WALES AUDIT OFFICE
SWYDDFA ARCHWILIO CYMRU

Archwilydd Cyffredinol Cymru
Auditor General for Wales

Clinical Coding Follow-up Review– **Aneurin Bevan University Health Board**

Audit year: 2018

Date issued: May 2019

Document reference: 1183A2019-20

The person who delivered the work was Delyth Lewis.

Contents

Despite a high level of accuracy, coding completeness is a significant issue and the profile and use of coded data to support improvement has not increased since our previous work. Although reasonable progress has been made in implementing our previous recommendations, some issues remain unresolved.

Summary report

Introduction

1 Clinical coding involves the translation of written clinical information (such as a patient's diagnosis and treatment) into a code format. A clinical coder will analyse information about an episode of patient care and assign internationally recognised standardised codes[1].

2 Good quality clinically coded data plays a fundamental role in the management of hospitals and services. Coded data underpins much of the day-to-day management information used within the NHS and is used in many different systems and presented in different formats. It can be used to support healthcare planning, resource allocation, cost analysis, assessments of treatment effectiveness and can be an invaluable starting point for many clinical audits.

3 Coding departments within Welsh NHS bodies are required to satisfy standards set by the Welsh Government on the completeness and accuracy of coded data. Performance against these standards form part of NHS bodies' annual data quality and information governance reporting.

4 During 2014-15, the Auditor General reviewed the clinical coding arrangements in all relevant NHS bodies in Wales. That work pointed to several areas for improvement such as the accuracy of coding, the quality of medical records and engagement between coders, clinicians and medical records staff.

5 We also found that NHS bodies routinely saw clinical coding as a back-office role, often with little recognition of the specialist staff knowledge and understanding needed. In addition, not all health bodies understood the importance of clinical coding to their day-to-day business.

6 In October 2014, we reported our findings for Aneurin Bevan University Health Board (the Health Board) and concluded that 'whilst there had been a good level of investment in clinical coding, a range of weaknesses in the clinical coding arrangements and processes were significantly reducing the accuracy of clinical coded data. More specifically, we found that:

- the Health Board recognised the importance of clinical coding but resources may have been insufficient, stronger links with health records were needed and the Board needed to focus more on complying with national targets;
- the effectiveness of the clinical coding process was undermined by a low level of clinical engagement, slow access to, and poor quality of, medical records and lack of routine validation and audit; and
- clinical coded data was used appropriately and met national standards for validity and consistency but some coding was inaccurate, timeliness had

[1] For diagnoses, the International Classification of Diseases 10th edition (ICD-10), and for treatment, the OPCS Classification of Interventions and Procedures version 4 (OPCS).

deteriorated and the Board was unaware of the inaccuracies or their implications.

7 We made recommendations focused on:

- improving the management of medical records to ensure that the quality of, and access to, medical records effectively supports the clinical coding process;
- strengthening the management of the clinical coding team to ensure that good quality clinical coding data is produced;
- strengthening engagement with medical staff to ensure that the positive role that doctors have within the clinical coding process is recognised; and
- building on the good level of awareness of clinical coding at the Board to ensure members are fully informed of the Health Board's clinical coding performance.

8 As part of the Auditor General's 2018 audit plan at the Health Board, we have examined the progress made in addressing the recommendations set out in the **2014 Review of Clinical Coding** and any resulting improvement in clinical coding performance.

9 In undertaking this work, we have:

- reviewed documentation, including reports to the board and committees;
- asked the Health Board to self-assess its progress so far;
- analysed clinical coding data sent to Welsh Government;
- sought board member views[2] on their understanding of clinical coding; and
- interviewed staff to discuss progress, current issues and future challenges.

10 We summarise our findings in the following section. Appendix 1 provides specific commentary on progress against each of our previous recommendations.

Our findings

11 Our overall conclusion is that **despite a high level of accuracy, coding completeness is a significant issue and the profile and use of coded data to support improvement have not increased since our previous work. Although reasonable progress has been made in implementing our previous recommendations, some issues remain unresolved.**

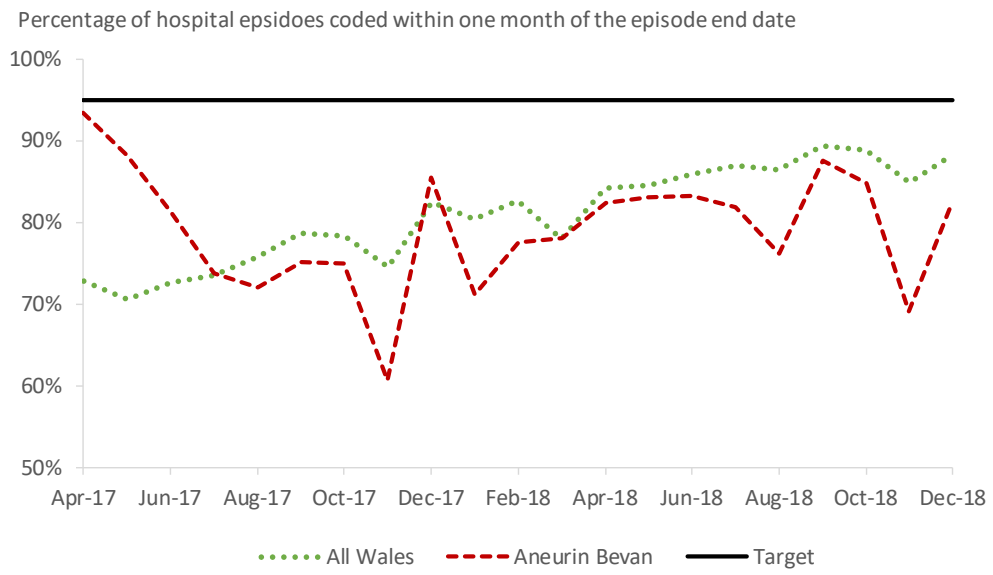
[2] Some questions relating to clinical coding were included in the board member survey which formed part of our 2018 Structured Assessment work. A total of 17 responses out of a possible 23 responses were received.

While the accuracy of the clinical coded data remains high, the completeness figures are below national targets and the Health Board carries a significant backlog

12 The Welsh Government has two coding-related Tier 1 targets which NHS bodies are required to meet. These relate to completeness and accuracy.

13 Each year, NHS bodies send data to the Welsh Government showing their performance against the Tier 1 target for **completeness**. The target is that 95% of hospital episodes should have been coded within one month of the episode end date. NHS bodies need to meet this target monthly rather than at the end of each financial year, which was previously the case. Exhibit 1 shows that the Health Board's completeness has worsened significantly since 2017 with performance regularly below the all-Wales position, and the Welsh Government target.

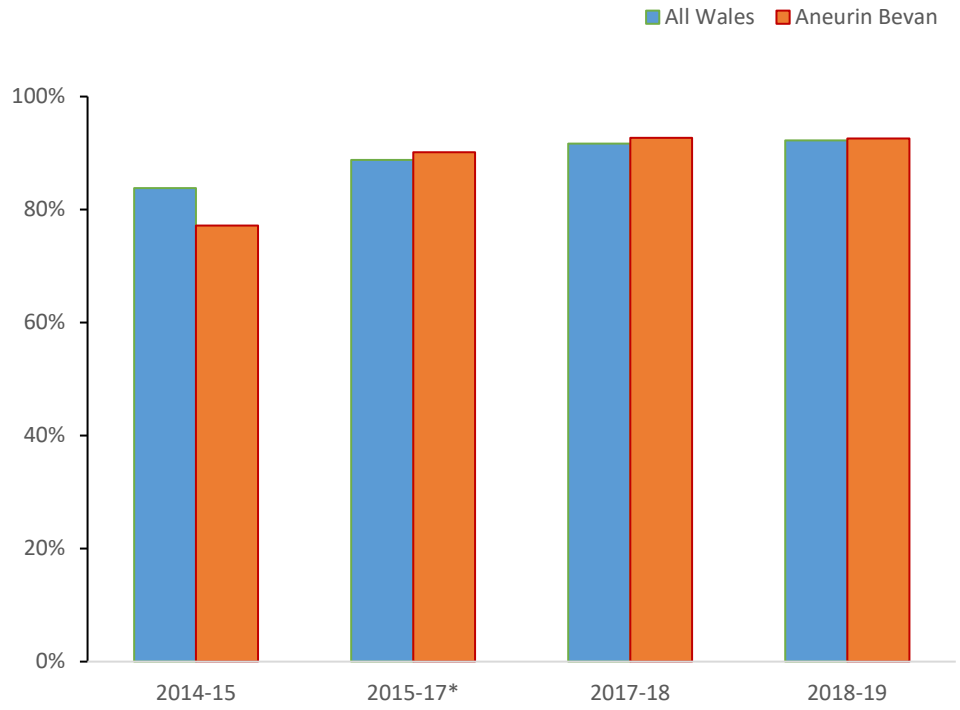
Exhibit 1: percentage of episode coded within one month of the episode end date



Source: Wales Audit Office analysis of information on clinical coding completeness submitted to the Welsh Government.

14 Each year, the NHS Wales Informatics Service (NWIS) Standards Team assess the **accuracy** of clinical coding by reviewing a sample of coded episodes against patients' medical records. Health Boards are expected to show annual improvement. In 2018, NWIS found that accuracy for the primary diagnosis, secondary diagnosis, primary procedure, and secondary exceeded recommended thresholds. Overall clinical coding accuracy improved at the Health Board from 77% in 2015 to 93% in 2017 with overall accuracy unchanged in 2018 (Exhibit 2).

Exhibit 2: percentage of episodes coded accurately



Source: NWIS, Clinical Coding Audit Report for Aneurin Bevan University Health Board

* Note that due to capacity within the NWIS clinical coding team, a single accuracy review was undertaken during the period 2015-16 and 2016-17.

15 In our previous work, we reported that at the end of February 2014, there were roughly 12,500 hospital episodes that had not been coded within the required timeframe. As part of our fieldwork, we requested the backlog position for the year ending 2017-18, to understand the extent to which episodes are not coded within the one-month timeframe. The Health Board reported a significant backlog of 46,638 episodes still to be coded. This is nearly four times the number of un-coded episodes in 2014. Based on a standard workload of 30 episodes per day, we estimate that it would take one person five to six years to clear the backlog. The Health Board's own estimate is that it needs an additional eight coders to clear the coding backlog and achieve and sustain the 95% completeness target.

Clinical coding has a low profile and the Health Board is not using coded data to support improvement

16 In 2014, we found that not all NHS bodies understood the wider importance of clinical coding to their business. Furthermore, they were missing opportunities to use this information more extensively, for example by:

- assessing the number of patients on clinical pathways; and
- providing comparative activity data to evaluate productivity, quality and performance.

17 The profile of the clinical coding team is relatively low within the Health Board. This is probably most notable from where the coding teams are situated, with some located off the main hospital site in unsuitable accommodation. They have no access to cleaning services and are facing monthly generator black outs and system outages. Being situated away from clinical areas also does not help with the visibility of coders to clinical staff, however, the coding team has introduced more awareness sessions for medical staff to meet with coding staff.

18 Our follow-up work found that the coding team are rarely asked for coded data to support service improvement. The coding team attend mortality review meetings where coded data is used but it can be difficult to obtain an accurate picture when there is a backlog of data and completeness targets are not met.

19 There is a clear management structure for the coding function up to Board level. However, not all performance information on coding performance is presented to the Board. Currently performance against completeness against the IMTP target and national target is reported but the accuracy figure and backlog position are not currently reported at Board level.

The Health Board has made reasonable progress on our previous recommendations, but issues around medical records and reporting coding performance at Board level are yet to be resolved

20 Exhibit 3 summarises the status of our 2014 recommendations.

Exhibit 3: progress status of our 2014 recommendations

Total number of recommendations	Implemented	In progress	Not started	Superseded
15	8	7	0	0

Source: Wales Audit Office.

21 Our follow-up work has found that the Health Board has made reasonable progress against our 2014 recommendations, although several recommendations are still in progress.

22 The quality of medical records has not improved since our audit work in 2014, despite the clinical coding and medical records department being proactive in holding sessions for clinical and nursing staff on the importance of good record keeping. Coding staff told us that a large proportion of their time is spent tracking down loose notes or refiling notes into a logical order. The Medical Records team have identified issues at ward level, namely ward clerks have little or no training on the importance of good medical record keeping and the tracker tool on Myrddin. Medical records have recently carried out an audit of ward processes and clinical behaviours in relation to the Health Record. This has taken place at the same time as the annual Health and Care Standards audit across all wards at the Health Board. The findings and recommendations from both audits were to be combined and reported to the Director of Nursing. At the time of our audit, the results were not yet available. Access to medical records for coders also remains an issue. Although coders generally have good access, delays can occur if they do not have access to the scanned records. Problems can also occur when accessing records pertaining to deceased patients prior to them going to the complaints department.

23 Good progress has been made on our 2014 recommendations on clinical coding resources. The Health Board is unique in having both a qualified auditor and a qualified trainer in the coding team. As a result, there is a good programme set up of regular audits for each coder and follow-up with subsequent training as needed. However, there has been a high turnover of staff, high levels of sickness, and recruitment freezes, which has affected the completeness of coding and there is a significant backlog as a result. The coding department also are still not using the latest version of Medicode, due to issues in the national rollout across Wales.

24 The coding team's engagement with medical staff is improving but is still relatively irregular. Coding staff tend to contact medical secretaries or more senior coders to resolve coding queries. The same applies to involving medical staff in validation. Coders have started to have regular meetings with certain specialities, but this is only on a small scale. There have, however, been improvements in the training for medical staff and coders have a regular slot on junior doctor induction programmes and hold training sessions with individual specialties.

25 Since our previous review in 2014 there has been significant change in board membership. Although the Coding Manager and Medical Director meet every six weeks to discuss how to improve reporting on patient outcomes using the coded data, there is very little which gets reported to Board on coding. The level of awareness amongst board members has also declined. The full board survey results are available in Appendix 2.

Recommendations

26 The Health Board needs to continue to implement our previous recommendations where these remain incomplete. These are set out in Exhibit 4.

27 In undertaking this work, we have also made two new recommendations. These are set out in Exhibit 5.

Exhibit 4: outstanding recommendations from 2014

2014 recommendations not yet complete
Management of Medical Records R1 Improve the management of medical records to ensure that the quality of, and access to, medical records effectively supports the clinical coding process. The Health Board should: a) raise the importance of good quality records throughout the Health Board; c) put steps in place to ensure that coders have early access to medical records; and e) improve compliance with the medical records tracker tool within the Myrddin Patient Administration System.
Clinical Coding Resources R2 Strengthen the management of the clinical coding team to ensure that good quality clinical coding data is produced. The Health Board should: b) revisit staffing levels across the teams, with a particular focus on the hours allocated to retrieval officers; and e) work with NWIS to ensure that the Health Board is using the latest version of Medicode.
Engagement with medical staff R3 Strengthen engagement with medical staff to ensure that the positive role that doctors have within the clinical coding process is recognised. This should include: c) engaging medical staff in the validation process.
Board engagement/resources R4 Building on the good level of awareness of clinical coding at the Board to ensure members are fully informed of the Health Board's clinical coding performance. At a minimum, this should include the Health Board's compliance with the Welsh Government targets.

Source: Wales Audit Office.

Exhibit 5: new recommendations

2019 Recommendations
Clinical Coding Resources R1 To support retention of qualified clinical coders, the Health Board should: a) ensure the workplace accommodation is suitable and safe; b) ensure the workplace facilities are commensurate with other departments; and c) explore flexible working for staff.
Management of Medical Records R2 The Heath Board should: a) review the way that medical records are managed at ward level; b) ensure ward clerks are released to attend training on records management relevant to their role; c) ensure ward clerks have adequate time allocated for records management.

Appendix 1

Health Board progress against our 2014 recommendations

Exhibit 6: assessment of progress

Recommendation	Status	Target date for implementation	Summary of progress
Management of medical records R1 Improve the management of medical records to ensure that the quality of, and access to, medical records effectively supports the clinical coding process. This should include:			
a) raising the importance of good quality records throughout the Health Board	**In progress**		The clinical coding teams at Royal Gwent and Nevill Hall reported that the quality of medical records has not improved since our last audit in 2014. Records are frequently misfiled, missing loose notes or contain unclear diagnoses which are difficult to code. Clinical coding support officers are spending a large proportion of their time finding loose notes for coders. An issue with the filing of records for deceased patients has been identified. There is a lack of urgency to find the loose notes to ensure the medical record is complete.
b) reinforcing the Royal College of Physician standards for Records Management across the Health Board;	**Implemented**		Both medical records and clinical coding staff hold regular training and induction sessions for clinicians, nursing staff and divisional leads. At these sessions, guidance from the Royal College of Physicians on the importance of keeping good medical records is provided to staff attending the session.
c) putting steps in place to ensure that coders have early access to medical records;	**In progress**		Coders generally have early access to medical records although there can be delays if they do not have access to the scanned documents first. Staff also identified problems obtaining deceased patient notes before they are sent to the complaints department.

Recommendation	Status	Target date for implementation	Summary of progress
Management of medical records R1 Improve the management of medical records to ensure that the quality of, and access to, medical records effectively supports the clinical coding process. This should include:			
d) improving compliance with the medical records tracker tool within the Myrddin Patient Administration System;	**In progress**		Medical records have completed a series of audits across all wards including a review of ward clerk knowledge at the two main hospital sites. They found the biggest issue is with a lack of training on the importance of good record keeping for ward clerks. Ward clerks reported to the medical records team that they had not received training on the Myrddin system to track records. The training is available, but they are not being released from the wards to attend. The medical records department has recently produced a report for the Director of Nursing, which seeks to address concerns on the management of medical records at ward level. At the time of our audit, the report was not available.
e) strengthening the links between medical records and coding by inviting coding representation on the Health Records Committee; and	**Implemented**		The relationship between medical records and clinical coding is good. Coders have a standing agenda item at the monthly PRISM (Patient Records and Information Services Managers) meeting which feeds into the Health Board's Health Records Committee.
f) ensuring that the experience of coders in using the digitalised health record is considered as part of the digitalisation pilot.	**Implemented**		Clinical coding staff were included in meetings prior to the implementation of the digitalised health record (DHR). Some of their initial ideas were not able to be incorporated but there are ongoing meetings with the business change manager and project manager to discuss coders' concerns.

Recommendation		Status	Target date for implementation	Summary of progress
Clinical Coding Resources				
R2	Strengthen the management of the clinical coding team to ensure that good quality clinical coding data is produced. This should include:			
	a) ensuring an appropriate level of time is allocated for mentoring and checking the work of others, particularly amongst the Band 4 staff;	**Implemented**		A training plan is in place for all new starters to the coding team with trainees allocated a band 4 mentor to check their work, which is incorporated into their work programme.
	b) revisiting staffing levels across the teams, with a particular focus on the hours allocated to retrieval officers;	**In progress**		There have been issues with recruiting coding staff as some posts were frozen in 2012. These posts have recently been released and recruited to, but this has contributed to the negative backlog position they are now in. The Health Board's proximity to the English border has meant it has had difficulty retaining qualified coders, who are approached by private organisations that can offer home working and more attractive salaries. To reduce the coding back log, as well as achieve the 95% completeness target, the Health Board estimates they require an additional eight coders. The Health Board is currently awaiting confirmation of the activity figures forecasted for the new Grange Hospital before submitting a business case for additional resources.
	c) using the additional auditor capacity to develop a rolling programme of clinical coding audit across the Health Board;	**Implemented**		Each coder receives an individual audit as part of an annual rolling audit programme run by the Health Board's approved clinical coding auditor. These audit reports are then brought together into an overview report. Between April 2017 and March 2018, 520 coded episodes were audited.

Recommendation		Status	Target date for implementation	Summary of progress
Clinical Coding Resources				
R2	Strengthen the management of the clinical coding team to ensure that good quality clinical coding data is produced. This should include:			
	d) revisiting the role of the clinical coding co-ordinator to ensure that responsibilities are comparable across the four members of staff; and	**Implemented**		Since our last audit, the four co-ordinator posts have become more structured. The Health Board is in the unique position of having both a qualified auditor and qualified trainer. In addition, they have line mangers for each main site at the Royal Gwent and Nevill Hall.
	e) working with NWIS to ensure that the Health Board is using the latest version of Medicode.	**In progress**		The Health Board has yet to upgrade to version 5.9 as there have been issues with upgrading at other health boards. Once the issues have been resolved the Health Board will implement the latest version.
Engagement with medical staff				
R3	Strengthen engagement with medical staff to ensure that the positive role that doctors have within the clinical coding process is recognised. This should include:			
	a) raising awareness of the clinical coding process adopted by the Health Board through training sessions for medical staff, as well as attendance at appropriate meetings;	**Implemented**		The coding team provides clinical coding awareness sessions for medical and nursing staff. These sessions also provide an opportunity for coders to ask medical staff questions relating to the particular speciality. The coding team also has a regular slot as part of the induction training for junior doctors.
	b) encouraging clinical coders to be more visible to consultants, for example, by seeking clarification from them on episodes of care of patients; and	**Implemented**		Coders are encouraged to engage with medical consultants and any queries are usually routed through the coding managers or through medical secretaries in the first instance. Attendance at awareness sessions, as referred to above, also provides opportunities for coders to be more visible to consultants and to ask questions or seek clarification.

Recommendation	Status	Target date for implementation	Summary of progress
Engagement with medical staff R3 Strengthen engagement with medical staff to ensure that the positive role that doctors have within the clinical coding process is recognised. This should include:			
c) engaging medical staff in the validation process.	**In progress**		The clinical coding trainer meets with one of the vascular consultants quarterly to ensure accuracy and the Health Board would like to roll out this approach to more specialties to involve more medical staff in the validation process.
Board Engagement/Resources			
R4 Build on the good level of awareness of clinical coding at the Board to ensure members are fully informed of the Health Board's clinical coding performance. At a minimum, this should include the Health Board's compliance with the Welsh Government targets.	**In progress**		Clinical coding performance is reported to the Board via the integrated performance dashboard. Although the national target for clinical coding completeness is 95%, the Health Board is working to achieve a minimum completeness of 80% according to the IMTP dashboard. Meanwhile, the percentage of clinical coding accuracy is not reported to the Board. We surveyed all Board members about their understanding of clinical coding. We received a 74% response rate. There were mixed views, for example, one board member reported not having heard of the coding function while another had recently met with the Head of Coding. Board members reported that they were not satisfied with the information they received on the robustness of clinical coding arrangements at the Health Board. The majority reported that they would find it helpful to have more information on clinical coding and the extent to which it affects the quality of key performance information.

Source: Wales Audit Office.

Appendix 2

Results of the board member survey

Responses were received from 17 of the board members in the Health Board. The breakdown of responses is set out below.

Exhibit 7: Rate of satisfaction with aspects of coding

	How satisfied are you with the information you receive on the robustness of clinical coding arrangements in your organisation?		How satisfied are you that your organisation is doing enough to make sure that clinical coding arrangements are robust?	
	This Health Board	**All Wales**	**This Health Board**	**All Wales**
Completely satisfied	–	6	–	5
Satisfied	3	34	6	40
Neither satisfied nor dissatisfied	11	46	8	46
Dissatisfied	3	10	2	4
Completely dissatisfied	–	–	1	1
Total	**17**	**96**	**17**	**96**

Exhibit 8: rate of awareness of factors affecting the robustness of clinical coding

	How aware are you of the factors which can affect the robustness of clinical coding arrangements in your organisation?	
	This Health Board	**All Wales**
Full awareness	1	26
Some awareness	9	50
Limited awareness	6	17
No awareness	1	3
Total	**17**	**96**

Exhibit 9: level of concern and helpfulness of training

	Are you concerned that your organisation too readily attributes under performance against key indicators to problems with clinical coding?		Would you find it helpful to have more information on clinical coding and the extent to which it affects the quality of key performance information?	
	This Health Board	**All Wales**	**This Health Board**	**All Wales**
Yes	–	8	15	77
No	16	84	2	19
Total	**16**	**92**	**17**	**96**

Exhibit 10: additional comments provided by respondents from the Health Board

Additional comments
• Not sure what clinical coding is, I have heard it referred to and I think I recall one audit report that mentioned it, but I am not sure of its significance in terms of assessing progress against the organisation's objectives. • I have met with the Head of Coding and understand the constraints and risks, and what is being undertaken to address this

Appendix 3

Management response

Exhibit 10: management response

Ref	Recommendation	Intended outcome/ benefit	High priority (yes/no)	Accepted (yes/no)	Management response	Completion date	Responsible officer
R1	**Clinical Coding Resources** To support retention of qualified clinical coders, the Health Board should: a) ensure the workplace accommodation is suitable and safe; b) ensure the workplace facilities are commensurate with other departments; and c) explore flexible working for staff.	To retain existing clinical coders and ensure working environment is suitable.	Yes	Yes	A full review of clinical coding will be undertaken as part of the impact assessment for the new Grange University hospital, this will include an accommodation review. Qualified experienced clinical coders are essential in ensuring consistent high quality clinical coding. The HB has a good track record in consistently delivering this.	Complete review by March 2020.	Assistant Director of Performance & Information

Ref	Recommendation	Intended outcome/ benefit	High priority (yes/no)	Accepted (yes/no)	Management response	Completion date	Responsible officer
R2	**Management of Medical Records** The Heath Board should: a) review the way that medical records are managed at ward level; b) ensure ward clerks are released to attend training on records management relevant to their role; and c) ensure ward clerks have adequate time allocated for records management.	Improve the standard of medical records at ward level.	Yes	Yes	The ward clerk role is managed by the individual ward sisters and staff are not trained in records management currently. There is a requirement for the staff to be released to attend the Record Awareness sessions and this requires to be made a mandatory element of their training portfolio as well as WPAS training on records tracking.	31 December 2019	Director of Nursing to mandate

Wales Audit Office
24 Cathedral Road
Cardiff CF11 9LJ

Tel: 029 2032 0500
Fax: 029 2032 0600
Textphone : 029 2032 0660

E-mail: info@audit.wales
Website: www.audit.wales

Swyddfa Archwilio Cymru
24 Heol y Gadeirlan
Caerdydd CF11 9LJ

Ffôn: 029 2032 0500
Ffacs: 029 2032 0600
Ffôn testun: 029 2032 0660

E-bost: post@archwilio.cymru
Gwefan: www.archwilio.cymru