence.

need for a Wholesaler Dealer's Authorisation and a Home Office licence to supply external organisations, which the current suppliers would need to obtain if they were to continue to supply Powys with medicines. On top of the cost of the licence, the suppliers would need to comply with additional Medicines and Healthcare Products Regulatory Agency (MHRA) guidance and inspections, which is unlikely to be cost effective due to the small volume of medications supplied. The medicines management team is preparing a paper for the Board setting out the options for the supply of medicines for the community hospitals from April 2016.

58. The Health Board is moving towards a model where patients are not supplied with their discharge medications by the hospital, but instead take a prescription script (WP10 in Wales or an FP10 prescription in England) to be dispensed at a community pharmacy after they have left hospital. The benefits to this arrangement are financial because dispensing in the community does not incur VAT and the Health Board would not need to hold stock. This results in significant savings for the Health Board particularly now that VAT is at 20 per cent. Other benefits are that this arrangement reduces waiting times for patients who otherwise need to wait for their prescription to be dispensed before leaving hospital. However, there are risks because the hospital staff do not have a role to play in supporting patients in understanding their medication and how to take it, as the patient becomes the responsibility of the GP and community pharmacist.

Facilities for storing medicines on the wards

The introduction of an automatic vending machine at Ystradgynlais is a positive step although further work is required to improve storage at other hospitals and there are issues with controlled drugs storage at Llandrindod Wells

59. Following the **Trusted to Care** report, spot checks were undertaken across Wales regarding the safe and secure storage of medications on wards. These checks assessed whether doors to treatment rooms were closed and locked; drug cupboards met the relevant standards; medicines were kept locked away in cupboards; secure facilities were in place for controlled drugs; and that rooms and fridges were kept at the appropriate temperatures.

60. At the Health Board these spot checks were carried out in July 2014 at Brecon War Memorial Hospital and found the following:

- Epynt Ward (Stroke rehabilitation/palliative care): All drug cupboards were locked and sited in a treatment room with a key pad lock. Lockable medication trolleys were being used.
- Y Bannau Ward (Medicine): The door of the treatment room was open, but the drug cupboards and drug trolleys within it were locked. One patient's own medication was found unsecured in a plastic bag on the open shelf below the locked drug trolley, the trolley was secured to the wall and stored in the treatment room. A recommendation was made to ensure the treatment room door is locked at all times including the security of patents' own drugs.

61. Our ward observations found that medications are stored in locked cupboards, which were usually situated in a secure treatment room. In one ward in Llandrindod Wells, the locked cupboard was located in the corridor and not in a treatment room. We observed one ward at Knighton Hospital where the treatment room was not locked although we were told that this was only while the room was being decorated. This ward stored its medications in a large kitchen style cupboard that needed

replacing. In Welshpool, we found that ward staff know that their arrangements for storage of medicines and preparation of intravenous (IV) fluids need improving and they have secured funds from the League of Friends to refurbish the treatment room and make it secure.

62. One hospital in Powys, Ystradgynlais, has an automatic storage and dispensing unit. This Omnicell unit is secure and is located in a locked treatment room. Nursing staff can access the unit using finger pad recognition. Nurses restock the unit twice weekly and a technician carries out a weekly stock take. This unit had been in place around a year and although there had been initial problems in the first few months of operation, it was now working well. The problems had been around used stock, as part packets were accumulating but these are now stored safely in a drugs cupboard and returned to the machine by a technician.

63. Our observations found that all controlled drugs cupboards were locked and located in a secure room. However, at one hospital (Llandrindod Wells) the controlled drugs (CD) cupboard is located in a room behind the nurses' station and this room does not appear to be locked at any time, including in the evenings. Staff state that this is because there is always someone staffing the area, although this could be a risk when staffing levels are lower at night. We are also aware that an internal audit report found that Knighton Hospital had flagged concerns with identifying who should hold the spare keys for the CD cupboard drugs, which had not been addressed at the time of the fieldwork.

64. Fridges that contain medications should have an external temperature display showing readings of between two and eight degrees. Fridge temperatures should be monitored with an automatic alert system (in hours and out of hours) when temperatures go out of range. Fridges that we observed on the wards were all in range. Ystradgynlais Hospital's fridge is linked to the Omnicell and the temperature is monitored centrally. The ward manager will get an email if the fridge goes out of range. Staff can then do a stock take to decide what to keep and what not to keep.

65. The smaller hospitals had fridges with a visible temperature on the door that was regularly monitored. On one ward (Brecon) the fridge was reading nine degrees and the alarm was sounding so someone had turned the alarm off some days before. At another site (Knighton) there was only one fridge on site which was also shared with the nursing home. This means that there is no back up fridge if there is a problem with the fridge.

Preparation of injectable medicines

Preparation of injectable medicines on the wards is not regularly audited. This is a particular issue at Knighton where nursing staff have taken on greater responsibility for preparation of intravenous antibiotics

66. Some injectable medicines are prepared on the wards rather than in an aseptic unit. These preparation processes should be subject to annual audits but across Wales we found that such audits are rarely carried out.[18] The Health Board stated that it has 10 wards where IV medicines are prepared and it has risk assessed the preparation of injectable medicines at all 10. However, in common with three other health boards in Wales, Powys was unable to provide information on whether they had conducted an audit of aseptic practices on the wards in the past year.

[18] National Patient Safety Agency, **Patient safety alert 20**, 28 March 2007

67. Our visits to the wards found that the use of IV medications was limited to antibiotics or blood transfusions for a small proportion of patients at any one time. IV preparation was carried out in the treatment rooms. Nurses have recently taken on the preparation and administration of IV antibiotics on the ward at Knighton Hospital, following training provided by Cwm Taf University Health Board. Ward staff had not carried out any risk assessments or audits of injectable products and given the increasing use of IV products we recommend that audits are carried out regularly.

Part 4

Medicines management processes

The Health Board has some good processes but there are issues with medicines reconciliation, quality and timeliness of discharge information, antimicrobial stewardship and supporting patients to take their medicines properly

Admission information

The transfer of medication information on admission is often more straightforward than in acute hospitals due to the involvement of GPs in community hospitals but admissions out of hours can be problematic

68. When patients are admitted, good communication between the GP practice and the hospital can prevent errors and inaccuracies about people's medicines. If the interface between primary and secondary care is not managed properly it can be an area of high-risk in relation to medicines management.

69. GPs provide care to patients in all the community hospitals in Powys. This arrangement makes the transfer of information between primary and secondary care more straightforward than in acute hospitals because GPs often admit their own patients and use their own systems to print out a clinical summary and list of medications. If the patient is from another GP practice then the nurses will request a list of the patient's prescribed medications which the GP practice will fax over to the ward.

70. Many inpatients who are staying on a ward at a community hospital in Powys have transferred in from secondary care providers outside of Powys following treatment, for example, stroke patients who will get initial care in a DGH and then be transferred for re-ablement to one of the community hospitals nearer to home. Our ward visits found that in many cases the referring hospitals provided good information about medications on the discharge letter, discharge summaries or the inpatient prescription sheets. However, referrals from other community hospitals within Powys may also lead to issues with the information provided at handover.

71. Our visits found ward staff raising concerns about admissions of patients into the community hospitals out of hours. Problems arise because the wards do not have a doctor on site who can write up the drug chart until the next day. This is a particular issue with patients coming from hospitals in England because the referring hospital may not complete the all-Wales drug chart before the patient leaves the hospital. Health Board staff are aware of this issue and are looking for solutions. Staff told us they are concerned about whether it is safe to administer drugs without a completed drug chart or whether the patient is at risk from waiting until a doctor is on site before medications can be administered. One solution has been developed in Ystradgynlais, where Abertawe Bro Morgannwg University Health Board will taxi over the drug chart from the out-of-hours base to the ward.

72. Another issue raised by ward staff was that a patient sometimes arrives with medications made up as part of a discharge prescription from another hospital. However, the patient is unable to use these medicines on the ward because there is no policy in place to allow patients to securely store and use their own medicines on the wards. This can result in the medications being wasted. In future the **Invest to Save** funding will support the development of patient own medicines policies and procedures, but short-term solutions need to be found.

73. The Individual Health Record (IHR) is an electronic system that contains a summary of the information held by GPs about their patients. The IHR system is being piloted for use in medicines reconciliation at Cardiff and Vale University Health Board. The IHR system allows pharmacists to directly access GP-held information about patients' medicines. Evaluations at Cardiff and Vale suggest use of IHR saves an average of seven minutes of pharmacy time per patient reconciled. Using this estimated saving of seven minutes, if IHR had been used for each of the 4,786 admissions to Powys in 2013-14, this could have saved approximately 558 hours of pharmacy time, which equates to 0.3 WTE pharmacy staff[19]. Given the safety improvements and time savings possible through IHR, both for pharmacists and in general practices, it is important that the Health Board works with partners to expedite the roll out of IHR.

Medicines administration charts

The Health Board performs well in recording the allergy status of patients but the lack of medicines reconciliation is a risk to patient care

74. The medicines management process in hospital relies heavily on safe and effective record keeping. Drug charts should be used by staff to record what medicines patients have been prescribed, the required dosage, and to record clearly the times when doses were given. A standard drug chart has been developed in Wales, called the Inpatient Medication Administration Record and approved by the Royal College of Physicians. A separate chart called the Long Stay Medication Administration Record should be used for patients who remain in hospital for long periods.

75. Our drug chart review in the Health Board found that two patients (four per cent) had the standard inpatient form and 47 (96 per cent) had the Long Stay Medication Administration Record. When the audit was carried out at the acute hospitals in the rest of Wales, 93.3 per cent of patients had the standard form, 6.4 per cent had the long stay form and 0.3 per cent had a non-standard form of chart.

76. Whatever type of drug chart is in use, there should be a record of the patient's allergies and sensitivities to medications. Allergic reactions are a serious risk to patient safety and a common source of drug error. Our drug chart review of 49 patients across the Health Board found that 100 per cent of patients had their allergy status recorded on the drug chart. This compares with 98 per cent across the rest of Wales.

77. Whilst there was good recording of the allergy status in the Health Board, there is scope to improve the recording of patients' dates of admission. Seven of the 49 patients reviewed did not have a date of admission recorded on their current drug chart and five of these patients were at Welshpool Hospital.

78. 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 Standards state that within 24 hours of admission, patients' medicines should be reviewed or 'reconciled' to avoid unintentional changes to their medication[20].

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[19] This calculation compares the situation where IHR is used for 50 per cent of emergency admissions, with the situation where IHR is used for no emergency admissions. It also assumes one WTE works 37.5 hours per week, 47 weeks per year.

[20] National Prescribing Centre, **Medicines reconciliation: A guide to implementation**.

79. We found that in the Powys community hospitals that we reviewed, neither the date of the medication history nor the date medicines were reconciled were systematically recorded on the charts. We were told that this was because pharmacy staff only attend each ward once a week so neither of the two pharmacists have sufficient time to undertake a full medicines reconciliation and therefore the boxes are frequently left uncompleted. The medicines management team said that they did try a pilot about five years ago on Llewellyn Ward, Bronllys Hospital with nursing staff undertaking medicines reconciliation. However, this did not provide any benefit because nursing staff did not have the appropriate skills to undertake a full medicines reconciliation and the NICE/NPSA joint Medicines Reconciliation guideline views this as a pharmacy-led task. The pilot also found that nursing staff did not have enough time to allocate to this task on top of their other responsibilities.

80. One of the main benefits of the **Invest to Save** funding will be that full medicines reconciliations can be undertaken on a regular basis.

Formulary processes

The Health Board now has a comprehensive formulary but it continues to have difficulties when patients are admitted to community hospitals which have been prescribed non-formulary medicines

81. A formulary is a health board's preferred list of medicines that staff can use as a reference document to ensure safe and cost-effective prescribing. Our Primary Care Prescribing report found that in 2012: 'Powys had a partial primary and secondary care formulary in place covering the six highest volume areas of the British National Formulary (BNF) based on Aneurin Bevan Health Board's formulary. The formulary uses a 'traffic light' system that identifies which drugs are appropriate for prescribing in which settings. While the development of a formulary is a considerable undertaking, local arrangements have been slow to progress. This is due to the challenge of engaging secondary care clinicians from a number of providers and a lack of capacity within the medicines management team.' At the time, the Health Board was not planning to develop its own formulary beyond these six chapters. The Health Board now has a formulary covering all BNF areas and it is available on the Health Board's internet.

82. We scored organisations on the number of mechanisms they have in place to share information with staff about changes to the formulary[21]. The Health Board scored 35 out of a possible 50 compared with an average of 38 across the rest of Wales. The medicines management team holds a quarterly prescribing meeting, where one GP prescribing lead from each practice attends, with the intention that they cascade prescribing changes to their colleagues. This approach has met with varying levels of success. Scope to improve in Powys includes broader cascading of committee decisions, and sharing of bulletins with hospital-based pharmacy staff and nurses. In common with three other health boards, Powys does not produce and share detailed information on each drug upon changes to the formulary.

83. The Health Board produces a newsletter for staff on prescribing matters called **Medicines Management News**. This newsletter is clear and accessible and provides information on legislative changes and topics of interest, such as asthma although it does not provide updates on formulary

[21] We considered whether committees cascade their decisions to staff, whether bulletins are shared, whether detailed information on each drug is shared, and whether the website is updated.

changes. Due to capacity issues, the medicines management team are finding it difficult to produce the newsletter every month.

84. The Health Board is also experiencing major challenges where other health boards in Wales and trusts in England are providing medications based on their own formularies. In situations where patients are coming back to Powys with medications provided that are not in the Powys formulary, the Health Board has asked neighbouring organisations that, where possible, they recommend classes of drugs rather than specific agents that are not included in the Powys formulary. The GP can then choose the formulary choice from that class, rather than the DGH recommending a named drug. The medicines management team is experiencing varying success in liaison with neighbouring health boards over how much they will support the Powys formulary. There are now more pronounced cross-border issues with the Welsh Patient Access scheme which is causing problems the other way round, where drugs that should be made available to Welsh patients may not be included in an English formulary. The Health Board has escalated this issue to the Welsh Government and is awaiting a solution.

85. The recruitment of additional clinical pharmacists in each of the three locality areas will provide additional support to promote the use of drugs from the Powys formulary and suggest therapeutic changes to ensure compliance with the Powys formulary, which may include direct pharmacist changes where there is a local agreed policy in place. Having an increased pharmacy presence on the wards will mean that the Health Board can better keep on top of formulary compliance within the hospitals. This should result in changes to patients' medication regimes when they are in hospital rather than when discharged to the care of their GP.

86. The roll out of MTeD will require further development of the formulary. At the moment, the formulary only contains drug level detail but going forward it will need to specify formulations and strengths of products. This will be a significant undertaking and will need to be resourced as part of the MTeD implementation programme.

Electronic prescribing

In common with the rest of Wales, Powys does not have electronic prescribing for inpatients

87. Electronic prescribing is the computer-based generation, transmission and filing of a prescription for medication. Electronic prescribing systems in secondary care can allow quicker, safer and cost-effective transfer of information[22]. These systems provide a considerable opportunity to influence the prescribing behaviour of secondary care clinicians by reinforcing and reminding staff about the Health Board's prescribing priorities.

88. Health boards across Wales told us that none of their wards have electronic prescribing processes in place. Towards the end of the financial year in 2014-15 the Health Board used the pharmacy modernisation capital fund to install wireless connectivity on ward areas to permit the use of medicines management systems utilising bedside computers or tablets. This will allow the Health Board to introduce systems to reduce risks in medicines use and reconciliation as well as the implementation of MTeD.

[22] 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014

Non-medical prescribing

The Health Board has a goal to support the wider use of non-medical prescribers

89. Training pharmacists, nurses and other non-medical staff as prescribers can improve patient access to medicines advice and expertise, contribute to more flexible team working and result in more streamlined care[23].

90. Health boards across Wales struggled to provide us with comprehensive data on the number of non-medical prescribers within their staff, and they particularly struggled to provide the number of these staff that were regularly using their skills. In Powys there are 26 nurses and two other professionals who are registered and regularly practising as supplementary prescribers. The Health Board also has one pharmacist trained as a supplementary prescriber who is currently waiting to be formally registered before beginning to practise. The Health Board's Integrated Medium Term Plan has a goal of supporting wider use of Independent Prescribers. Work on identifying need and establishing support mechanisms is planned for the coming year.

91. The Health Board has run training courses to support non-medical prescribers. The course 'Legal aspects of nurse prescribing', was first held in July 2014 and was well attended. The course will run again in autumn 2015.

92. The three clinical pharmacist posts that the Health Board is recruiting have independent prescriber as a desirable requirement, although the job description does not set out any detail on how the independent prescriber would work in practice.

93. Across the rest of Wales, health boards report having between 44 and 303 supplementary prescribers in place. Four health boards provided information about the proportion of nurses and pharmacists that were regularly prescribing, but only two recorded this information for other non-medical staff groups. Exhibit 14 shows how the Health Board compares to others in Wales relating to non-medical prescribing policies.

Exhibit 14: The Health Board had in place three of the four key non-medical prescribing policies

Does the Health Board have these policies in place?	Powys	Rest of Wales
Criteria for selecting staff to train as non-medical prescribers.	Yes	In place at five health boards.
Mechanism for recording non-medical prescribers and sharing this list with appropriate directorates.	Yes	In place at all health boards.
Support mechanisms for ensuring non-medical prescribers maintain their knowledge.	Yes	In place at all health boards.
Competency requirements to maintain validation as a non-medical prescriber.	No	In place at three health boards.

Source: Wales Audit Office Core Medicines Management Tool

[23] Supplementary prescribers can only prescribe in partnership with a doctor or dentist. Independent prescribers can prescribe for any medical condition within their area of competence.

Administration of medicines

The Health Board has been regularly auditing the administration of medicines and we found a comparatively low rate of missed doses in Powys

94. **Trusted to Care** highlighted serious problems in the way that medicines are administered and recorded. All organisations have produced action plans to respond to **Trusted to Care** and the Health Board has monitored compliance through the Quality and Safety Committee.

95. **Trusted to Care** mentions delayed and omitted doses, and particular problems with confused and immobile patients being unable to take their pills without supervision and therefore not getting their medication on time, or at all. There can be justified reasons why a dose is missed, 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 drugs 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 medication twice.

96. The standards of the Nursing and Midwifery Council state that a 'policy must be in place and adhered to in assessing the competence of an individual to support a patient in taking medication'. Those standards also set out the responsibility of nursing staff in assessing patients' competence to self administer their medicines. The Health Board was carrying out audits at ward level before **Trusted to Care** came out. The medicines management nurse carried out the audits at the community hospitals last summer and looked at administration of medicines by nurses, expiry dates, storage and checked charts.

97. We found that ward staff were aware of the issues raised in **Trusted to Care** and had received some training through workshops and briefings. However, some said that although e-learning had been made available they had not had time to complete it.

98. In our review of 49 patients' drug charts in the Health Board we found seven instances where it was not clear whether a dose had been omitted or not. This rate of 1.4 instances per 10 patients reviewed is lower than the rest of Wales where the rate was 2.5 instances per 10 patients reviewed. We also found that there were 43 instances where doses were omitted and the reasons were appropriately recorded on the drugs chart using specified codes. In 38 of these instances, the recorded code was code 4, meaning that the patient refused to take their medication.

99. We were told that nurses spend a lot of their time giving out medicines to patients, and this has increased to taking up to 20 per cent of a shift. The process used to be that the nurse signs when they put the medicine in the pot and give it to the patient. But if the patient subsequently does not take their medicine this causes issues. The wards are trying to move to a 'dot and pot' approach whereby the nurse marks a dot on the chart when it is given and then signs once they know that the patient has taken their medicine. However, we heard that on one ward the team is struggling to make this change and remember to return to sign the chart once the medicine has been taken.

Supporting patients with compliance

The Health Board needs to do more to educate and support patients to take medicines. The planned introduction of patient self-administration and use of patients' own drugs provides a good opportunity to empower patients

100. Studies[24] have shown that up to half of all patients do not take their medicines as intended. Not taking medicines appropriately has important implications for patient safety and can result in considerable waste, particularly when you consider that the Health Board spent approximately £1.4 million on medicines for hospital patients in 2013-14. Patients may not take medicines as intended because they do not fully understand the instructions for taking their medicines or because they are physically unable to administer the medicines themselves. NHS bodies should make information readily available and proactively identify patients who need extra support in taking their medicines.

101. We scored organisations by considering the actions they take to support people to comply with their medicines. We considered whether patients are assessed on their ability to open containers, whether patients are counselled for complex and high risk medication, whether reminder charts and monitored dosage systems are used, whether targeted written information is given, whether education groups are in existence and whether GPs are made aware of patients' compliance issues. The Health Board scored 20 out of a possible 32 points, compared with an average of 17 across the rest of Wales.

102. Across Wales we found that pharmacy teams are struggling to spend enough time educating patients on their medication. In the clinical pharmacy review we carried out in the other health boards in Wales we found that only six per cent of patients or carers were educated on an aspect of their medication. The lack of pharmacist support also means that there is no time for the pharmacist to talk directly to patients about their medication.

103. The Standards state that patients should be able to call a helpline to discuss their medicines. This can be particularly important in supporting discharged patients who are unsure about their medication regime. Powys provides a contact number for patients to all patients that have had their medication dispensed by the hospital pharmacy. The helpline is provided under the SLA with the neighbouring health boards. It is available for a total of 40 hours during the week and four hours during the weekend, which was exactly the same as the average for the rest of Wales. However, an increasing number of patients in Powys have their medication dispensed by their local community pharmacy which is not covered by the helpline. These patients do not have access to the helpline, nor can they ask ward staff about their medication so they will rely on their local community pharmacist for support and information. While the **Invest to Save** pharmacists will have a role of supporting patients with compliance, the Health Board will need to consider how to provide a helpline when the SLA changes with the neighbouring health boards.

104. The **Invest to Save** funding will make it possible to use a patient's own drugs (POD) that they bring into hospital from home, which has been shown to have a beneficial effect on medicines wastage and drug expenditure and, also, facilitates the transfer of patients between care settings. The use of PODs has not been possible because in the absence of pharmacists it relies on nurses being able to correctly and safely identify medication brought in for patients. The Health Board carried out a pilot scheme into the use of POD but it identified that the use of POD could not be done reliably.

[24] 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014

The funding includes capital investment of lockable bedside cabinets for storing PODs and to support patients to self-administer their medicines. Patient empowerment is not possible without supporting patient self-administration. We found ward staff keen for POD to be introduced in most wards we visited as part of their role in rehabilitation and preparing people to go home. However, one ward was concerned about taking on this role so training and support are essential when introducing these changes.

105. When a patient is being discharged from hospital, staff may request that community pharmacists 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. An independent review of the DMR service in Wales estimated that each DMR costs £68.50 and that DMRs have an approximate 3:1 return on investment due to avoiding emergency department attendances, hospital admissions and medicines wastage.[25] Whilst DMRs appear to be effective, they are essentially correcting issues that have arisen in a patient's episode of care. It could be argued that expenditure on DMRs could be better spent upstream to prevent issues that later require correction, for example, by improving the quality and timeliness of information sharing at the transfer of care between primary and secondary care. At the Health Board, 152 DMRs were carried out in 2013-14 at a cost of approximately £10,400[26]. In common with most other health boards in Wales, Powys does not record the number of community referrals for DMRs made by hospital staff, and therefore does not monitor the rate of uptake of referrals.

Supporting discharge

The Health Board recognises there are problems with the quality and timeliness of discharge information and has plans to implement an electronic discharge system

106. When patients are discharged from hospital, the interface between the hospital and the patient's GP is vital to ensure safe and effective medicines management. 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'. Powys has a standard template that sets out the information to be provided to GPs upon a patient's discharge, and the template applies to all specialties. Across the rest of Wales, 17 out of 18 hospitals that we reviewed have a similar template in place, but only 10 of these apply it across all specialties.

107. Despite having a standard template, the Health Board is aware that there are risks to patients due to medication errors and omissions if there is insufficient information provided when patients are transferred between settings. Currently the use of hand written, carbon copies of discharge information that the patient gives to the GP on discharge is poor. The GP cluster meetings have discussed the problem with discharge information. The Standards state that organisations should 'monitor the accuracy, legibility and timeliness of information transfer. Powys has not audited the quality and timeliness of discharge information in the past two years.

[25] Cardiff University, **Evaluation of the discharge medicines review se***rvice*, March 2014

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

108. Because it is aware of the issues with discharge information, the Health Board is keen to implement the MTeD system. NHS Wales Informatics Service is developing an all-Wales approach to improve medicines management. There are two elements made up of:

- Medicines Transcribing (MT) which will allow hospital pharmacists to transcribe patient medications electronically to support the patients from admission to discharge; and
- e-Discharge (eD) which will enable clinicians to record a summary about a patient's hospital stay which can be electronically sent to the GP via the Welsh Clinical Communications Gateway.

109. The Health Board's integrated medium-term plan sets out the process for implementing MTeD before the end of 2017-18 with piloting planned during 2015-16. The Health Board is recruiting three additional clinical pharmacists from the **Invest to Save** monies based in north, mid and south Powys. Part of their roles will be to provide day-to-day clinical support to the MTeD system and use of POD developments through supporting ward staff, and the registered pharmacy technician, providing appropriate clinical review and check of prescribing, including medicines reconciliation.

Antimicrobial stewardship

The Health Board is concerned about its high use of antibiotics both in hospital and the community, and while it has taken some actions to improve antimicrobial stewardship this is an area that requires further attention

110. Resistance to antibiotics has increased in Wales.[27] The All-Wales Action Plan on antimicrobial stewardship talks about the importance of promoting good antimicrobial prescribing through audit. In the past year, the Health Board has not undertaken any antimicrobial prescribing audits and does not employ a dedicated antimicrobial pharmacist.

111. The PCPTC is concerned about antibiotic prescribing in the community hospitals. In 2014, they reviewed the finding that Wales had twice the number of hospital-acquired infections than England related to prescribing, ie, the number and type of antibiotics and the length of time patients in community hospitals are taking antibiotics. The Health Board has taken a range of actions to improve antimicrobial stewardship as it recognises the importance of improving prescribing of antibiotics. The Health Board has developed its own antibiotic formulary based on the Health Protection Agency 'Management of Infection Guidance for Primary Care' and it has been adapted for local use to take into account local sensitivity data from the surrounding DGHs.

112. The Health Board has also commissioned Public Health Wales to provide three sessions on infection prevention and is considering commissioning one session on antibiotic stewardship. The PCPTC asked for microbiologist support two years ago from the Public Health Wales diagnostic microbiology laboratory in Cardiff and Welsh Antimicrobial Resistance Programme but this bid was unsuccessful. Microbiology can provide information on local strains of bacteria and sensitivities to particular antibiotics but they need the support of PHW to do this. The pharmacy team is aware that the formulary needs further development on which antibiotic drugs should be used in secondary care.

[27] Public Health Wales, **Antimicrobial resistance and usage in Wales (2005-2011)**, November 2012

113. One of the pharmacists providing the current service in the community hospitals said that they had difficulty convincing doctors to change their prescribing of particular antibiotics. This is an area that needs strengthening and the new clinical pharmacists will need support to influence prescribers.

Part 5

Monitoring pharmacy services

The Health Board needs to strengthen its monitoring of medicines management in community hospitals to better understand its performance and address the issues with medication-related incidents and adverse reactions

Performance reporting

There is scope to strengthen performance management through the setting and monitoring of key performance indicators

114. The **Professional Standards for Hospital Pharmacy Standards** (the Standards) state that agreed key performance indicators should be in place to enable internal and external assessment of performance. Performance should also be benchmarked against other relevant organisations.

115. As part of the monitoring of the annual plan for 2014-15 reported to the Board, two relevant measures are included: Ensure all medicines are prescribed, administered and monitored appropriately and all medication incidents reported. The Integrated Performance Report for 2015-16 does not include any medicines management measures. During 2014-15, the Quality and Safety Committee received reports on Datix medication incidents by adverse event and severity. However, this information is not in the latest version of the quality key performance indicators. The Health Board has set no performance indicators related to medicines management in community hospitals and we have seen no evidence of benchmarking. Consequently, there is scope to strengthen performance reporting and monitoring in relation to medicines management.

116. The Health Board's locality meetings receive regular reports on medication expenditure, shared care protocols and local medicines management projects. Incidents and risk are also reviewed at these fora. Pharmacists also attend the GP cluster meetings where medicines management is discussed including a review of expenditure. The focus of these meetings is on primary care prescribing with little coverage of medicines management in the community hospitals.

117. We asked health boards to provide examples of how they monitored patient experience in relation to medicines management. The Health Board did not provide us with any information on how it monitors patient experience.

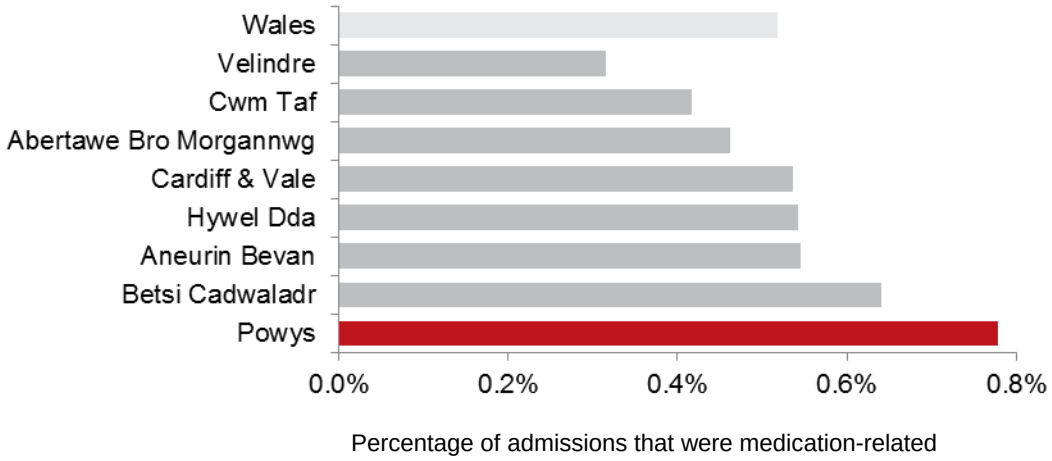
Safety interventions and medication-related admissions

The Health Board needs to do more work to understand why it has the highest rate of medication-related admissions in Wales

118. Medicines management is a complicated set of processes and there is potential for things to go wrong at numerous stages. The absolute focus for health boards should be in ensuring safe practices. Where errors or incidents are identified in relation to medicines, health boards should act decisively and openly to learn lessons and prevent repeat incidents.

119. When something goes wrong with someone's medication, it can directly cause an admission to hospital. The Health Board's **Invest to Save** bid cites research that implicates adverse reactions to medicines in 5 to 17 per cent of all hospital admissions. Exhibit 18 shows the results of a national audit on the rate at which patients were admitted to hospital as a result of problems with their medication. While this data shows that medication-related admissions account for less than one per cent of total admissions, the reported rate of these admissions at the Health Board is the highest in Wales. Data is taken from the NHS Wales Informatics Service but is complicated by the fact that coding teams take differing approaches to coding the causes of admissions, and Powys is not directly comparable with the other health boards as it does not have any DGHs. The Health Board needs to do more work to understand and reduce medication-related admissions.

Exhibit 18: The proportion of admissions that are medication-related is the highest in Wales



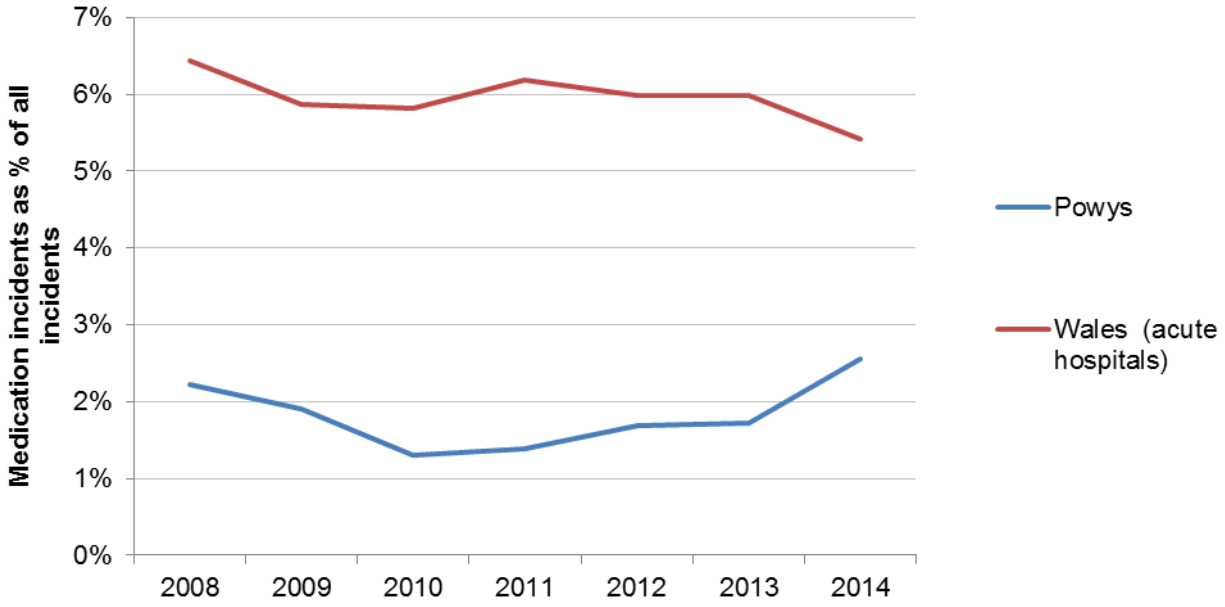
Source: NHS Wales Informatics Service. Data by the health board providing care, 1 July 2012 to 31 June 2013.

Learning when things go wrong

There are low reporting rates of medicines-related incidents and adverse reactions, which the Health Board is planning to address

120. Health boards should report all patient safety incidents to the National Reporting and Learning System (NRLS) so that national analyses and comparisons can be made. Exhibit 19 shows the number of medication-related incidents reported as a percentage of all incidents reported to the NRLS. The proportion of incidents in Powys that are medication related is low and consistently less than three per cent since 2008. The rate for community hospitals in Powys is lower than the all-Wales rate for acute hospitals and it would benefit the Health Board to understand the reasons for this.

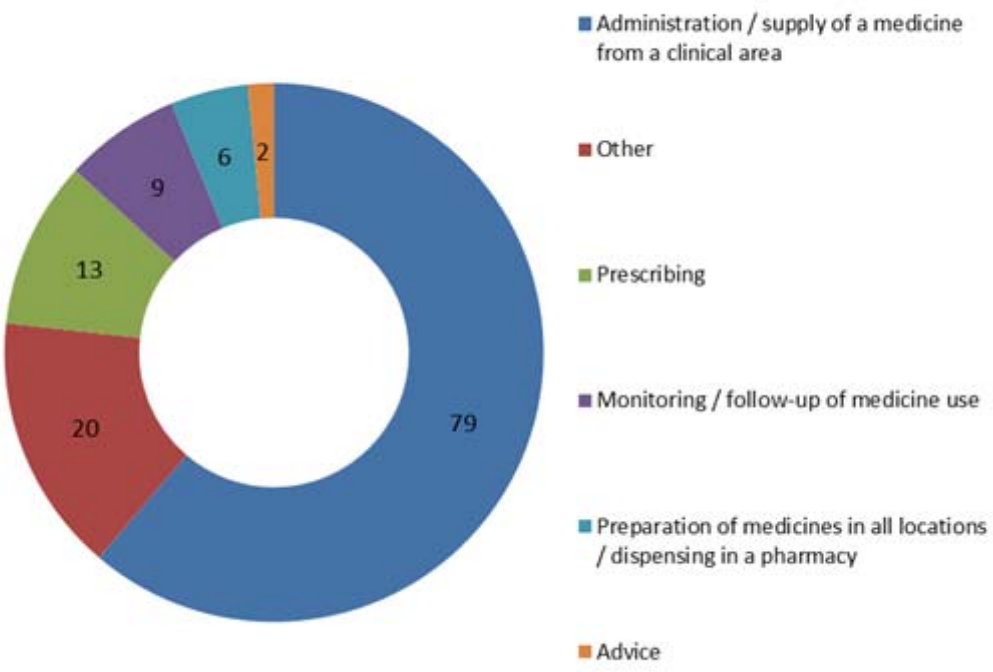
Exhibit 19: The rate of medication incidents is lower in the community hospitals in Powys compared to the acute hospital average for Wales



Source: NRLS, NHS Commissioning Board Special Health Authority

121. Exhibit 20 shows the types of medication-related incidents that Health Board staff reported to the NRLS. In total 129 incidents were reported with the majority under the heading administration or supply of a medicine from a clinical area. This covers medicine that is redispensed from the container which, for example, has been previously supplied by a pharmacy to a ward or residence/home. Staff should select this category to cover all stages of the administration process from reviewing the prescription, selecting the correct medicine, identifying the correct patient and administering the dose.

Exhibit 20: Medication-related incidents in the Health Board are most commonly due to the administration or supply of a medicine from a clinical area

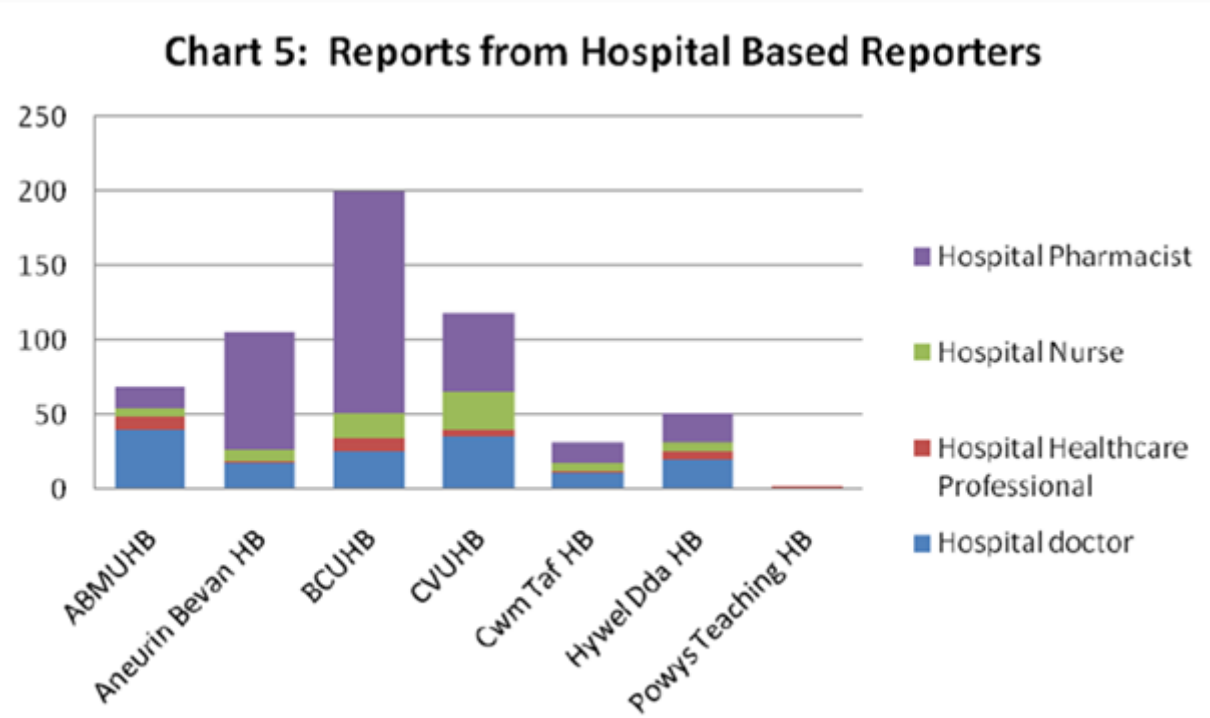


Source: NRLS, NHS Commissioning Board Special Health Authority (1 April 2008 to 31 December 2014).

Note: Further detail on the categories can be found on the **NRLS website**.

122. When patients experience adverse reactions as a result of their medicines, staff should report these events to the MHRA via the Yellow Card Scheme. Exhibit 21 shows that in Powys in 2013-14, the number of adverse reactions reported by hospital staff was very low. Across the rest of Wales, pharmacists represent the professional group that reports the most adverse events. However, at hospitals in Powys in 2013-14 no adverse reactions were reported by pharmacists. The small number of adverse reactions that were recorded in Powys were reported by staff categorised as 'hospital healthcare professionals', not pharmacists, doctors or nurses.

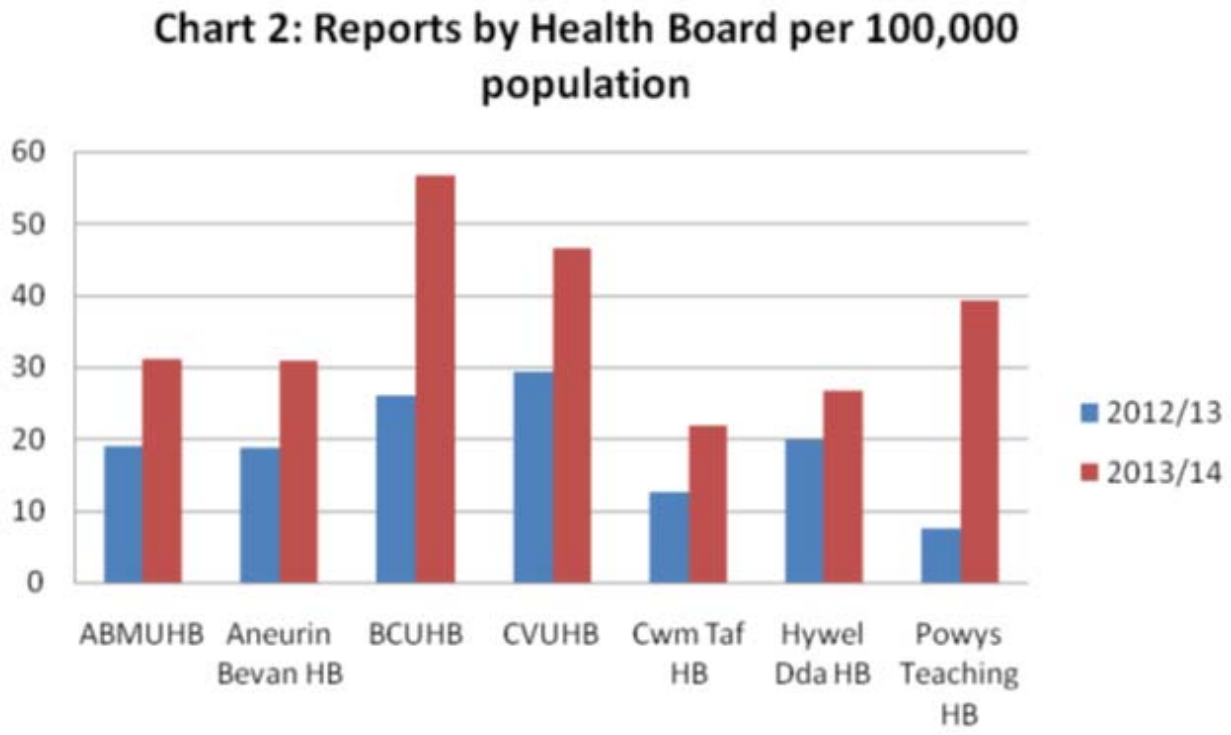
Exhibit 21: Powys community hospital staff made virtually no yellow card reports in 2013-14



Source: Yellow Card Centre Wales, Annual Report of Yellow Card Centre Wales to the Medicines and Healthcare Products Regulatory Agency 2013-14

123. Exhibit 22 shows that when primary and secondary care are considered together Powys has seen yellow card reporting rates increase fourfold compared with 2012-13. In 2012-13 Powys reported the lowest number of yellow card incidents (< 10 per 100,000 population) but the increase means that Powys is now the third highest (just under 40 per 100,000 population). Almost all these reports have been made by GPs.

Exhibit 22: Powys GPs have increased Yellow Card reporting since 2013 going from the lowest to the third highest in Wales



Source: Yellow Card Centre Wales, Annual Report of Yellow Card Centre Wales to the Medicines and Healthcare Products Regulatory Agency 2013-14

124. The Health Board has undertaken 10 training sessions with GPs to encourage them to report adverse drug reactions under the Yellow Card system. In addition, members of Yellow Card Centre (YCC) Wales worked with the All Wales Prescribing Advisory Group (AWPAG) to develop yellow card reporting as a National Prescribing Indicator (NPI) in Wales. NPIs are developed annually to promote rational prescribing, balancing both quality and efficiency. Yellow card reporting was agreed as an NPI for 2014-15 with the following targets set:

A. Target for GP practice – GPs to submit one yellow card per 2,000 practice population.

B. Target for each health board – submit yellow cards in excess of one per 2,000 health board population.

125. Powys GPs achieved the highest rate of target A in Wales. BCUHB was the only health board that achieved target B.

126. The visiting pharmacists report any medication errors they come across to the ward staff and doctors straight away. They will also change any medications if the need to do so is urgent. They report issues on the all-Wales intervention database (AWID) although they said that they do not have enough time, so would prioritise the more serious interventions. The pharmacists regularly find around 8 to 10 moderate interventions and a few serious ones each week. The visiting pharmacists

said that they had no feedback on errors and adverse events from the central medicines management team.

127. Our hospital interviews found that nurses generally report incidents on Datix. For example, the ward manager at Ystradgynlais thought that medication errors were low. He checks them monthly and there have been no major medication errors. One hospital reported one error with controlled drugs where two drugs with similar names were confused but processes have been put in place to reduce this happening again. The PCPTC reviews all medication related incidents that have been reported on Datix.

128. The **Invest to Save** band 7 clinical pharmacist roles include requirements to maintain a record of any clinical interventions made using the All Wales Inventions Database and detect, record and report Adverse Drug Reactions (ADRs) through the Yellow Card system as appropriate. There may be an opportunity for the pharmacists to promote the Yellow Card Scheme to increase the contribution made by nurses and other healthcare professionals.

129. The pharmacists will also be responsible for providing a comprehensive service on medication errors that is currently lacking. Once they have been appointed and get up to speed the pharmacists could make a big impact on the way that medication errors are reported and managed. The job description sets out the responsibilities as follows:

- Ensure that medication errors are reported in accordance with Health Board policy via the Datix incident reporting system.
- Receive reports of medication errors and support investigations of errors in prescribing, dispensing or drug administration and implement actions as necessary. This may include reacting to errors made by external providers and dealing with patients who have been subject to a drug error.
- Identify potential risks in prescribing, dispensing or drug administration to the senior medicines management team so that appropriate changes in policy, procedure or practice can be made.
- Reduce risk associated with medicines use by contributing to safe medication practice initiatives eg, 1000 Lives campaign, Your Health Your Medicines, etc.

130. Health bodies should have in place a medication safety committee. This should be a multi-professional group to review medication error incidents and improve medication safety locally[28]. In Powys, medication incidents are investigated by the medicines management team and fed back to the PCPTC and the nursing networks. The PCPTC has been enhancing learning from incidents through a recent review of acute kidney injury and the drugs most likely to cause it.

[28] Medicines and Healthcare Products Regulatory Agency, **Improving medication error incident reporting and learning**, 20 March 2014

Appendix 1

Methodology

Our audit consisted of the following methods:

Method	Detail
Core medicines management tool	The core tool was the main source of corporate-level data that we requested from the Health Board. The tool was an Excel-based spreadsheet.
Document request	We requested and reviewed approximately 15 documents from the Health Board.
Interviews	We interviewed a small number of staff including: Acting Medical Director, Director of Primary and Community Care, Head of Pharmacy and Research & Development, Director of Nursing, Pharmacists based in Aneurin Bevan and Hywel Dda, and ward managers at five wards.
Walkthroughs	We visited five community hospitals within the Health Board during May 2015 where we carried out an observation within the hospital drug store. We also visited the following wards where we spoke to staff and carried out a drug chart review: • Brecon War Memorial Hospital, Epynt Ward • Knighton Hospital, Panpwton Ward • Llandrindod Wells County War Memorial Hospital, Claerwen Ward • Victoria Memorial Hospital, Welshpool, Maldwyn Ward • Ystradgynlais Community Hospital, Adelina Pattie Ward
Use of existing data	We used existing sources of data wherever possible such as incident data from the NRLS, Yellow Card Centre Wales, and data from the Cardiff University review of the Discharge Medicines Review Service.

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