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Medicines Management in Acute Hospitals

Cwm Taf University Health Board

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

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Summary report

Background

1. The most common therapeutic intervention in the NHS is the 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 – www.1000livesplus.wales.nhs.uk/medicines

[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

[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.

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 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. Our study follows on from previous local audit work we have undertaken on primary care prescribing. It focuses on aspects of medicines management that directly impact on inpatients at acute hospitals. We cover 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 exclude procurement and largely exclude the supply of medicines.

9. In this report we refer to the position at selected hospital sites in Cwm Taf University Health Board (the Health Board) and we also present data from a series of ward visits and patient reviews conducted across a sample of wards that were carefully selected as part of our methodology. When reviewing this information it is important to note that our findings relate to specific aspects of medicines management that we audited at a specific point in time. Appendix 1 shows full details of our methodology.

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

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

[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

Key findings

12. Our overall conclusion is: **Overall corporate arrangements are strong and working relationships are good but opportunities exist to strengthen some medicines management processes, increase the use of technology, address some facilities issues and broaden performance monitoring**. The table below sets out our key findings in more detail:

Corporate arrangements: Corporate arrangements for medicines management are strong with clear strategic vision and savings delivered as planned

- There is clear and strong executive and operational leadership with clear lines of accountability that span primary and community care.
- The strategy for medicines management is clear with a focus on integration between primary and secondary care and supporting the Health Board's integrated medium term plan.
- Profile and influence of pharmacy are good, with representation at Quality and Safety and engagement in service developments.
- There is regular scrutiny of financial information and the medicines management savings plans have delivered against forecast targets.
- Given the low number of individual patient funding request panel applications the pharmacy team spend a greater amount of time supporting and attending them.

Workforce: There is a strong focus on training and development within the pharmacy team, which has a richer skill mix and slightly higher-than-average costs relative to inpatient activity. Pharmacy provides a good visible presence and has good relationships at ward level but out-of-hours services should be reviewed

- The Health Board's pharmacy team has a richer skill mix and slightly higher-than-average costs relative to inpatient activity but the perception of insufficient resources needs to be addressed.
- There is a strong focus on training pharmacy staff although there are opportunities to improve doctor training and introduce medicines management training for nurses.
- Relationships on the wards are good, with nearly all having a visiting service from pharmacy and a higher-than-average proportion of pharmacy recommendations leading to changes.
- Pharmacy services are generally accessible and responsive although the Health Board needs to review its extended hours service.

Facilities: Pharmacy facilities largely comply with key requirements but there are risks associated with the lack of medicines storage at ward level

- Pharmacy facilities largely comply with the key requirements although there are issues with the lack of dedicated hand washing facilities at each hospital.
- Currently available external reviews of both aseptic units have raised no significant issues and, in common with the rest of Wales, ward preparation of injectable medicines is not audited on a regular basis.
- Storage of medicines and injectable fluids at a ward level continues to present problems.

Processes: Arrangements for transferring medicines information, utilisation of electronic systems, as well as timeliness and accuracy of discharge information should be improved

- Poor information transfer between primary and secondary care is posing safety risks and inefficiencies.
- Timeliness of medicines reconciliation could improve and a typical percentage of patients were identified with compliance issues.
- All patients sampled at the Health Board had standard drug charts and allergy statuses were being recorded.
- The Health Board's formulary processes are good but there are opportunities to promote available support to prescribers.
- Electronic prescribing is not yet in use on the Health Board's wards.
- The Health Board is proactive in its use of non-medical prescribers in a number of areas, with good arrangements for record keeping and controls.
- The Health Board has taken direct and positive action in response to *Trusted to Care*, however, some patients are self-administering in a limited way despite the lack of a policy to support this.
- Learn from the ntional work on Prudent Prescribing to develop an action plan to increase the organisation's focus on identifying patients' compliance needs, educating/counselling patients, improving medicines information and supporting patients to take their medicines properly.
- The lack of electronic systems is leading to poor timeliness and quality of discharge summaries but the rate of community discharge medication reviews is higher than average.
- The Health Board is taking a range of good actions to improve the way it uses antimicrobial medicines in secondary care and is currently drafting a formal strategy.

Monitoring: There are good arrangements for monitoring when things go wrong but there is potential to broaden the current performance indicators and improve feedback to health board staff

- Reporting on performance is sound, however, there is scope to broaden the range of performance indicators through sharing more information on the Directorate scorecard and including more detail on indicators linked to areas of concerns.
- Confidence of staff in medicines management is high. The rates of medication-related admissions and pharmacy team safety interventions are below the Wales average. Arrangements are in place to monitor when things go wrong, training has been provided to improve incident reporting but feedback to staff could be improved.

Recommendations

R1	**Corporate arrangements**: In relation to Part 1 of the report, the Health Board should: a. Increase medical staff representation on the Medicines Management Expenditure Committee (MMEC). b. Take steps to ensure lay members regularly attend the Individual Patient Funding Panel meetings.
R2	**Workforce**: In relation to Part 2 of the report, the Health Board should: a. Develop a plan to ensure adequate succession planning for the Medicines Management Directorate. b. Develop a plan to improve discharge processes, by engaging with pharmacists, nurses and doctors to address views expressed in our survey that the pharmacy team priority should be to improve discharge processes, that the most common cause of discharge delay is due to waiting for prescriptions to be written, and that there is scope to improve accessibility to pharmacy services outside normal working hours. c. Develop a fully funded plan to strengthen medicines management training for junior doctors, support medical education and newly qualified nursing staff at ward level.
R3	**Facilities**: In relation to Part 3 of the report, the Health Board should: a. Implement a regular audit programme of the preparation of injectable medicines on the wards. b. Minimise the current safety risks associated with storage of medicines and intravenous fluids at ward level by ensuring where possible that fluids are secured in a locked room or cupboard.
R4	**Processes**: In relation to Part 4 of the report, the Health Board should: a. Set out a clear timescale and funding plan for implementing inpatient electronic prescribing, electronic discharge and rolling out access to the Individual Health Record. b. Implement a policy in relation to the self-administration of medicines by patients at ward level. c. Learn from the national work on Prudent Prescribing to develop an action plan to increase focus on identifying patients' compliance needs, educating/counselling patients, improving medicines information and supporting patients to take their medicines properly.
R5	**Monitoring**: In relation to Part 5 of the report, the Health Board should: a. Develop a broader range of performance indicators to provide more information on performance against the priorities for medicines management. b. Improve feedback mechanisms to staff following medicines incident reporting to ensure that lessons are learnt and Health Board staff can see actions have been taken.

Part 1

Corporate arrangements for medicines management

Corporate arrangements for medicines management are strong with clear strategic vision and savings delivered as planned

Leadership and accountability structures

There is clear and strong executive and operational leadership with clear lines of accountability that span primary and community care

13. 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 are clear senior accountabilities and structures.

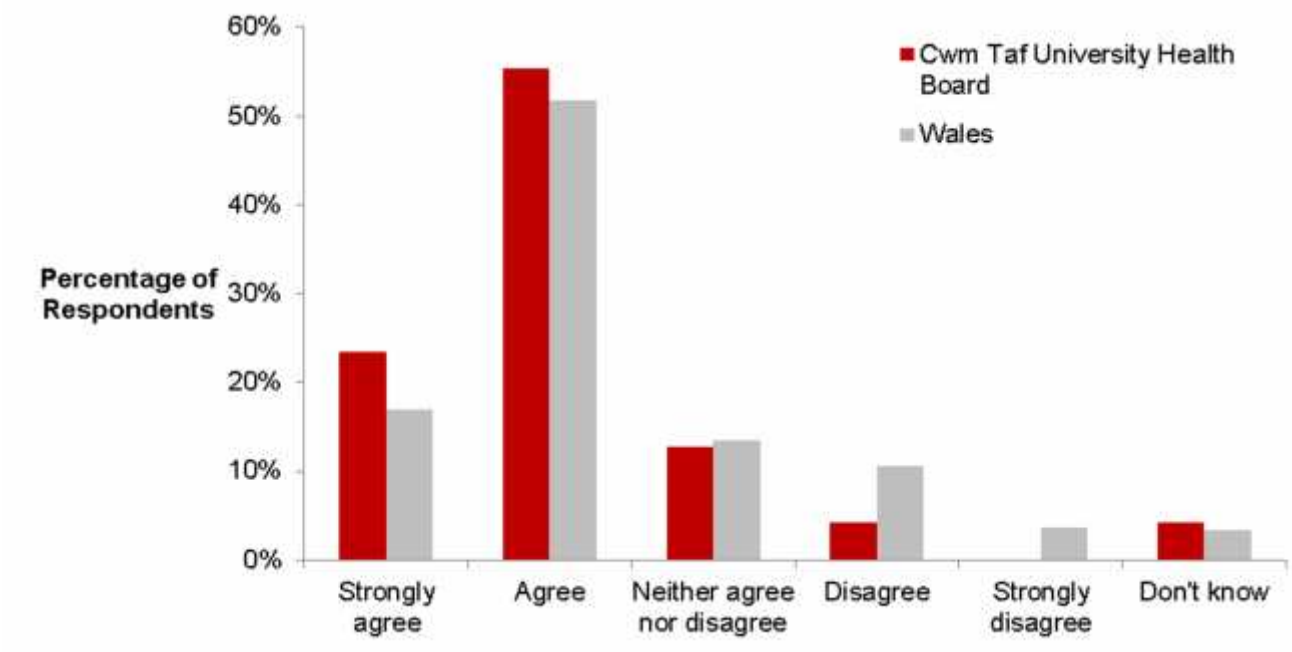
14. The Health Board has 11 clinical directorates, each responsible for planning, delivering and improving particular services. Executive responsibility for medicines management sits with the Director of Primary, Community and Mental Health Services. Although there is a close working relationship with the Chief Operating Officer who attends the monthly clinical business meetings with the Medicines Management Directorate to ensure medicines management issues are considered across all areas of the Health Board's programme of activity. The Medical Director has professional responsibility for pharmacy and medicines management issues across the Health Board.

15. At the time of our review the Director of Primary, Community and Mental Health services had been appointed Chief Ambulance Services Commissioner for Wales. This appointment means he will have one working day a week with Cwm Taf, retaining his previous responsibilities for IM&T and Facilities. He will also retain Medicines Management for the coming year.

16. The Cwm Taf Medicines Management Directorate is led by the Head of Medicines Management who is professionally and managerially responsible for hospital pharmacy staff. The primary care prescribing teams are managed within the Directorate. Integration between primary and secondary care services is strong. Reporting to the Head of Medicines Management are four Chief Pharmacists, although all are based in the acute setting, three are aligned to localities and one leads the medicines management practice unit which is responsible for the individual patient funding requests (IPFRs) as well as medicines information and community pharmacy engagement. By assigning Chief Pharmacists to localities the Health Board has enabled integration between primary and secondary care. Additionally, the three Chief Pharmacists are assigned specific operational responsibilities, for quality and safety, planning and finance and performance, leading to a strong operational team with good knowledge and understanding.

17. The *Professional Standards for Hospital Pharmacy Services*[10] (the Standards) state that the pharmacy service should have clear lines of professional and organisational responsibility. Exhibit 2 shows that in our survey across Wales, 69 per cent of pharmacy staff agreed or strongly agreed with the statement: 'There are clear lines of accountability in the pharmacy team.' The equivalent figure in the Health Board was 78 per cent, suggesting lines of accountability are clearer in the Health Board than in the rest of Wales.

Exhibit 2: Pharmacy staff at the Health Board generally agreed with the statement: 'There are clear lines of accountability in the pharmacy team'



Source: Wales Audit Office Survey of Pharmacy Staff

18. The Standards also state that health bodies should have a medicines management group (MMG) as a focal point for the development of medicines policy, procedures and guidance. Our primary care prescribing report[11] said the Cwm Taf MMEC provides assurance that the management of medicines optimises patient care and is safe, legal and provided within the financial resource available for the Health Board. The MMEC draws its membership from across primary and secondary care in order to represent all medical stakeholders. We were told in interviews that although representation from doctors was sufficient, it could be further improved by increasing the representation from Medicine as two members have recently retired, the Directorate is addressing this.

19. The MMG should be multidisciplinary to reflect the fact that medicines management is the responsibility of a number of clinical professional groupings. Nursing staff make up 18 per cent of the MMEC membership (compared with an average of nine per cent across Wales) and medical staff make up 27 per cent of the membership (compared with 46 per cent across Wales).

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

[11] Wales Audit Office, *Primary Care Prescribing*: Cwm Taf University Health Board, 2013

Strategy for medicines management

The strategy for medicines management is clear with a focus on integration between primary and secondary care and supporting the Health Board's integrated medium-term plan

20. The Health Board should have a clear strategic vision for medicines management. Our primary care prescribing report said the Health Board had a clear vision for medicines management that was integrated across primary and secondary care settings.

21. The Medicines Management Directorate's three-year plan for 2015-2018 clearly states the vision and strategic objectives. The plan was developed with support from planning and finance officers, and the Directorate has encouraged staff engagement via the annual appraisal process. The Directorate has also engaged with the clinical directorates and locality leads to ensure plans align with other areas of the business. A link can be seen to themes in the Health Board's integrated medium-term plan with the vision of the medicines management directorate which is to promote medicines safety, improve quality and ensure cost effectiveness by applying prudent healthcare principles.

22. There is clear integration with primary care. Our GP prescribing report found that a key element of the medicines management strategy was the redesign of the medicines management service and agenda to an integrated model across primary and secondary care. Through interviews it was clear that the integrated model has been achieved and is embedded with joint appointments and rotation of staff between primary and secondary care settings across a number of areas.

23. We surveyed pharmacy staff for their views on the strategy. The results showed that 37 per cent of pharmacy staff agreed or strongly agreed that they had been consulted and were able to contribute to the strategy, compared to 30 per cent for Wales. The survey also showed that 77 per cent of pharmacy staff agreed or strongly agreed that 'the Health Board has an effective strategy for medicines management', compared to 66 per cent for Wales.

Profile and influence of pharmacy within the wider Health Board

Profile and influence of pharmacy are good, with representation at Quality and Safety and engagement in service developments

24. Positive working relationships exist between the Chief Operating Officer and the Director of Primary, Community and Mental Health, which ensures that issues relating to medicines management in new service developments are taken into account. The Head of Medicines Management is engaged in these meetings and does provide information to senior teams to inform service decisions and to support service changes. In some specialities, for example, haematology, the Medicines Management directorate would be involved from the beginning.

25. 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 Cwm Taf was the only health board where pharmacy was represented on the most senior committee responsible for quality and safety. None of the health boards' pharmacy teams were represented on the most senior committee responsible for risk management.

26. 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. The Health Board's pharmacy team has no involvement in decisions to introduce new consultants.[12]

Financial management of medicines management

There is regular scrutiny of financial information and the medicines management savings plans have delivered against forecast targets

27. Secondary care medicines expenditure is reported annually to the Board, monthly to the Corporate MMEC and savings figures are reported monthly to the executive team. The Directorate's financial position is scrutinised at monthly clinical business meetings which are held by the Director of Primary Care and Mental Health, Director of Finance and other key executives. Performance is scrutinised both in terms of quality and safety but also financial performance against savings plans.

28. The Health Board's medicines management savings plan covers primary and secondary care and at December 2014 it was performing ahead of plan. The Health Board planned to make medicines management savings in 2014-15 totalling £1.1 million and this has been achieved. Centrally imposed savings targets are given and the Directorate has to work out how it plans to achieve this. Due to current financial planning arrangements, savings plans need to be delivered in-year, however, some schemes will take longer to deliver benefits and this makes identification of saving schemes challenging.

29. In response to our survey, 21 per cent of pharmacy staff disagreed or strongly disagreed with the statement 'Financial savings made in pharmacy services are not impacting on patient outcomes' compared with 24 per cent across Wales. Whilst this reflects only the perception of a sample of staff, it may suggest that the Health Board should reflect on whether its pursuit of savings is impacting negatively on patient outcomes.

[12] The Medicines Management Directorate responded to our survey by saying they were only engaged ad-hoc in decisions to introduce new services or clinics.

Individual patient funding requests

Given the low number of individual patient funding request panel applications the pharmacy team spends a greater amount of time supporting and attending them

30. 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] At the Health Board, the IPFR panel has lay members, but they do not regularly attend panel meetings. All IPFR applications in the Health Board are screened before the panel sits, and all applications are signed off by a clinical lead or head of department.

31. During 2013-14, the IPFR panel at the Health Board considered 33 applications regarding medicines which was lower than the Wales average of 60[14]. Despite the lower number of panels the time spent by the Health Board's pharmacists and technicians supporting and attending them is in line with the rest of Wales (an estimate of 200 hours compared with the Welsh average of 193 hours).

32. There are processes in place for managing the IPFR process and the medicines management support unit, led by a Chief Pharmacist undertakes this role. The all-Wales guidance on IPFR panels states that IPFR panels should only consider 'exceptional' clinical cases. Through interview, the Health Board told us that different organisations have interpreted the word 'exceptional' in different ways and the Health Board is therefore keen to explore an all-Wales approach to the IPFR process.

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

[14] Betsi Cadwaladr discounted from the Wales average: the majority of applications at BCU are not managed through the IPFR panel.

Part 2

The medicines management workforce

There is a strong focus on training and development within the pharmacy team, which has a richer skill mix and slightly higher-than-average costs relative to inpatient activity. Pharmacy provides a good visible presence and has good relationships at ward level but out-of-hours services should be reviewed

Staff numbers and skill mix

The Health Board's pharmacy team has a richer skill mix and slightly higher-than-average costs relative to inpatient activity but the perception of insufficient resources needs to be addressed

33. Pharmacy teams should have the right skill mix, capability and capacity to manage patients' medicines effectively as well as develop and provide broader pharmacy services. Health boards carried out a resource mapping exercise of their own pharmacy teams during late 2014. Exhibit 3, on the next page, highlights some of the staffing indicators from that exercise. The Health Board has the smallest team of pharmacists and technicians in Wales and the richest skillmix of pharmacists to technicians. Staff numbers and costs relative to inpatient activity are slightly higher than average[15].

[15] Staffing levels and bed-day data reflect acute hospital sites within the Health Board.

Exhibit 3: Staff numbers and costs are slightly higher than the Wales average when considered in terms of inpatient activity and there is a richer skill mix in the Health Board

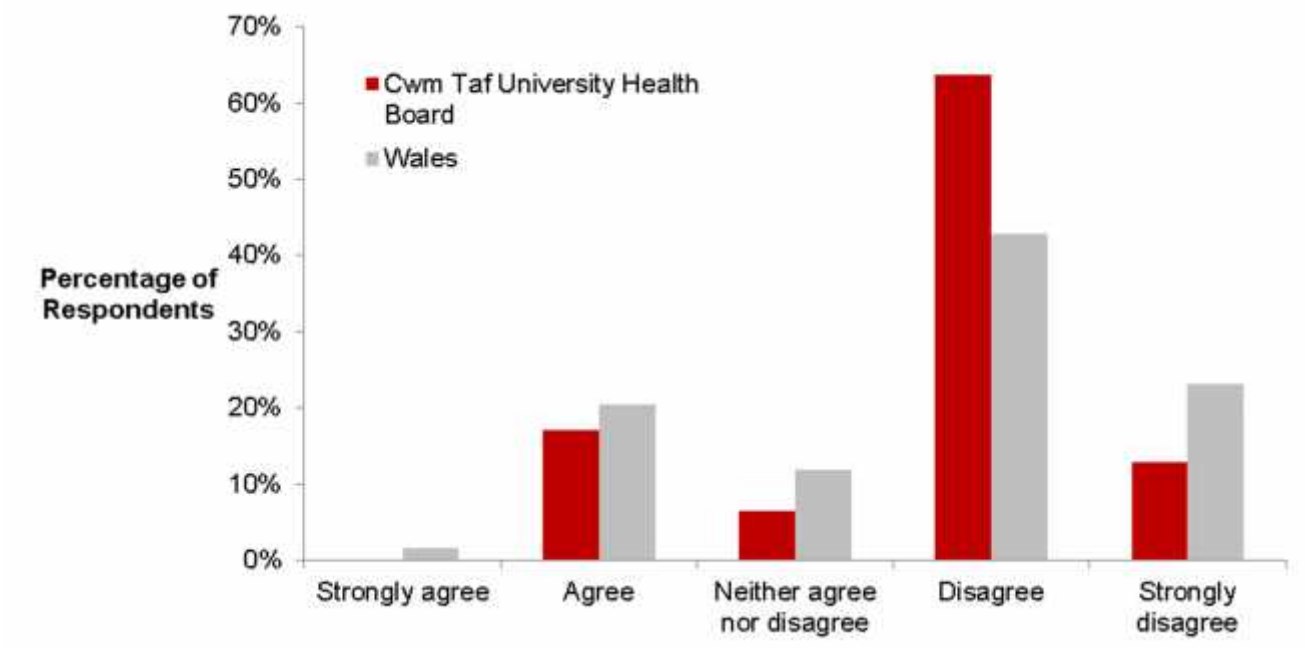
		Wales average	Cwm Taf
Staff numbers and skillmix	Total pharmacists and technicians in post (whole-time equivalent (WTE))	148	102
	Ratio of pharmacists to technicians	51:49	56:44
	Pharmacists and technicians (WTE) per 100,000 occupied bed days	37	41
Staffing costs[16]	Average cost per WTE: Pharmacist	£63,600	£63,900
	Average cost per WTE: Technician	£35,900	£36,800
	Pharmacist and technician: cost per hour	£3,800	£2,800
	Pharmacist and technician: cost per occupied bed day	£18.68	£21.71

Source: Resource Mapping Exercise carried out by pharmacy teams across Wales (2014), StatsWales 'NHS beds by organisation and site' (2013-14). These data include only acute-based staff and our analysis excludes the time/resource dedicated to primary care and community pharmacy activities.

34. Our survey work across Wales highlighted general perceptions of high workload and too few staff. In the Health Board, 64 per cent of pharmacy staff disagreed with the statement 'There are enough pharmacy staff at this organisation for me to do my job properly.' This compares with 60 per cent across Wales. Exhibit 4, on the next page, shows the extent to which staff agreed with the statement: 'I have time to carry out all of my work.'

[16] Gross costs are based on the mid-point of each pay band and include rota, superannuation and national insurance allowances. Hourly cost is based on calculating the total WTE of pharmacists and technicians in each pay band, then multiplying these figures by the gross cost per hour (assuming 37.5 hours per week for 52 weeks of the year) at the mid-point of each band, then summing the totals across all bands.

Exhibit 4: Pharmacy staff generally disagreed with the statement 'I have time to carry out all of my work'



Source: Wales Audit Office Survey of Pharmacy Staff

35. The Health Board staff reported that they were currently under capacity due to a number of staff currently on maternity leave, and they had focussed on maintaining their operational delivery. Cover had been found, but these staff were at a lower grade, which was affecting the ability to drive forward strategic plans as they would have liked. Additionally, recruitment for pharmacists needs to be undertaken during a specific academic window, and in the past the Directorate has struggled to get resources allocated at the right time. The Health Board's self-assessment against the *Professional Standards for Hospital Pharmacy Services* (the Standards) recognises the need for better succession planning and this is being addressed through the Health Board's Learning and Development Strategy.

Training and development

There is a strong focus on training pharmacy staff although there are opportunities to improve doctor training and introduce medicines management training for nurses

36. In our survey, 63 per cent of pharmacy staff in the Health Board agreed or strongly agreed with the statement: 'I am getting sufficient training, learning and development.' This compared with 50 per cent across Wales as a whole. Data from the resource mapping exercise shows that pharmacy staff in the Health Board spent, on average, 10 per cent of their time on receiving or delivering training, education and personal development over the past year. This compares with nine per cent across Wales[17]. Compliance with appraisals within the Medicines Management Directorate is good, and there has been a positive focus on engaging with staff through surveys.

[17] Resource mapping activity data relating to Pharmacist and Technician staff groups across primary and secondary care.

37. The Quality Delivery Plan[18] for the NHS in Wales said that health boards should plan to train 25 per cent of their staff in quality improvement methodologies by the end of March 2014. In the Health Board, 67 per cent of secondary care pharmacy staff are trained to at least bronze level in the Improving Quality Together methodology led by 1000 Lives Plus. This is the highest rate reported by health boards in our study, where the figure ranged from 10 per cent to 67 per cent. Across Wales, the total proportion of secondary care pharmacy staff trained to at least bronze level is 27 per cent[19].

38. 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. Across Wales, health boards fund an average of 0.7 WTE pharmacy staff to deliver training to medical staff. The Health Board has no specific posts funded for this, but the hospital pharmacy departments have received 150 hours of funding in the form of a service level agreement for the last two years from the post graduate centre to participate in Medical Education and assess prescribing competency medics, which equates to 0.038 WTE which is less than the Welsh average.

39. Due to their relatively limited experience, junior medical staff are one staff group that is in particular need of training in medicines management. At the Health Board, pharmacy staff are involved in junior doctor induction training. However, this is limited and there is recognition it could be enhanced. At the time of our review nurse training was not being provided by Pharmacy, which was identified as a weakness and a business case was being submitted to obtain funding for a medicines management nurse. Through interviews staff at ward level informed us they would like more training in relation to medicines management especially for newly qualified staff.

40. In our survey, 45 per cent of doctors and 45 per cent of nurses agreed or strongly agreed with the statement: 'It is easy for me to keep my medicines management skills up to date.' This compared with 35 per cent of doctors and 48 per cent of nurses across Wales.

41. In our survey, 29 per cent of pharmacy staff, 43 per cent of doctors and 31 per cent of nurses agreed or strongly agreed with the statement: 'The Health Board has good controls in place to monitor the performance of medical prescribers.' This compared with 23 per cent of pharmacy staff, 29 per cent of doctors and 32 per cent of nurses across Wales.

42. At the Health Board, training and development on an individual basis are picked up through personal development reviews. The Health Board also hosts a medicines management page on Sharepoint to provide educational resources and access to newsletters and news items. Medication safety newsletters are also published and distributed to highlight relevant themes.

Clinical pharmacy services

Relationships on the wards are good, with nearly all having a visiting service from pharmacy and a higher-than-average proportion of pharmacy recommendations leading to changes

43. Clinical pharmacy describes the activity of pharmacy teams in ward and clinic settings. This activity involves 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'.

[18] Welsh Government, *Achieving Excellence: the Quality Delivery Plan for the NHS in Wales 2012-2016*, 2012

[19] Calculation of the Wales average excludes an incomplete response from Hywel Dda.

44. The resource mapping exercise carried out across Wales in late 2014 showed that the Health Board's pharmacists and technicians typically spent 28 per cent of their time directly supporting wards and clinics, which is less than the average of 32 per cent across Wales[20]. However, 98 per cent of wards within the Health Board have a visiting service from pharmacy, with 24 per cent of these being on a seven-day basis. So although they spend less time at ward level they are able to visit more wards than others.

45. Exhibit 5 shows some of the key data we collected in our clinical pharmacy review that covered three wards at each of the acute hospitals (details of these wards can be found in Appendix 1). The exhibit also shows data from our staff surveys and wider audit, relating to relationships and clinical pharmacy services on the wards.

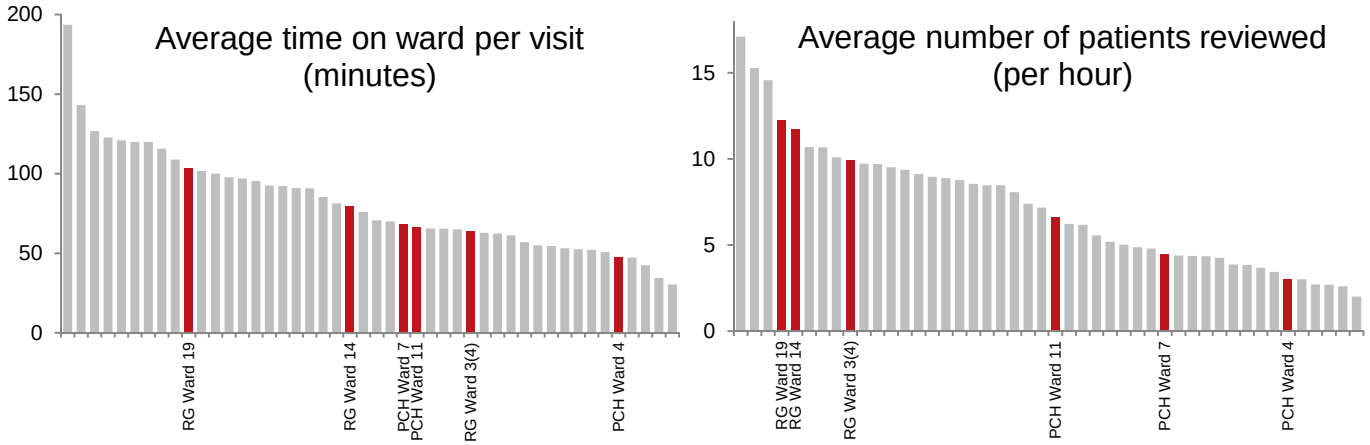
Exhibit 5: Relationships appear good and nearly all wards have a visiting service. Whilst the proportion of wards with a named technician is low this is linked to the skill-mix profile

Indicator	The Health Board	Wales	Observations
% pharmacy staff saying there were good or excellent relationships with medical staff	85%	78%	Good relationships between pharmacy, medical staff and nursing staff are essential for an effective multi-disciplinary approach to medicines management. Eighty-six per cent of medical staff agreed that relationships with pharmacy were good or excellent.
% pharmacy staff saying there were good or excellent relationships with nursing staff	87%	88%	Eighty-seven per cent of nursing staff shared this view.
% wards with a named pharmacist	93%	91%	Allocating named pharmacists and technicians to specific wards can assist with working relationships. The percentage of wards with a named technician is lower than the all-Wales average.
% wards with a named technician	42%	50%	
% wards with no visiting service from pharmacy	2%	11%	If there is no routine visiting service to the ward this may suggest that better links need to be forged between pharmacy and the ward teams.
% wards with a seven-day visiting service	24%	5%	
% of pharmacy team recommendations that led to changes	83%	79%	We looked at recommendations made by pharmacy teams about the type and dosage of drug and we calculated the proportion of these recommendations that were followed. If pharmacy staff are unable to influence prescribers this suggests relationships could be strengthened.
% pharmacy staff that agreed or strongly agreed that they are able to influence the prescribing behaviour of doctors and nurses	76%	68%	

[20] Resource mapping activity data relating to Pharmacist and Technician staff groups across primary and secondary care.

46. Exhibit 6 shows that during our clinical pharmacy review, the average time that pharmacy teams spent on the ward per visit varied between the Health Board's wards. The exhibit also shows that more patients were reviewed per hour on wards at Royal Glamorgan Hospital compared to Prince Charles Hospital. Interpretation of these findings will be influenced by factors such as pharmacy visiting practice or complexity of cases. The Health Board may wish to carry out further analysis to interpret their submitted data in the light of local knowledge.

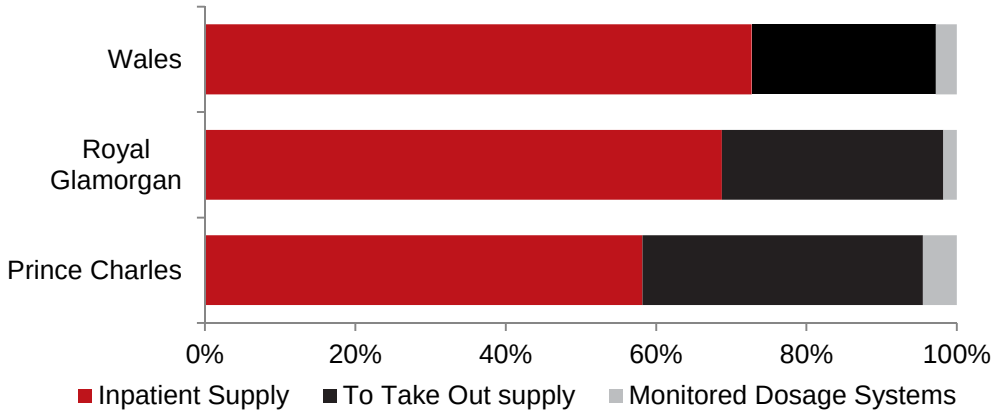
Exhibit 6: Comparison across Wales of the time pharmacy teams spent on the wards per visit and the number of patients they reviewed per hour



Source: Wales Audit Office clinical pharmacy review

47. Exhibit 7, on the next page, shows details of the pharmacy teams' workload, during our sampled ward visits, in relation to the supply of medicines. We recorded three types of supply: supply of medicines to inpatients, supply of 'to take out' medicines when patients are due to be discharged, and supply of monitored dosage systems, which are multi-compartment boxes to help patients remember which medicines to take. At Prince Charles Hospital the percentage of monitored dosage systems is higher than the Wales average, and more activity is undertaken to ensure the To Take Out Supply. Staff at Prince Charles Hospital were complimentary of this and the supply of drugs at ward level which they felt supported effective discharge, and this has been a conscious decision by the pharmacy team to improve flow. However, Exhibit 17 later in the report shows that despite this, waiting for medicines to be dispensed in the dispensary was perceived to be one of the most common causes of medicine-related delays to discharge for nurses.

Exhibit 7: Supplying medicines for patients to take home represents a higher proportion of the pharmacy team's workload than across the rest of Wales



Source: Wales Audit Office Clinical Pharmacy Review (ward visit)

48. 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 pharmacy staff 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. However, through discussion it became clear that the sample wards chosen for the review were deliberately chosen not to clash with ward rounds as the Health Board wanted to reduce the impact on staff. In the Health Board, only one of the pharmacy team's 82 visits to the wards was as part of a ward round, and this was comparable with the profile across Wales. Interestingly, our survey highlighted differing views about the statement 'Clinical pharmacy staff are regularly involved in multidisciplinary ward rounds'. Thirty-three per cent of pharmacy staff, 46 per cent of doctors and 40 per cent of nurses agreed or strongly agreed with the statement.

49. Exhibit 8 shows the pharmacy staff's views on how their team could be more effective and compares their opinions with those of doctors and nurses. All staff groups agree that the highest priority is to improve/put in place processes to support discharge.

Exhibit 8: Staff views on the scope for making the pharmacy team more effective

Priority	Views of pharmacy staff	Views of doctors	Views of nurses
1 (Highest)	Improve/put in place processes to support discharge.	Improve/put in place processes to support discharge.	Improve/put in place processes to support discharge.
2	Increase the amount of time spent on the wards.	Take part in post-take ward rounds.	Increase the amount of time spent on the wards.
3	Improve the continuity of pharmacy staff who support the ward/patients.	Increase the amount of time spent on the wards.	Improve the continuity of pharmacy staff who support the ward/patients.
4	Take part in post-take ward rounds.	Improve/put in place an on-call service.	Improve/put in place an on-call service.
5	Change the timing of the routine visits to wards.	Improve the continuity of pharmacy staff who support the ward/patients.	Take part in post-take ward rounds.
6	Improve/put in place an on-call service.	Change the timing of the routine visits to wards.	Change the timing of the routine visits to wards.

Source: Wales Audit Office Surveys of Pharmacy Staff and Medical Staff

Opening hours and access to the pharmacy workforce

Pharmacy services are generally accessible and responsive although the Health Board needs to review its extended hours service

50. 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[21].

51. Exhibit 9 shows the Health Board's pharmacy service opening hours compared with the average across Wales. In addition to the hours shown in the table, the Health Board's pharmacy team is available on-call at all times, which is also the case at all other health boards in Wales.

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

Exhibit 9: Pharmacy service opening hours are comparable with the Wales average although Prince Charles Hospital does not provide a scheduled ward service at weekends

Hospital	Total number of hours open to A&E/outpatients		Total number of hours open to provide clinical services to the wards		Total number of hours where at least one member of Pharmacy staff is present on-site	
	Mon-Fri	Sat-Sun	Mon-Fri	Sat-Sun	Mon-Fri	Sat-Sun
Royal Glamorgan	40	3	43	6	43	6
Prince Charles	43	5	43	0	43	5
Wales average	**42**	**5**	**43**	**4**	**43**	**6**

Source: Wales Audit Office Core Medicines Management Tool

52. The Health Board has some pharmacy presence on the wards seven days a week at Royal Glamorgan Hospital but not Prince Charles Hospital, but there are on-call pharmacists available and additional resources can be diverted at times of high inpatient demand. Whilst it is the strategic aim of the pharmacy to introduce full seven-day working this will require additional funding which at the time of our review had not been agreed.

53. Exhibit 10 shows the results of our survey of medical and nursing staff in relation to the accessibility and responsiveness of pharmacy services.

Exhibit 10: During normal working hours pharmacy accessibility and responsiveness are good, but there are opportunities for improvement outside normal working hours

	The Health Board	Wales
'It is easy to contact the pharmacy team in normal working hours'		
% medical staff that agreed or strongly agreed	96%	85%
% nursing staff that agreed or strongly agreed	93%	91%
'It is easy to contact the pharmacy team outside normal working hours'		
% medical staff that agreed or strongly agreed*	21%	30%
% nursing staff that agreed or strongly agreed	59%	52%
'The pharmacy team responds in reasonable timescales to my requests in normal working hours'		
% medical staff that agreed or strongly agreed	93%	81%
% nursing staff that agreed or strongly agreed	84%	83%

	The Health Board	Wales
'The pharmacy team responds in reasonable timescales to my requests outside normal working hours'		
% medical staff that agreed or strongly agreed	23%	29%
% nursing staff that agreed or strongly agreed	52%	51%

*Source: Wales Audit Office Surveys of Medical and Nursing staff. * Around 40 per cent of doctors responded 'Don't know' to this question.*

54. During our walkthroughs, nursing staff told us that they were happy with the accessibility of the pharmacy service. Pharmacy staff work well at ward level and are supportive of the pressures on ward-based staff. There were more mixed views about accessibility during out-of-hours periods with some staff reporting that pharmacy should be open longer at weekends so that discharges are not delayed and longer hours in the week to support the timely discharge of patients from surgical wards.

Part 3

Medicines management facilities

Pharmacy facilities largely comply with key requirements but there are risks associated with the lack of medicines storage at ward level

Compliance with key requirements for pharmacy facilities

Pharmacy facilities largely comply with the key requirements although there are issues with the lack of dedicated hand washing facilities at each hospital

55. A Welsh Health Building Note[22] describes key requirements for the design, layout and facilities of hospital pharmacies. The table below shows the requirements in italics and shows whether the facilities at Prince Charles Hospital (PCH) and Royal Glamorgan Hospital (RGH) comply (☑), partially comply (☐) or do not comply (☒).

Findings
Location
Is the pharmacy on the ground floor and accessible from the main corridors/circulation routes? ☐ PCH: The pharmacy is on the first floor but capital plans are in place to move pharmacy to the ground floor as part of the hospital redevelopment. ☑ RGH: The pharmacy is on the ground floor near the main entrance.
Boundary security
Is entry to pharmacy strictly controlled through the use of swipe cards or similar? ☑ PCH: There is a pin code entry system but no swipe card system. ☑ RGH: There is a swipe card access system. *Were steps taken to verify the auditor's identification upon arrival at the pharmacy?* ☑ PCH and RGH: The auditor knocked the door and was asked who they were. The auditor was not asked for identification.

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

Findings

Storage area and temperature

Were all items stored above the floor?

☑ PCH: All items were stored off the floor, and stores were well organised.

☑ RGH: Storage areas were well organised, with an additional storage area for fluids.

Are there good arrangements to regulate the temperature below 25 degrees, particularly in areas used to store bulk items?

☑ RCH and RGH: All areas had climate-control systems. Monitoring of temperatures was in place.

Controlled drugs

Is there a separate, lockable and alarmed controlled drugs store?

☑ PCH: There is a separate, lockable room for controlled drugs. Access is via a key and a red light flashes when the door is open.

☑ RGH: There is a strong room in place, which is kept locked and separate from the main storage areas.

Fridges

Do all fridges in pharmacy have an external temperature display? And were these displays showing readings of between two and eight degrees?

☑ PCH and RGH: All fridges have an external display. All were within range.

Is there constant monitoring of fridge temperatures with an automatic alert system (in hours and out of hours) when temperatures go out of range?

☑ PCH and RGH: A wireless system monitors temperatures constantly, and there is an audible alarm if out of range. Out of hours, Switchboard is alerted and the on-call pharmacist is informed.

Are all fridges in the pharmacy lockable?

☑ PCH and RGH: All fridges at both pharmacies are lockable.

Emergency medicine store

Is there a specific store where medicines can be accessed when pharmacy is not staffed?

☑ PCH: There is an emergency medicine store cupboard, access out of hours is through the site manager. The robot can also dispense out of hours to a small wall cupboard, access is in the main pharmacy corridor and again access is via the site manager.

☑ RGH: There is an air-conditioned, emergency medicine store cupboard. Access is via swipecard and key, the key is held by switchboard. There is also a key-code locked cupboard where the robot dispenses out of hours.

Is there a clear system for recording which items have been taken from the emergency store?

☑ PCH and RGH: Both sites have a recording book in the emergency drug cupboard, which the items are recorded in, as well as the nurse who took them and which ward. No patient detail is captured.

Findings
Dispensary
Does the dispensary have benches and worktops of a colour that contrasts with white medicine labels? ☐ PCH: Worktops are white. ☑ RGH: The worktops are grey. *Does the dispensary have dedicated handwashing facilities?* ☒ PCH and RGH: Both dispensaries had a sink but they were not dedicated to hand washing alone and the sink at RGH needed cleaning.

Source: Wales Audit Office observations of hospital pharmacies

Preparation of aseptics and injectable medicines

External reviews of both aseptic units have raised no significant issues and, in common with the rest of Wales, ward preparation of injectable medicines is not audited on a regular basis

56. Aseptic facilities are sterile units used to prepare high-risk medicines such as chemotherapy injections, intravenous feeds for premature babies and certain antibiotics. Licensed units are subject to inspection by the Medicines Healthcare Products Regulatory Agency. The Royal Glamorgan Unit was inspected in October 2013 and received a low risk rating of 4 on a scale of 0 to 5 where 0 is the highest level risk.

57. Aseptic units in Wales are also subject to inspection from the All Wales Quality Assurance Pharmacist. The last inspection report for Prince Charles Hospital is from 2011 and it was concluded that the unit was well managed and was functioning well with the current workload. Issues from the previous audit had been addressed and the auditor reported no significant issues from the inspection.

58. Some injectable medicines are prepared on the wards. These preparation processes should be subject to annual audits but across Wales we found that such audits are rarely carried out.[23] The Health Board was one of three that was unable to confirm how many wards had a risk assessment in place for injectable medicine preparation, or how many wards had conducted an audit of aseptic practices in the past year. A fourth health board stated that no risk assessments or audits had taken place.

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

Facilities for storing medicines on the wards

Storage of medicines and injectable fluids at a ward level continues to present problems

59. The *Trusted to Care* spot checks highlighted issues across Wales regarding the safe and secure storage of medications on hospital wards. At Prince Charles Hospital there were issues with unlocked ward pharmacy areas, discharge medication left unattended and unlocked and broken medicine cupboards. One ward visited had a very cluttered drug cupboard. At Royal Glamorgan Hospital there was medication left in an unlocked plastic box awaiting pharmacy collection, and issues with the cupboards used to store drugs and medicines not meeting expected standards as well as broken locks.

60. During our ward visits, some staff told us about some ongoing storage issues such as a lack of space in medicines rooms. Storage of fluids can be an issue for most wards due to lack of space, and these tend not to be in a secure area. Wards which have been refurbished by the Health Board had better facilities for pharmacy teams, with larger rooms for preparation of medicines and improved storage. Older wards, in the main, use treatment rooms to provide additional storage and medicine preparation space.

61. Our clinical pharmacy review found that all patients had a functioning, lockable cabinet. This compares with 94 per cent across Wales.

62. The introduction of automated vending machines to store and dispense medicines on the wards can improve security. Two per cent of the Health Board's wards have automated vending machines, compared with an eight-per-cent average across Wales. There is a vending machine in intensive care and the Health Board is introducing more machines, as funding has been obtained.

63. The *Trusted to Care* spot checks across Wales also revealed issues with the refrigeration of medicines on the wards. During our ward visits, staff told us that fridges were monitored and we observed temperature checks, however, on one ward the fridge was not working although estates had been notified, which meant staff were using a neighbouring ward's fridge.

Part 4

Medicines management processes

Arrangements for transferring medicines information, utilisation of electronic systems, as well as timeliness and accuracy of discharge information should be improved

Admission information from GPs

Poor information transfer between primary and secondary care is posing safety risks and inefficiencies

64. The interface between primary and secondary care is high risk in relation to medicines management. When patients are admitted, good communication between the GP practice and the hospital can prevent errors and inaccuracies about people's medicines.

65. Exhibit 11 shows the pharmacy team's assessment of the quality of information provided by primary care to support admissions, which was carried out during the clinical pharmacy review. Our sample size was small, and contained varied wards so care must be taken when interpreting the data. In the Health Board there were differences between the two hospital sites, with nearly half of the patients at Royal Glamorgan having comprehensive referral information, compared to just five per cent at Prince Charles. Overall at the Health Board the percentage of patients with no information was higher than the rest of Wales, particularly at Prince Charles Hospital[24].

Exhibit 11: While the quality of information provided by primary care was better at Royal Glamorgan than at Prince Charles there are opportunities to improve at both sites

	No information	Limited information	Standard information	Comprehensive information
Royal Glamorgan	41%	12%	0%	47%
Prince Charles	58%	21%	16%	5%
Cwm Taf	50%	17%	8%	25%
Wales average	**41%**	**18%**	**20%**	**22%**

Source: Wales Audit Office Clinical Pharmacy Review (patient log of 141 patients)

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

[24] These data include only the patients reviewed in the clinical pharmacy review that were admitted via a GP, therefore Exhibit 11 includes data from 36 Cwm Taf patients and 362 patients from across Wales.

66. In our survey, 27 per cent of hospital doctors, 15 per cent of nurses and 40 per cent of pharmacy staff in the Health Board disagreed or strongly disagreed with the statement that admission information for elective patients was sufficient. Across Wales the results were very similar with 23 per cent of doctors, 15 per cent of nurses and 40 per cent of pharmacy staff disagreeing or strongly disagreeing. For emergency patients, 73 per cent of hospital doctors, 49 per cent of nurses and 67 per cent of pharmacy staff disagreed or strongly disagreed with the statement that '…it is easy to access sufficient written/electronic information about patients' existing medication'. Again, these results were similar across Wales with 61 per cent of doctors, 47 per cent of nurses and 65 per cent of pharmacy staff disagreeing or strongly disagreeing.

67. The Health Board does not have guidance for GPs to stipulate what information to provide when their patients are admitted. However, the Health Board does provide information leaflets to patients to ask them to bring their medications to hospital, and these are available in GP surgeries and ambulance staff have 'green bags' to place patient medications in.

68. The transfer of medication information between primary and secondary care is a particular risk area for the Health Board. Senior staff acknowledged these risks during interviews and staff during our ward visits told us about the variable quality of information received from GPs. A self-assessment against the *Professional Standards for Hospital Pharmacy Services* (the Standards) recognises the lack of access to primary care records being an issue.

69. When patients arrive in hospital with limited information about their medicines, pharmacy teams often telephone GP surgeries to secure a patient's drug history. Currently there is no electronic access to the Individual Health Record (IHR) system which is an electronic system that contains a summary of the information held by GPs about their patients, including information about their medication. Instead, information from GPs is sent to a dedicated fax within the pharmacy department. Through interview, ward-based staff expressed frustration at these arrangements and highlighted issues getting in touch with the GPs as they have to ring the practice phone number and it can be difficult to get through due to the volume of calls practices are dealing with.

70. Evaluations carried out at Cardiff and Vale University Health Board suggest that the use of IHR saves an average of seven minutes per patient reconciled. Using this estimated saving of seven minutes, if IHR had been used for half of the 41,935 emergency admissions at the Health Board in 2013-14, this could have saved/released approximately 2,400 hours of time, which equates to 1.4 WTE staff[25]. The Health Board is keen to gain access to the IHR system, and has cited this as a solution to the issues accessing primary care records in their assessment against the Standards. Given the potentially significant time savings and safety improvements possible through IHR, both on the wards and in general practices, it is important that the roll out of IHR is expedited.

[25] 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.

Medicines reconciliation and review in hospital

Timeliness of medicines reconciliation could improve and a typical percentage of patients were identified with compliance issues

72. 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[26]. Of the 114 patients reviewed as part of our clinical pharmacy review where a medicines reconciliation date had been recorded, 66 (58 per cent) had received a medicines review within one day of their admission[27]. This compares with an average of 64 per cent across Wales.

73. During their hospital stay, patients should have their medicines reviewed regularly. In response to our survey, 57 per cent of pharmacy staff, 87 per cent of doctors and 67 per cent of nurses agreed or strongly agreed with the statement: 'Patients receive medication reviews (by any member of the multidisciplinary team) frequently during their hospital stay.' Our clinical pharmacy review showed that these medication reviews are almost exclusively carried out by pharmacists, with only six per cent across Wales being carried out by doctors.

Medicines administration charts

All patients sampled at the Health Board had standard drug charts and allergy statuses were being recorded

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. Our drug chart review in the Health Board found that 95 per cent of patients had the inpatient standard form and five per cent of patients had the Long Stay Inpatient Medication Administration Record. In Wales as a whole, 93.3 per cent of patients had the standard form, 6.4 per cent had the Long Stay Inpatient Medication Administration Record and 0.3 per cent had a non-standard form of chart.

75. 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 in the Health Board found that all patients had their allergy status recorded on the drug chart. This compares with 98 per cent across Wales. Our clinical pharmacy review found 39 occasions where pharmacy teams made amendments to a patient's allergy status. This is equivalent to 5.8 amendments for every 100 patients reviewed. This was just above the Wales average of five amendments for every 100 patients reviewed.

[26] National Prescribing Centre, Medicines reconciliation: A guide to implementation

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

Formulary processes

The Health Board's formulary processes are good but there are opportunities to promote available support to prescribers

76. 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. The Health Board has an online, organisation-wide formulary that is available on all hospital computers. Since our primary care prescribing report was issued there have been changes to the formulary as it is no longer jointly hosted with Cardiff and Vale University Health Board but has now been brought in house. This has led to no significant changes apart from giving the Health Board easier access to make changes. The Health Board has difficulties monitoring compliance with the formulary due to the lack of electronic prescribing in secondary care. This means a manual exercise is required to monitor prescribing and formulary compliance.

77. Our primary care prescribing report found that the Health Board had a well-established formulary and the integration across primary and secondary care was leading to improvements across the interface. In response to the survey for this audit, 50 per cent of medical staff and 79 per cent of nurses said they agreed or strongly agreed that the formulary (and supporting documents/guidance) met their needs. This compared with 45 per cent of medical staff and 74 per cent of nurses across Wales.

78. We scored organisations on the number of mechanisms they have in place to share information with staff about changes to the formulary[28]. The Health Board scored 38 points out of a possible 50, matching the average across Wales.

79. The British National Formulary (BNF) is published to provide prescribers, pharmacists, and other healthcare professionals with up-to-date, consistent information about medicines. It is important that staff on the wards can readily access the most up-to-date version of the BNF. Exhibit 12 shows the percentage of medical staff that agreed or strongly agreed with the statements about the BNF when on the wards. The Health Board's self-assessment against the Standards recognises that despite the team supporting a range of measures to support prescribers, the Directorate is concerned that staff may not be aware of them or how to access them.

Exhibit 12: Medical staff in the Health Board had fairly similar views about access to the BNF as staff in the rest of Wales

	Health Board	Wales
The most up-to-date version of the BNF is readily available in hard copy	57%	60%
I can easily access the BNF using a computer	50%	40%
I tend to access the BNF using a smartphone	23%	22%

Source: Wales Audit Office survey of medical staff

[28] 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.

Electronic prescribing

Electronic prescribing is not yet in use on the Health Board's wards

80. 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[29]. 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.

81. The Health Board told us that none of their wards have electronic prescribing processes in place. Therefore the Health Board is missing the opportunities that electronic prescribing offers. This is in line with the situation across Wales, although some health boards are currently implementing electronic prescribing in outpatients and are actively seeking funding to implement electronic prescribing for inpatients.

Non-medical prescribing

The Health Board is proactive in its use of non-medical prescribers in a number of areas, with good arrangements for record keeping and controls

82. 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[30].

83. 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. Across 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. The Health Board has 33 nurses and 11 pharmacists who are independent or supplementary prescribers. Of these, 26 nurses and seven pharmacists are regularly prescribing. Positively the Health Board is focussing on developing more non-medical prescribers in support of a number of key areas such as care homes with integrated care fund monies as well as investing in pharmacists with independent prescribing authority in areas including Child and Adolescent Mental Health Services (CAMHS) and respiratory care. Opportunities for independent prescribers are explored with other directorates and the Health Board is hoping to take advantage of new processes for consultant pharmacist posts.

84. In response to our survey, 44 per cent of pharmacy staff, 30 per cent of doctors and 29 per cent of nurses agreed or strongly agreed with the statement: 'Staff trained in non-medical prescribing are regularly using these skills.' This compares with 29 per cent of pharmacy staff, 28 per cent of doctors and 33 per cent of nurses across Wales. Our clinical pharmacy review showed that pharmacy staff rarely prescribe on the wards, although the wards sampled may have affected these results. At the

[29] 1000 Lives Plus, *Achieving prudent healthcare in NHS Wales*, June 2014

[30] 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.

Health Board, pharmacy staff wrote 1.5 prescriptions for every 100 patients reviewed, matching the average across Wales.

85. Exhibit 13 shows how the Health Board compares to others in Wales relating to non-medical prescribing policies.

Exhibit 13: The Health Board had in place three out of four key policies on non-medical prescribing

Does the Health Board have these policies in place?	Cwm Taf	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

86. In response to our survey, 14 per cent of pharmacy staff, 14 per cent of doctors and 24 per cent of nurses across Wales agreed or strongly agreed with the statement: 'The Health Board has good controls in place to monitor the performance of non-medical prescribers.' In the Health Board 22 per cent of pharmacy staff, 16 per cent of doctors[31] and 16 per cent of nurses agreed or strongly agreed. However, 50 per cent of doctors and nurses responded 'don't know' in response to this question, indicating more needs to be done to raise awareness of monitoring procedures. The Health Board told us that its main mechanism for monitoring competence of non-medical prescribers is generally the same as for medical prescribers, but non-medical prescribers will also maintain a portfolio of evidence during their first three months of practice. For all prescribing pharmacists, there are standard clinical checks to follow during dispensing or at chart review. Any prescribing errors or potentially serious/harmful incidents are entered as a medication incident on Datix, and these are reviewed and investigated through the medication safety group.

Administration of medicines

The Health Board has taken direct and positive action in response to *Trusted to Care*, however, some patients are self-administering despite the lack of a policy to support this

87. *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*. The Health Board has undertaken a number of actions in response to *Trusted to Care* including undertaking its own senior executive walk rounds, and training for staff to reinforce their professional responsibilities. One of the most visible changes is the introduction of pharmacy uniforms for staff which help patients to identify pharmacy staff at ward level, this was in response to comments that patients were unsure if they had spoken to a representative from pharmacy. Over 80 per cent of pharmacy staff have also

[31] Around 50 per cent of doctors and nurses responded 'Don't know' in response to this question.

become ‘dementia friends’ to more effectively support patients with this condition. The Health Board developed medication safety audits, which were rolled out across Wales to support the introduction of ward-based performance metrics. Performance on these standards is regularly monitored and compliance is good.

88. In response to our survey, 85 per cent of pharmacy staff, 48 per cent of doctors and 71 per cent of nurses agreed or strongly agreed with the statement: ‘The organisation has taken appropriate action in relation to the Trusted to Care report (the Andrews Report).’ This compares with 82 per cent of pharmacy staff, 34 per cent of doctors and 66 per cent of nurses across Wales.

89. *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 drug chart has not been properly completed it risks the patient being given their medication twice.
Our clinical pharmacy review covered 141 patients over a 24-hour period across six wards in the Health Board. The audit identified 24 occurrences where a drug was not available and 16 occasions where it was unclear whether a dose had been omitted or not.

90. Exhibit 14 shows data from our clinical pharmacy review snapshot of 141 patients. It provides a breakdown of the reasons why patients were not given their medicines and compares this with the situation across Wales. It should also be noted that the exhibit excludes data from the 74 patients in the clinical pharmacy review that had no omitted doses.

Exhibit 14: Compared to Royal Glamorgan, Prince Charles Hospital had a smaller proportion of cases where it was unclear whether a dose had been omitted or not

	Reason why patients did not receive their medicine						
	Prescriber’s request	**Patient not on ward**	**Patient unable to receive medicine/ no access**	**Patient refused medicine**	**Medicine not available**	**Other reason: see notes**	**Unclear if dose omitted or not**
Code used on charts	**X**	**2**	**3**	**4**	**5**	**6**	**No code**
Royal Glamorgan	0%	0%	13%	55%	9%	10%	14%
Prince Charles	7%	0%	2%	75%	12%	4%	1%
Cwm Taf	4%	0%	7%	65%	11%	7%	7%
Wales average	**18%**	**0%**	**8%**	**45%**	**8%**	**9%**	**12%**

Source: Wales Audit Office clinical pharmacy review (patient log of 141 patients)

91. 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. Across Wales, 25 per cent of wards have a procedure for self-administration in place. In contrast, the Health Board reported that only one adult mental health ward at Royal Glamorgan Hospital had such a procedure, and Prince Charles Hospital reported no wards with a procedure in place. Across Wales our clinical pharmacy review found that very few patients were administering their own medicines. Out of 994 patients across Wales, only 12 were self-administering and only three of these had been risk-assessed. A further 120 patients were self-administering in a limited way. At this Health Board, none of the patients were self-administering and 19 were self-administering in a limited way. No patients had been risk assessed.

Supporting patients with compliance

Although some measures have been taken the Health Board could do more to assess patients' compliance needs within hospital and provide more education to patients on their medication

92. Studies[32] have shown that up to half of all patients do not take their medicines as intended. Not taking medicines appropriately also has important implications for patient safety and can result in considerable waste, particularly when you consider that the Health Board spent £19.4 million on secondary care medicines in 2013-14. This may be because patients 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.

93. We scored organisations by considering the actions they take to support people to comply with their medicines[33]. The Health Board scored 19 out of a possible 32 points, compared with an average of 17 across Wales. A key gap across both the Royal Glamorgan and Prince Charles hospitals is the assessment of a patient's ability to open their medicine containers and ensure that the most appropriate packaging is provided for them. The Health Board could not confirm that any of our scored actions were consistently in place as a matter of routine, with the exception of the provision of monitored dose systems at Prince Charles Hospital. A self-assessment against the Standards recognises that more guidance is needed for dealing with patients with noncompliance issues appropriately. During our interviews, we were told about good practice in relation to new medicine reminder charts developed at Prince Charles Hospital which contain detailed written information on drugs upon discharge for patients to remind patients to take their medicines, how to take them and also to emphasise the specific purpose of each medicine.

94. Additionally, there is a campaign local to Cwm Taf called 'Your Medicines, Your Health' which seeks to promote individual responsibility to patients to use their prescription medicines correctly, how to store them and when to order. The campaign aligns well with prudent healthcare and has been little cost, and is using a range of promotion materials.

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[32] 1000 Lives Plus, *Achieving prudent healthcare in NHS Wales*, June 2014

[33] 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.

95. Across Wales we found that pharmacy teams are struggling to spend enough time educating patients on their medication. In the clinical pharmacy review across Wales we found that only six per cent of patients or carers were educated on an aspect of their medication. In the Health Board, this figure was five per cent.

96. The results of our clinical pharmacy review found that 18 per cent of patients reviewed in the Health Board were found to have compliance issues. This was just below the average across Wales of 20 per cent.

97. Hospital pharmacies across Wales are not generally doing enough to provide medicines information to patient groups with particular information needs. Across the 18 hospitals we surveyed, five produce targeted information for young children, seven cater for the visually impaired, and eight provide medicines information in languages other than English. The Health Board's pharmacies do not provide specific information for young children. Only Prince Charles Hospital provides information to support patients with visual impairments or patients using non-English languages.

98. 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. Both Royal Glamorgan and Prince Charles hospitals provide a helpline service. All patients are given contact numbers for the pharmacy that dispenses their medication, to enable them to discuss any issues: they can be contacted during opening hours. There is no dedicated medicines information helpline.

99. Across Wales we concluded that some pharmacy helplines are under-utilised despite their importance in helping patients manage their medicines. Across Wales, the use of helplines ranged from six to 66 contacts per 100 opening hours (the average was 32 contacts). Exhibit 15 summarises key data about the pharmacy helplines available within the Health Board.

Exhibit 15: The Health Board's helplines are used more than average

	Total number of hours open (Mon-Fri)	Total number of hours open (Sat-Sun)	Average number of contacts per 100 hours of opening
Royal Glamorgan	40	3	58
Prince Charles	43	5	38
Wales average[34]	**40**	**4**	**32**

Source: Wales Audit Office Core Medicines Management Tool

[34] Wales average is calculated across 12 hospital sites where a helpline service is provided. Six sites do not provide a dedicated helpline, but three of these do offer patients a contact number in case of medication problems following discharge.

Supporting discharge

The lack of electronic systems is leading to poor timeliness and quality of discharge summaries but the rate of community discharge medication reviews is higher than average

100. It is good practice for hospital staff to begin planning a patient's discharge as soon as possible.[35] By estimating the date of their discharge this can ensure all staff are working towards the same timescale and can prevent unnecessary delays. Across Wales we found that 47 per cent of patients reviewed through the clinical pharmacy review had an estimated date of discharge. This Health Board compared well against the rest of Wales, with 69 per cent of patients having an estimated date of discharge.

101. A patient's discharge from hospital can be delayed for various reasons. Exhibit 16 summarises the views of doctors, nurses and pharmacy staff about the most common causes of delays to discharge that are medicines-related.

Exhibit 16: Pharmacy staff, nurses and doctors had very similar views about the most common causes of medicines-related delays to discharge

	Views of pharmacy staff	Views of doctors	Views of nurses
1 (most common)	Waiting for prescription to be written	Waiting for prescription to be written	Waiting for prescription to be written
2	Waiting for medicines to be dispensed in the dispensary	Waiting for medicines to be delivered to the ward	Waiting for medicines to be dispensed in the dispensary
3	Waiting for medicines to be delivered to the ward	Waiting for medicines to be dispensed in the dispensary	Waiting for medicines to be delivered to the ward
4	Waiting for prescription to be clinically checked	Waiting for prescription to be clinically checked	Waiting for prescription to be clinically checked
5	Waiting for the to take out (TTO) to be assembled on the ward	Waiting for the to take out (TTO) to be assembled on the ward	Waiting for the to take out (TTO) to be assembled on the ward

Source: Wales Audit Office surveys of pharmacy staff and medical staff

102. None of the wards in either Royal Glamorgan or Prince Charles hospitals produce electronic discharge summaries. Across Wales, one-third of wards utilise electronic discharge summaries. An electronic discharge system called Medicines Transcribing and e-Discharge (MTeD) is currently being trialled on two wards, one at each hospital site. Additional resources have been allocated to support its implementation, and the Health Board feels this is a positive step. Access to the IHR would further improve this system as it would reduce the need to transcribe information into the system, and reduce pharmacist input.

[35] College of Emergency Medicine, *The Silver Book: Quality Care for Older People with Urgent and Emergency Care Needs*, June 2012.

103. 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'. Across Wales, 17 out of 18 hospitals that we reviewed had a template that sets out the information to be provided to GPs upon a patient's discharge, but only 10 of these apply it across all specialties. In the Health Board, both hospitals have such a template in place and both apply the template across all specialties.

104. The Standards state that organisations should 'monitor the accuracy, legibility and timeliness of information transfer'. Our primary care prescribing report said that in the past, discharge arrangements between primary and secondary care were not working well, but the Health Board worked with GPs and hospital consultants to produce an improved discharge advice letter. Royal Glamorgan and Prince Charles hospitals have each audited the quality and timeliness of discharge information in the past two years and reported that discharge advice letters continue to need improvements and GPs were not receiving them in a timely fashion. The Health Board see addressing this as one of the main benefits of the MTeD implementation.

105. In our survey, 17 per cent of pharmacy staff, 34 per cent of doctors and 42 per cent of nurses agreed or strongly agreed with the statement: 'The discharge information about patients' medicines provided to GPs is of high quality.' This compared with 41 per cent of pharmacy staff and 30 per cent of doctors and 43 per cent of nurses across Wales. The Health Board's pharmacists, therefore, had a comparatively negative view of the discharge information provided to GPs.

106. 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.[36] 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 these 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, 1,139 DMRs were carried out in 2013-14 at a cost of approximately £78,000[37].

107. The Health Board funded 21 DMRs for every 1,000 patients discharged from hospital. This compares with an average rate of 14 DMRs per 1,000 discharges across Wales. At individual health boards, the rate varied between nine and 21 DMRs per 1,000 patients discharged from hospital.[38]

108. The Health Board does not record the number of community referrals for DMR made by secondary care staff. Only two health boards in Wales currently collate this information. The Health Board anticipates that it will have this facility once its MTeD system is fully implemented over the next two years.

[36] Cardiff University, *Evaluation of the discharge medicines review service*, March 2014

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

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

Antimicrobial stewardship

The Health Board is taking a range of good actions to improve the way it uses antimicrobial medicines in secondary care and is currently drafting a formal strategy

109. Resistance to antibiotics has increased in Wales[39]. 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 audited the following aspects of antimicrobial use across some areas: costs, point prevalence, and antimicrobial resistance. No audits have been conducted in the areas of defined daily dose or the correlation between prescribing practice and problem organisms. Only two health boards in Wales have audited each of these five topics, but not necessarily across all of their service areas. The scope of our audit did not cover the findings from these audits.

110. The MMEC has a sub group that looks specifically at antimicrobial management. A new antimicrobial pharmacist was appointed in July 2014, and since this the Health Board has updated antimicrobial guidelines in secondary care, provided support through a dedicated antimicrobial webpage and delivered training sessions to clinicians. KPIs are being developed and the secondary care antimicrobial pharmacist is attending ward rounds. There is recognition that more could be done, and a Micro Guide App for smartphones is currently being populated which could be used by clinicians on the move and also for an antimicrobial pharmacist in primary care, as they feel this would enable the community prescribing to be addressed. At the time of our review there was no antimicrobial stewardship strategy in place, although actions were being taken to address this.

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

Part 5

Monitoring medicines management

There are good arrangements for monitoring when things go wrong but there is potential to broaden the current performance indicators and improve feedback to Health Board staff

Performance reporting

Reporting on performance is sound, however, there is scope to broaden the range of performance indicators through sharing more information on the Directorate scorecard and including more detail on indicators linked to areas of concern

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

112. The Medicines Management Directorate is regularly held to account through clinical business meetings with senior executives including the Chief Operating Officer and Director of Finance. These reviews focus on the extent of progress with implementing the three-year strategy for the directorate. The Directorate's financial position is scrutinised every month through this process.

113. We reviewed the Directorate's KPI Scorecard. This provides monthly data on KPIs including dispensing error rates, sickness rates and the percentage of staff with a valid performance review. Many other KPIs are listed. Our survey found that 49 per cent of pharmacy staff agreed with the statement: 'I am regularly given an opportunity to see data relating to the pharmacy team's performance.' This compares with 39 per cent across Wales.

114. However, areas such as percentage of medicines reconciliation compliance and timeliness of discharge advice letters are not reported on, which is a missed opportunity. We concluded there is scope to broaden the range of performance reporting and monitoring in relation to medicines management.

115. Work is ongoing to deliver a multidisciplinary medication safety dashboard linked to the Fundamentals of Care system which will report performance at ward level. Medications will be one aspect of this drawing on reviews of drug charts to build a medicine safety dashboard. This will enable the Directorate to target wards which are identified as needing additional support.

116. We asked health boards to provide examples of how they monitored patient experience in relation to medicines management. The Health Board receives information on patient experience through annual surveys. For inpatients a recent survey in November 2014 found that 95 per cent were satisfied with the way medicines were handled and information on discharge but only 39 per cent received clear written information. The Health Board's self-assessment against the Standards shows that they would like to do more to actively seek the views of patients following discharge. Whilst this was not a focus of our audit we were also provided with the results of a recent outpatient pharmacy service satisfaction survey. At Prince Charles Hospital, 85 per cent of patients rated their overall satisfaction as excellent or good and at Royal Glamorgan Hospital the figure was 79 per cent. The main issues related to patients wanting to be informed about how long it will take for their prescription to be dispensed in outpatients.

Safety interventions and medication-related admissions

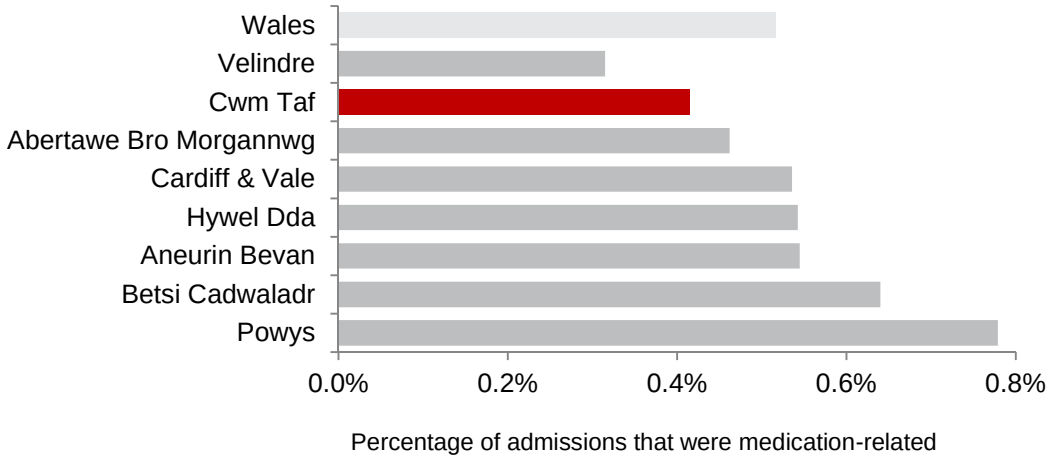
Confidence of staff in medicines management is high, and pharmacy team safety interventions are below the Wales average

117. 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.

118. In our survey, 79 per cent of pharmacy staff, 82 per cent of doctors and 84 per cent of nurses agreed or strongly agreed that: 'I would feel safe having my medicines managed at this hospital.' Across Wales, 74 per cent of pharmacy staff, 64 per cent of doctors and 78 per cent of nurses agreed or strongly agreed. Cwm Taf is therefore better than the Wales average in this respect.

119. When something goes wrong with someone's medication it can directly cause an admission to hospital. Exhibit 17 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. The rate of these admissions at the Health Board is below the Welsh average. 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. The scale of the problem with medication-related admissions is therefore potentially understated.

Exhibit 17: The proportion of admissions that are medication-related is lower than the all-Wales average



Source: NHS Wales Informatics Service. Data, by provider, cover 1 July 2012 to 31 June 2013.

120. Our clinical pharmacy review also looked at medication-related admissions and found a considerably higher proportion of medication-related admissions than in the exhibit above. At the Health Board, seven per cent of patients seen by the pharmacy team were considered to be admitted due to a medication-related issue[40]. This compares favourably against 10 per cent across Wales. Using these figures, the estimated cost of admissions due to medication issues in the Health Board in 2013-14 would be £1.8 million[41].

121. Part of the pharmacy team's role is to make important interventions when a patient's safety is at risk. Such patient safety interventions may be necessary, for example, to ensure that patients with a medication allergy are not prescribed those drugs and ensuring that insulin-dependent diabetic patients are correctly prescribed their insulin. Our clinical pharmacy review identified eight occasions in the Health Board where pharmacy teams intervened because a patient's medication regime could have significantly compromised their safety. This represents a rate of 1.2 occurrences for every 100 patients reviewed. This was the lowest rate across Wales, where the average was 4.1 occurrences for every 100 patients reviewed.

Learning when things go wrong

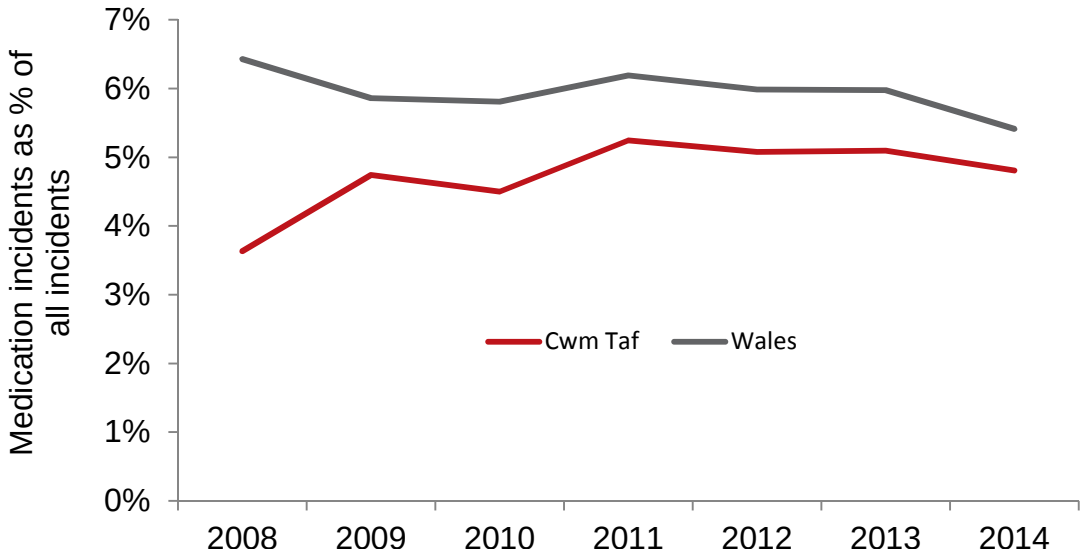
Arrangements are in place to monitor when things go wrong, training has been provided to improve incident reporting but feedback to staff could be improved

122. 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 18 shows the number of medication-related incidents reported as a percentage of all incidents reported to the NRLS.

[40] Patients were deemed to have a medication-related admission if the documented, initial diagnosis included a possible problem with medication, including adverse drug reaction, non-compliance, non-evidence based prescribing, dispensing error, poor medication advice etc.

[41] We used a cost per admission of £456, the figure used in Cardiff University's *Evaluation of the Discharge Medicines Review Service*, March 2014. The Health Board told us there were 56,112 inpatient admissions in 2013-14. Seven per cent of this is 3,928, which is an estimate of the number of patients admitted for medication issues. We then multiplied 3,928 by £456.

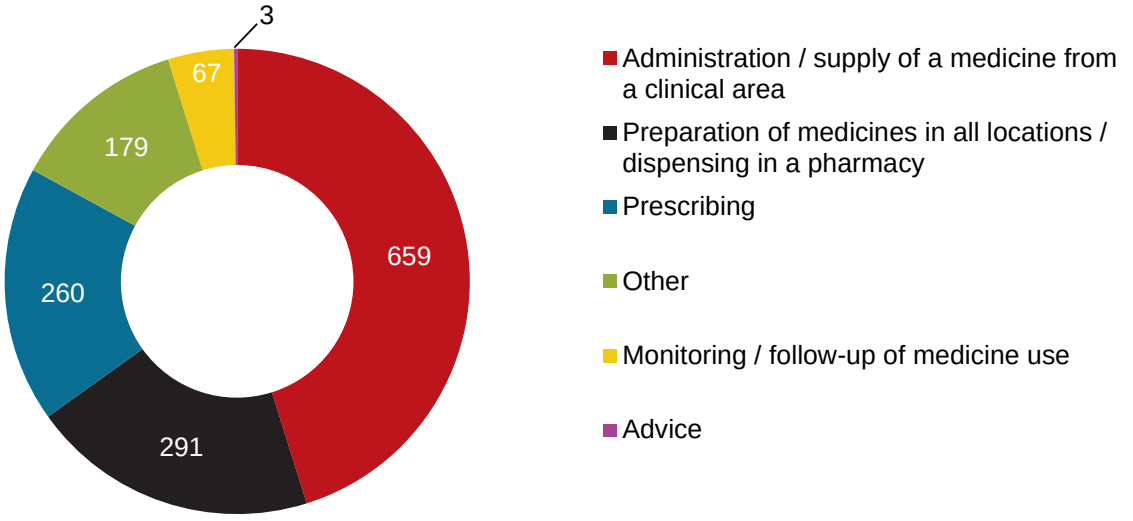
Exhibit 18: The proportion of incidents that were medication related is stable and has been consistently below the Welsh average



Source: NRLS, NHS Commissioning Board Special Health Authority. Data for 2014 include incidents reported before 31 March 2014.

123. Exhibit 19 shows the types of medication-related incidents that were reported by the Health Board to the NRLS. The most common category of incident was 'Administration/supply of a medicine from a clinical area' which covers all stages of the administration process from reviewing the prescription, selecting the correct medicine, identifying the correct patient and administering the dose.

Exhibit 19: Medication-related incidents in the Health Board are most commonly associated with the administration and supply of medicines from clinical areas



Source: NRLS, NHS Commissioning Board Special Health Authority (1 April 2008 to 31 March 2014). Further detail on the categories can be found at the following link
https://www.eforms.nrls.nhs.uk/staffreport/help/AC/Dataset_Question_References/Medicine_incident_details/MD01.htm

124. ,In our survey, 72 per cent of pharmacy staff agreed or strongly agreed with the statement: 'Medicines-related incidents/errors are reported and handled appropriately at this hospital', compared with 71 per cent across Wales. When asked whether they agree with the statement: 'Information obtained through incident/error reports is used to make patient care safer', 79 per cent agreed or strongly agreed (compared with 70 per cent across Wales).

125. The pharmacy team plays a key role in ensuring that safe medication practices are embedded in the Health Board. Learning from medication errors and systems failures related to medicines should be shared with the multidisciplinary team and acted upon to improve practice. Health Board staff are encouraged to report incidents and concerns and recent training has been provided to pharmacists to improve their confidence, with 95 per cent stating they felt confident in their ability to raise concerns and report incidents following the training. The focus for 2016 is to improve medication error reporting in primary care.

126. The Medicines Safety Steering group also produces a newsletter for staff. The newsletter 'Medication Matters' highlights recent issues such as insulin injections, which has been a specific area of high medication related incidents. However, the Health Board's self-assessment against the Standards recognises scope for improvement, noting that improvements need to be made to learning and feedback.

127. Some patients can suffer negative impacts from taking their medication, which are known as adverse drug reactions. Some reactions are unexpected but some are predictable. The Academy of Medical Royal Colleges[42] has calculated that four in 100 hospital bed days are caused by adverse drug reactions in the United Kingdom. In the Health Board, adverse reactions represent an approximate cost of £6.8 million per year in bed days alone[43].

128. When patients experience adverse reactions as a result of their medicines, staff should report these events to the MHRA via the Yellow Card Scheme. In this Health Board, hospital pharmacists and doctors report incidents in equal measure[44]. There may be an opportunity to further promote the Yellow Card Scheme to increase the contribution made by other healthcare professionals. Our clinical pharmacy review identified three occasions where pharmacy teams identified symptoms of potential adverse drug reactions or side-effects when reviewing patients. This represents a rate of four occurrences for every 1,000 patients reviewed. Across Wales, the reporting rate is six occurrences for every 1,000 patients reviewed.

129. In our survey, 31 per cent of pharmacy staff, 30 per cent of doctors and 30 per cent of nurses agreed or strongly agreed with the statement: 'Use of the Yellow Card Scheme is promoted effectively in this Health Board.' This compared with 59 per cent of pharmacy staff, 31 per cent of doctors and 29 per cent of nurses across Wales. The Health Board, therefore may need to do more to promote the Yellow Card Scheme to its staff, and particularly to its pharmacy staff.

[42] The Academy of Medical Royal Colleges, *Protecting resources, promoting value: A doctor's guide to cutting waste in clinical care*, November 2014.

[43] Stats Wales data shows that the total number of bed days in the Health Board in 2013-14 was 409,348. The number of bed days caused by ADRs is four per cent of 409,348, which is 16,374. We then used Stats Wales data on the cost of an inpatient bed day (£413) to calculate an approximate cost of bed days attributable to ADRs.

[44] Yellow Card Centre Wales, *Annual report; 2013-14*

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[45.] Issues from incidents are reported through the Medicines Safety Steering group, whose purpose is to provide strategic direction and make progress on managing and reducing the risk to patients from medication errors. Membership reflects both primary and secondary care and includes clinicians and nurses. There is a medication safety strategy and delivery plan which outlines the goals of the medicines safety group and key deliverables including safe medication practice as well as education and training to improve medication safety. This group operates well.

[45] 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 56 documents from the Health Board.
Clinical pharmacy review	The clinical pharmacy review was completed by pharmacy teams on the following wards: • Royal Glamorgan Hospital – ward 14, ward 19, ward 3 (now on ward 4) • Prince Charles Hospital – ward 4, ward 7, ward 11 The tool aimed to record activity of pharmacy teams during ward visits.
Interviews	We interviewed a small number of staff including: Chief Operating Officer, Medical Director, Head of Medicines Management, three Chief Pharmacists and also ward-based staff, pharmacists and technicians.
Walkthroughs	We visited all acute hospitals within the Health Board where we carried out an observation within the hospital pharmacy/dispensary. We also visited the following wards where we spoke to staff and carried out a drug chart review: • Prince Charles Hospital – Ward 9 and Ward 17 • Royal Glamorgan Hospital – Ward 2 and Ward 15
Surveys of medical and nursing staff	We carried out an online survey of a sample of medical and nursing staff to ask their views on the effectiveness of medicines management within the organisation. We received 45 responses from doctors (26 of whom were consultants). Across Wales we received 413 responses from doctors. In the Health Board we received 112 responses from nurses (and across Wales we received 377 responses from nurses).
Survey of pharmacy staff	We carried out an online survey of pharmacy staff to ask their views on the effectiveness of medicines management within the organisation. We received 47 responses in total, with 22 staff based at Prince Charles Hospital and 24 based at the Royal Glamorgan Hospital. Across Wales we received 407 responses from pharmacy staff.
Use of existing data	We used existing sources of data wherever possible such as incident data from the National Reporting and Learning System, data from the Cardiff University review of the Discharge Medicines Review Service and the NHS Wales pharmacy resource mapping exercise 2014.

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